ORIGINAL TO GENERAL FILES

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

OFFICE OF DESIGN POLICY & SUPPORT
INTERDEPARTMENTAL CORRESPONDENCE

FILE P.I. # 110600-
Gwinnett County
GDOT District 1 - Gainesville
I-85 Managed Lane Addition From Old
Peachtree Road to Hamilton Mill Road

OFFICE Design Policy & Support

DATE 2/27/2015

FROM for Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT **APPROVED CONCEPT REPORT**

Attached is the approved Concept Report for the above subject project.

Attachment

DISTRIBUTION:

Glenn Bowman, Director of Engineering
Joe Carpenter, Director of P3/Program Delivery
Genetha Rice-Singleton, Assistant Director of P3/Program Delivery
Albert Shelby, State Program Delivery Engineer
Bobby Hilliard, Program Control Administrator
Cindy VanDyke, State Transportation Planning Administrator
Hiral Patel, State Environmental Administrator
Ben Rabun, State Bridge Engineer
Andrew Heath, State Traffic Engineer
Angela Robinson, Financial Management Administrator
Lisa Myers, State Project Review Engineer
Charles "Chuck" Hasty, State Materials Engineer
Mike Bolden, State Utilities Engineer
Richard Cobb, Statewide Location Bureau Chief
Ed David Adams, State Safety Program Manager
Brent Cook, District Engineer
Brandon Kirby, District Preconstruction Engineer
Neil Kantner, District Utilities Engineer
Andrew Hoening, Project Manager
BOARD MEMBER - 7th Congressional District

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
PROJECT CONCEPT REPORT

Project Type:	Managed Lane Addition	P.I. Number:	110600
GDOT District:	District 1	County:	Gwinnett
Federal Route Number:	I-85	State Route Number:	SR 403
	Project Number:	NHIM0-0085-02(164)	

The project is to widen Interstate 85 (I-85), adding one managed lane in each direction, from just north of Old Peachtree Road to Hamilton Mill Road. Two new auxiliary lanes will be constructed, one between SR 20/Buford Drive and SR 317/Lawrenceville Suwanee Road (SB) and one between SR 20/Buford Drive and SR 324/Gravel Springs Road (NB).

Submitted for approval:

Consultant Designer & Firm *(HNTB Corporation)* — Date: 11-25-14

State Innovative Delivery Engineer — Date: 11-25-14

GDOT Project Manager — Date: 11-25-2014

Recommendation for approval:

Program Control Administrator — Date:

* HIRAL PATEL — State Environmental Administrator — Date: 12-15-2014

* KATHY ZAHUL — State Traffic Engineer — Date: 12-12-2014

* LISA MYERS — Project Review Engineer — Date: 12-11-2014

* NICHOLAS FIELDS — FOR State Utilities Engineer — Date: 12-10-2014

District 1 Engineer — Date:

* BEN RABUN — State Bridge Engineer — Date: 2/12/2015

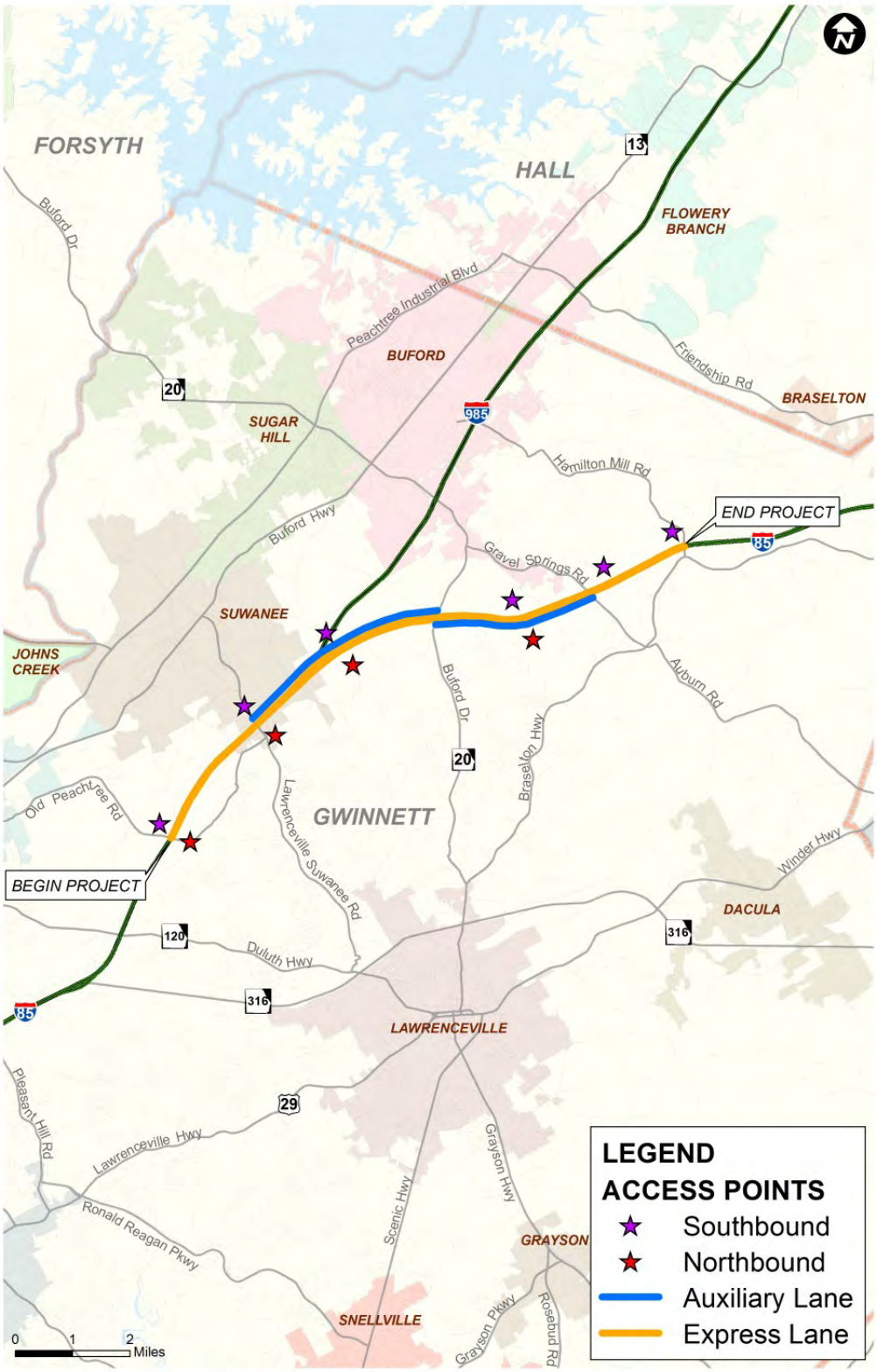
State Transportation Financial Management Administrator — Date:

☐ MPO Area: This project is consistent with the MPO adopted Regional Transportation Plan (RTP)/Long Range Transportation Plan (LRTP).

* CYNTHIA L. VANDYKE — State Transportation Planning Administrator — Date: 12-16-2014

* RECOMMENDATION ON FILE -

PROJECT LOCATION MAP



PLANNING AND BACKGROUND

Project Justification Statement:
The project justification statement is attached in Appendix A.

Existing conditions: South of Interstate 985 (I-985), I-85 is an existing eight-lane mainline. North of I-985, I-85 is an existing four to five-lane mainline. I-985 is a four-lane facility (two lanes in each direction). Currently, no managed lanes are present in the corridor. The project begin point would tie to an existing HOT3+ system that extends along I-85 from Chamblee Tucker Road to Old Peachtree Road.

Other projects in the area: Adjacent to the northern terminus of this project, NH-IM0-0085-2(165) P.I. 110610 will widen I-85 to three lanes in each direction from Hamilton Mill Road to S.R. 211 in Barrow County. The southern terminus of this project is associated with at least one or more other projects: Projects CSMSL-0009-00(295), CSMSL-0009-00(296), CSMSL-0009-00(297), P.I. Numbers 0009295, 0009296, and 0009297, which are currently completed and operational and have converted the existing High Occupancy Vehicle (HOV) lanes along I-85 from Chamblee Tucker Road to just north of Old Peachtree Road to High Occupancy Toll (HOT) lanes. A full diamond interchange, PI No. 0012698, is under development along I-85 at SR 324/Gravel Springs Road. A half diamond interchange, PI No. 0013104, is under development along I-85 at McGinnis Ferry Road.

MPO: Atlanta TMA **TIP #:** *AR-ML-410*

TIA Regional Commission: Not a TIA Project
Congressional District(s): 7

Federal Oversight: ☒ PoDI (for procurement and NEPA only) ☐ Exempt ☐ State Funded

☐ Other

Projected Traffic: ADT

Location		2014 (Existing)	2018 (Build)	2038 (Design)
I-85: Approaching Old Peachtree Road	GP	140100	145800	194200
	HOT	5200	5500	9600
I-85: Old Peachtree Road I-85 HOT Ingress/Egress	GP	118300	121700	159900
	HOT	N/A	5500	11500
I-85: I-85 HOT Ingress/Egress to Lawrenceville Suwanee Hwy/SR 317	GP	157600	158600	209500
	HOT	N/A	5500	11500
I-85: Lawrenceville Suwanee Hwy/SR 317 to I-85/I-985 Split	GP	150600	151200	198900
	HOT	N/A	5600	12300
I-85: I-85/I-985 Split to I-85 HOT Ingress/Egress	GP	87600	85600	110500
	HOT	N/A	5600	12300
I-85: I-85 HOT Ingress/Egress to Buford Drive/SR 20	GP	87600	83100	112700
	HOT	N/A	5100	10100
I-85: Buford Drive/SR 20 to I-85 HOT Ingress/Egress	GP	72900	70700	93200
	HOT	N/A	5100	10100
I-85: I-85 HOT Ingress/Egress to Gravel Springs Road/SR 324	GP	72900	70050	94600
	HOT	N/A	5750	8700
I-85: Gravel Springs Road/SR 324 to I-85 HOT Ingress/Egress	GP	72900	70050	91400
	HOT	N/A	5750	8700
I-85: I-85 HOT Ingress/Egress to Hamilton Mill Road	GP	72900	74200	97750
	HOT	N/A	1600 (SB only)	2350 (SB only)
I-85: Beyond Hamilton Mill Road	GP	57200	59500	80200
	HOT	N/A	N/A	N/A

24 HR T: 13.4% - 21.0% (2014)
Traffic Projections performed by: HNTB Corporation

Functional Classification (Mainline): Urban Principal Arterial

Complete Streets - Bicycle, Pedestrian, and/or Transit Standard Warrants:

Warrants met: ☐ None ☐ Bicycle ☐ Pedestrian ☒ Transit

Is this a 3R (Resurfacing, Restoration, & Rehabilitation) Project? ☒ No ☐ Yes

Pavement Evaluation and Recommendations

Preliminary Pavement Evaluation Summary Report Required? ☐ No ☒ Yes
Preliminary Pavement Type Selection Report Required? ☐ No ☒ Yes
Feasible Pavement Alternatives: ☒ HMA ☐ PCC ☐ HMA & PCC

DESIGN AND STRUCTURAL

Description of the proposed project:

This project is to widen Interstate 85 (I-85), adding one managed lane in each direction, from just north of Old Peachtree Road to Hamilton Mill Road. To minimize impacts to traffic, two new auxiliary lanes will be constructed, one between SR 20/Buford Drive and SR 317/Lawrenceville Suwanee Road (SB) and one

between SR 20/Buford Drive and SR 324/Gravel Springs Road (NB). The added managed lanes will be tolled to create reliable travel time savings through the use of variable priced tolling to manage lane volume while maintaining a minimum average speed.

South of I-985, the project proposes to widen I-85 outside of the existing eight-lane mainline. While north of I-985, widening will be on the inside median along the four-lane I-85 section. Both auxiliary lanes will be constructed with additional inside widening. Along I-85, the existing travel lanes have a posted speed limit of 65 MPH south of I-985 and 70 MPH north of I-985. The proposed design speeds for the project will match the current posted speed limits along the interstate mainlines.

Major Structures:

Structure	Existing	Proposed
135-5239-0	416.5'x90' Six-lane bridge on McGinnis Ferry Road over I-85; Suff. Rating 99.86; Design Loading HS-20+	No change
135-0133-0	215'x90.5' Seven-lane bridge on SR 317/Lawrenceville Suwanee Road over I-85; Suff. Rating 66.0; Design Loading N/A	No change
135-0054-0	209'x58' Two-lane bridge on I-85 Southbound over I-985 Northbound; Suff. Rating 68.98; Design Loading HS-15	Replace with 161'-0" x 71'-3" four-lane bridge
135-5179-0	304'x112' Four-lane bridge; Two lanes are for I-85 Northbound and two lanes are for CD Road over SR 20/Buford Highway; I-85 and CD Road are separated by barrier wall; Suff. Rating 96.73 & 98.0; HS-20+	Widened to centerline to combine with Structure 135-5180-0 to form a bridge consisting of 2 thru-lanes, 2 CD lanes, and 1 buffer separated managed lane in each direction. New structure name will be 135-5179-0.
135-5180-0	304'x112' Four-lane bridge; Two lanes are for I-85 southbound and two lanes are for CD Road over SR 20/Buford Highway; I-85 and CD Road are separated by barrier wall; Suff. Rating 98.0 & 96.73; Design Loading HS-20+	Widened to centerline to combine with Structure 135-5179-0 to form a bridge consisting of 2 thru-lanes, 2 CD lanes, and 1 buffer separated managed lane in each direction. New structure name will be 135-5179-0.
135-5244-0	466'x102.5' Four-lane bridge with 32' raised median on SR 324/Gravel Spring Road over I-85; Suff. Rating 85; Design Loading HS-20+	No change
135-5192-0	221'x89' Five-lane bridge on CR 134/Hamilton Mill Road over I-85; Suff. Rating 92.97; Design Loading HS-20+	No change
NEW LOCATION	N/A	Provide new 163'-6 1/2" x 31'-3" one-lane bridge for the new I-85 Northbound managed lane over I-985 Northbound
135-0057-0	3 Barrel 8'x8' Culvert under I-85 at Little Ivy Creek; Suff. Rating 85.0; Design Loading N/A	No Change
135-0058-0	3 Barrel 7'x4' Culvert under I-85 at Little Ivy Creek; Suff. Rating 98.0; Design Loading N/A	No Change
Retaining Wall near McGinnis Ferry Road	I-85 Northbound retaining wall near McGinnis Ferry Bridge; Soil Nail System	No change

Mainline Design Features:
Roadway Name/Identification: I-85 South of I-985

Feature	Existing	Standard*	Proposed
Typical Section			
- **Number of Lanes**	**8 Thru Lanes**		**10 Thru Lanes**
- **Lane Width(s)**	**12'**	**12'**	**12'**
- **Median Width & Type**	**14.5' Urban (Paved)**		**14.5' Urban (Paved)**
- **Outside Shoulder Width & Type**	**14' (12' Paved)**	**14' (12' Paved)**	**14' (12' Paved)**
- **Outside Shoulder Slope**	**5%**	**5%**	**5%**
- **Inside Shoulder Width & Type**	**6' (6' Paved)**	**6' (6' Paved)**	**6' (6' Paved)**
- **Sidewalks**	**N/A**	**N/A**	**N/A**
- **Auxiliary Lanes**	**1 Lane NB**		**1 Lane NB & SB**
- **Bike Lanes**	**N/A**	**N/A**	**N/A**
Posted Speed	**65 MPH**		**65 MPH**
Design Speed	**65 MPH**	**65 MPH**	**65 MPH**
Min Horizontal Curve Radius (Mainline)	**5200'**	**1660'**	**5200'**
Min Horizontal Curve Radius (Managed Lane)	**N/A**	**1660'**	**5750'**
Super elevation Rate (Mainline)	**4% Max**	**6% Max**	**4% Max**
Super elevation Rate (Managed Lane)	**N/A**	**6% Max**	**6% Max**
Grade (Mainline)	**3.5% Max**	**4% Max**	**4% Max**
Access Control	**Limited**	**Limited**	**Limited**
Right-of-Way Width	**Varies**		**No Change**
Maximum Grade – Crossroad	**Not Impacted**	**Not Impacted**	**Not Impacted**
Design Vehicle	**HS20-44**	**HS20-44**	**HS20-44**
Pavement Type	**Asphalt**	**Asphalt**	**Asphalt**

*According to current GDOT design policy if applicable

Roadway Name/Identification: I-85 Between I-985 and SR 20/Buford Drive

Feature	Existing	Standard*	Proposed
Typical Section			
- **Number of Lanes**	**4 Thru Lanes**		**6 Thru Lanes**
- **Lane Width(s)**	**12'**	**12'**	**12'**
- **Median Width & Type**	**Varies from 106' Rural (Grass) to 64' Rural (Grass)**		**Varies from 64' Rural (Grass) to Median Barrier Wall Type S-2**
- **Outside Shoulder Width & Type**	**14' (12' Paved)**	**14' (12' Paved)**	**14' (12' Paved)**
- **Outside Shoulder Slope**	**5%**	**5%**	**5%**
- **Inside Shoulder Width & Type**	**6' (4' Paved)**	**6' (4' Paved)**	**4' (4' Paved)**
- **Sidewalks**	**N/A**	**N/A**	**N/A**
- **Auxiliary Lanes**	**1 Lane NB**		**1 Lane NB and SB**
- **Bike Lanes**	**N/A**	**N/A**	**N/A**
Posted Speed	**70 MPH**		**70 MPH**
Design Speed	**65 MPH**	**65 MPH**	**70 MPH**
Min Horizontal Curve Radius (Mainline)	**5750'**	**1660'**	**5750'**
Min Horizontal Curve Radius (Managed Lane)	**N/A**	**1660'**	**4488'**
Super elevation Rate	**4% Max**	**6% Max**	**4% Max**
Grade	**3.5% Max**	**4% Max**	**4% Max**
Access Control	**Limited**	**Limited**	**Limited**
Right-of-Way Width	**Varies**		**No Change**
Maximum Grade – Crossroad	**Not Impacted**	**Not Impacted**	**Not Impacted**
Design Vehicle	**HS20-44**	**HS20-44**	**HS20-44**
Pavement Type	**Asphalt**	**Asphalt**	**Asphalt**

*According to current GDOT design policy if applicable

Roadway Name/Identification: I-85 North of SR20/Buford Drive

Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	**4 Thru Lanes**		**6 Thru Lanes**
- Lane Width(s)	**12'**	**12'**	**12'**
- Median Width & Type	**64' Rural (Grass)**		**Median Barrier Wall Type S-2**
- Outside Shoulder Width & Type	**14' (12' Paved)**	**14' (12' Paved)**	**14' (12' Paved)**
- Outside Shoulder Slope	**5%**	**5%**	**5%**
- Inside Shoulder Width & Type	**6' (4' Paved)**	**6' (4' Paved)**	**4' (4' Paved)**
- Sidewalks	**N/A**	**N/A**	**N/A**
- Auxiliary Lanes			**1 Lane NB (ends at SR 324/Gravel Springs Rd)**
- Bike Lanes	**N/A**	**N/A**	**N/A**
Posted Speed	**70 MPH**		**70 MPH**
Design Speed	**65 MPH**	**65 MPH**	**70 MPH**
Min Horizontal Curve Radius (Mainline)	**5750'**	**1660'**	**5750'**
Min Horizontal Curve Radius (Managed Lane)	**N/A**	**1660'**	**4500'**
Superelevation Rate	**4% Max**	**6% Max**	**4% Max**
Grade	**3.5% Max**	**4% Max**	**4% Max**
Access Control	**Limited**	**Limited**	**Limited**
Right-of-Way Width	**Varies**		**No Change**
Maximum Grade – Crossroad	**Not Impacted**	**Not Impacted**	**Not Impacted**
Design Vehicle	**HS20-44**	**HS20-44**	**HS20-44**
Pavement Type	**Asphalt**	**Asphalt**	**Asphalt**

*According to current GDOT design policy if applicable

Major Interchanges/Intersections: I-85 intersects I-985 within the limits of this project and the following major arterial ramps: SR 317 (Lawrenceville Suwanee Road); SR 20 (Buford Drive); and Hamilton Mill Road. Impacts to the ramps are only anticipated at I-985 (southbound connection to I-85 southbound) and SR 317 (Lawrenceville Suwanee Road) (all four ramps) because of the addition of an auxiliary lane in both directions.

Lighting required: ☒ No ☐ Yes

Off-site Detours Anticipated: ☒ No ☐ Undetermined ☐ Yes

Transportation Management Plan [TMP] Required: ☐ No ☒ Yes
If Yes: Project classified as: ☐ Non-Significant ☒ Significant
TMP Components Anticipated: ☒ TTC ☒ TO ☒ PI

Design Exceptions to FHWA/AASHTO controlling criteria anticipated:

FHWA/AASHTO Controlling Criteria	YES	Appvl Date (if applicable)	NO	Undetermined
1. Design Speed	☐		☒	☐
2. Lane Width	☐		☒	☐
3. Shoulder Width	☒	1/11/2013	☐	☐
4. Bridge Width	☐		☒	☐
5. Horizontal Alignment	☐		☒	☐
6. Superelevation	☐		☒	☐
7. Vertical Alignment	☒	1/11/2013	☐	☐
8. Grade	☐		☒	☐
9. Stopping Sight Distance	☐		☒	☐
10. Cross Slope	☐		☒	☐
11. Vertical Clearance	☐		☒	☐
12. Lateral Offset to Obstruction	☐		☒	☐
13. Bridge Structural Capacity	☐		☒	☐

(APPROVED – 1/11/2013) Outside Shoulder Width – there is a short section of mainline (approximately 1200 feet in length) where an existing retaining wall (soil nail wall) with concrete barrier creates a shoulder width of 4 feet. Removing the soil nail wall and installing a new wall or fill slope that provides an adequate shoulder will cause right-of-way impacts and increase the project cost by approximately $2,000,000. Right-of-way impacts would also delay the project schedule.

(APPROVED – 1/11/2013) Vertical Alignment – several existing sag curves north of I-985 along I-85 do not meet current AASHTO sag curve requirements. Accident rates surrounding these sag curves do not indicate there to be an increased accident frequency resulting from the substandard sag vertical curve.

(Not Approved) Inside Shoulder Width – In areas along I-85 that contain existing or proposed median barrier, the existing and proposed inside shoulder will have less than the required AASHTO inside shoulder of ten feet (10’). The proposed inside shoulder in these areas varies from four feet (4’) to six feet (6’). While not meeting the AASHTO Policy on Geometric Design of Highways and Streets, the proposed inside shoulder does meet the requirements of both the AASHTO HOV Design Guide and the FHWA Priced Managed Lanes Guide.

Design Variances to GDOT Standard Criteria anticipated:

GDOT Standard Criteria	Reviewing Office	YES	Appvl Date (if applicable)	NO	Undetermined
1. Access Control - Median Opening Spacing	DP&S	☐		☒	☐
2. Median Usage & Width	DP&S	☐		☒	☐
3. Intersection Skew Angle	DP&S	☐		☒	☐
4. Lateral Offset to Obstruction	DP&S	☐		☒	☐
5. Intersection Sight Distance	DP&S	☐		☒	☐
6. Bike & Pedestrian Accommodations	DP&S	☐		☒	☐
7. GDOT Drainage Manual	DP&S	☐		☒	☐
8. Georgia Standard Drawings	DP&S	☐		☒	☐
9. GDOT Bridge & Structural Manual	Bridge Design	☐		☒	☐
10. Roundabout Illumination	DP&S	☐		☒	☐
11. Rumble Strips	DP&S	☐		☒	☐
12. Safety Edge	DP&S	☐		☒	☐

VE Study anticipated: ☐ No ☐ Yes ☒ Completed – Date: March 18, 2010
Note: VE Studies are no longer required for Design-Build projects. The scope of this project has changed significantly since the VE study and its recommendations are no longer valid.

UTILITY AND PROPERTY

Temporary State Route needed: ☒ No ☐ Yes ☐ Undetermined

Railroad Involvement: None

Utility Involvements: No relocations anticipated. Bridges being altered contain no utilities. Existing utility crossings are deep enough or high enough that they are not anticipated to be impacted. It is anticipated that all drainage systems and structures will be placed to avoid any utility impacts that might result.

SUE Required: ☐ No ☒ Yes ☐ Undetermined

Public Interest Determination Policy and Procedure recommended? ☐ No ☒ Yes
This project is slated to be a Design-Build and automatically qualifies for Public Interest Determination based on GDOT Policy 6862-12.

Right-of-Way (ROW):
Right-of-Way (ROW): Existing width: Varies. Proposed width: Same as existing.

Required Right-of-Way anticipated: ☒ None ☐ Yes ☐ Undetermined
Easements anticipated: ☒ None ☐ Temporary ☐ Permanent ☐ Utility ☐ Other
Check all easement types that apply.

Anticipated total number of impacted parcels:		0
Displacements anticipated:	Businesses:	0
	Residences:	0
	Other:	0

Total Displacements: 0

Location and Design approval: ☒ Not Required ☐ Required

ROUNDABOUTS

Roundabout Lighting Agreement/Commitment Letter received: ☒ No ☐ Yes

Roundabout Planning Level Assessment: Not required.

Roundabout Feasibility Study: Not required.

Roundabout Peer Review Required: ☒ No ☐ Yes ☐ Completed – Date:

CONTEXT SENSITIVE SOLUTIONS

Issues of Concern: There is a conservation easement located in the I-85/I-985 split.

Context Sensitive Solutions: The conservation easement located in the I-85/I-985 split has been completely avoided. No impacts or changes to the area are anticipated.

ENVIRONMENTAL & PERMITS

Anticipated Environmental Document:
GEPA: ☐ **NEPA:** ☒ CE ☐ EA/FONSI ☐ EIS

MS4 Permit Compliance – Is the project located in a MS4 area? ☐ No ☒ Yes

Environmental Permits/Variances/Commitments/Coordination anticipated:

Permit/ Variance/ Commitment/ Coordination Anticipated	YES	NO	Remarks
1. U.S. Coast Guard Permit	☐	☒	
2. Forest Service/Corps Land	☐	☒	
3. CWA Section 404 Permit	☒	☐	
4. Tennessee Valley Authority Permit	☐	☒	
5. Buffer Variance	☒	☐	
6. Coastal Zone Management Coordination	☐	☒	
7. NPDES	☒	☐	
8. FEMA	☐	☒	
9. Cemetery Permit	☐	☒	
10. Other Permits	☐	☒	
11. Other Commitments	☐	☒	
12. Other Coordination	☒	☐	Fish & Wildlife

Is a PAR required? ☒ No ☐ Yes ☐ Completed – Date:

Environmental Comments and Information:

NEPA/GEPA: A Categorical Exclusion (CE) level document is anticipated. No 4(f) would be required.

Ecology: An Ecology Report and Aquatic Survey are being prepared for the project. No protected species have been identified along the corridor. A Nationwide Permit level Section 404 permit and a Buffer Variance (BV) would be required.

History: The Georgia State Historic Preservation Office (SHPO) concurred with the Historic Survey Report (HSR) August 20, 2014**.** A No Historic Properties Affected (NHPA) is anticipated since the project would not directly affect any property on or eligible for listing on the National Register of Historic Places (NRHP).

Archeology: The GA SHPO concurred with the Archaeology Report July 12, 2010. One known archaeological site is located within the project's Area of Potential Effect (APE). Based on current design, this site would not be affected by the proposed project. An NHPA is anticipated.

Air Quality:

Is the project located in a PM 2.5 Non-attainment area?	☐ No	☒ Yes
Is the project located in an Ozone Non-attainment area?	☐ No	☒ Yes
Is a Carbon Monoxide hotspot analysis required?	☐ No	☒ Yes

The proposed project concept matches the conforming plan's model description for providing managed lanes and auxiliary lanes within the project limits of between Old Peachtree Road and Hamilton Mill Road. South of I-985 the existing eight lane facility will be increased to a total of ten through lanes and north of I-985, the existing four lane facility will be increased to a total of six through lanes and the entire corridor is scheduled to open to traffic in 2018.

Air Quality study includes the assessment of Ozone, CO, PM2.5 and MSAT.

This project will be evaluated for its consistency with state and federal air quality goals, including CO, Ozone, PM 2.5 and MSATs. A CO hotspot analysis will be conducted on free flow links with highest design year traffic volumes. A quantitative MSATs analysis is under consideration. PM2.5 Letter of Determination will be prepared. MOVES2010b will be utilized for the air analysis anticipating guidance from FHWA.

Noise Effects: Noise receptors within the study area, typically within 300 - 500 feet of the I-85/I-985 right-of-way, will be identified.

Existing noise levels within the study area will be determined with a combination of noise measurements and computer modeling (TNM 2.5). Future Noise Levels at the noise-receptors for the no-build and build alternative will be determined by using TNM 2.5. The future design year noise levels will be compared to the GDOT and FHWA Noise Abatement Criteria and existing noise levels to determine which receptors would experience a noise impact as defined by the GDOT Traffic Noise Abatement Policy "Highway Noise Abatement Policy for Federal-Aid Projects" (effective July 13, 2011).

TNM 2.5 will also be used to model potential noise mitigation measures along the study corridor. These mitigation measures will be compared to the GDOT's definition of feasible and reasonable noise mitigation as presented in the GDOT's Traffic Noise Abatement Policy.

Public Involvement: See attached Public Involvement Plan in Appendix I

Major stakeholders: See attached Public Involvement Plan in Appendix I

CONSTRUCTION

Issues potentially affecting constructability/construction schedule: The project is relatively standard construction to the outside and in the median. A temporary narrowing of lanes will allow all existing operational lanes to remain during the entire construction process. Several bridges will require beam placement over live traffic during traffic breaks at night. Milling and overlay sections will also require limited lane closures with much of the work performed at night. There are no extensive borrow or waste sites within the limits of the project, requiring haul-off. There are a number of streams adjacent to the project making preventative erosion control critical.

Early Completion Incentives recommended for consideration: ☐ No ☒ Yes
The project is slated to be awarded using Best Value Design-Build. One of the Best Value selection criteria is recommended to be based on expediting the overall Design-Build schedule.

COORDINATION, ACTIVITIES, RESPONSIBILITIES, AND COSTS

Initial Concept Meeting: Held on 2/2/2012 – Meeting Minutes attached in Appendix J

Concept Meeting: Held on 11/27/2012 – Meeting Minutes attached in Appendix K

Other coordination to date: Additional projects being developed in the area include a half diamond interchange (SB facing ramps) at I-85 and McGinnis Ferry Road and a full diamond interchange at I-85 and SR 324/Gravel Springs Road. Gwinnett County is responsible for Preliminary Engineering of these two projects, so the GDOT project team has been coordinating with Gwinnett County in order to incorporate impacts from their projects within the proposed Concept. Ongoing coordination will be necessary throughout project development.

Project Activity	Party Responsible for Performing Task(s)
Concept Development	HNTB
Design	HNTB (Costing Plans), Design Build Team (Final Plans)
Right-of-Way Acquisition	N/A
Utility Relocation	Design Build Team (If required)
Letting to Contract	Innovative Delivery
Construction Supervision	GDOT Office of Construction
Providing Material Pits	Design Build Team
Providing Detours	Design Build Team
Environmental Studies, Documents, & Permits	HNTB (Studies & Documents), Design Build Team (Permits)
Environmental Mitigation	Design Build Team
Construction Inspection & Materials Testing	GDOT Office of Materials and Testing

Project Cost Estimate Summary and Funding Responsibilities:

	Breakdown of PE	ROW	Utility	SRTA*	CST**	Total Cost
By Whom	GDOT	N/A	N/A	SRTA	GDOT	
$ Amount	$6,790,184	$0	$0	$21,000,000	$123,500,000	$151,290,184
Date of Estimate	8/8/2014	7/22/2014	7/22/2014	7/22/2014	11/24/2014	

* SRTA Costs include $5,000,000 for PE and $16,000,000 for construction of the Toll System Infrastructure.

** CST Cost includes the Stipulated Fee, Design-Build Contract (including environmental mitigation), Project Management Support, GDOT Administrative, Construction Engineering and Inspection, Liquid AC Adjustment, and Contingencies. See Appendix D for additional detail.

ALTERNATIVES DISCUSSION

Alternative selection:

Preferred Alternative: Maintain existing General Purpose (GP) operation and add one Managed Lane (ML) in each direction and auxiliary lanes southbound from SR 20/Buford Drive to SR 317/Lawrenceville Suwanee Road and northbound from SR 20/Buford Drive to SR 324/Gravel Springs Road. Replace existing deficient (both in sufficiency and capacity) I-85 SB bridge over I-985 NB.

Estimated Property Impacts:	**None**	**Estimated Total Cost:**	**$151,290,184**
Estimated ROW Cost:	**$0**	**Estimated CST Time:**	**18 M Const, 9 M Design**

Rationale: This preferred alternative meets the Project Justification Statement needs of the project to provide reliable travel times along the corridor. The number of general purpose (GP) lanes through the corridor remains consistent with the existing system; although at the southern end of the project, auxiliary lanes will be constructed to replace the inside GP lane that will be converted to a HOT lane. Additionally, to ensure the operational efficiencies in the HOT lane, additional auxiliary lanes have been added to address bottleneck points along the corridor.

No-Build Alternative: No change to existing

Estimated Property Impacts:	**None**	**Estimated Total Cost:**	**$0**
Estimated ROW Cost:	**$0**	**Estimated CST Time:**	**N/A**

Rationale: Rejected – does not meet the Project Justification Statement needs to provide reliable travel times to the I-85 corridor.

Alternative 1: Maintain existing General Purpose (GP) operation and add one Managed Lane (ML) in each direction. Replace existing deficient I-85 SB bridge over I-985 NB.

Estimated Property Impacts:	**None**	**Estimated Total Cost:**	**$138,590,184**
Estimated ROW Cost:	**$0**	**Estimated CST Time:**	**18 M Const, 9 M Design**

Rationale: This alternative does not meet the Project Justification Statement needs of the project of providing reliable travel times. While the HOT lanes provide reliable travel times for some drivers along the corridor, the high demand for the HOT lanes creates a weaving issue for the general purpose lanes and causes degradation of travel times for the overall corridor. This travel time delay caused by the additional weaving in the general purpose lanes makes this alternative infeasible.

Alternative 2: In addition to the Preferred Alternative a new flyover ramp would be added to provide access from I-85 NB to I-985 NB via a right side exit. Direct ML connection ramps would be provided through the existing I-85 NB to I-985 NB left side exit.			
Estimated Property Impacts:	**6**	**Estimated Total Cost:**	**$197,927,435**
Estimated ROW Cost:	**$5,674,100**	**Estimated CST Time:**	**30 M Const, 9 M Design**
Rationale: This alternative has been eliminated as it is not required to meet the Project Justification Statement for the project to provide reliable travel times along the corridor.			

Alternative 3: Same as the Preferred Alternative but excluding the replacement of the I-85 SB bridge over I-985 NB. All added MLs would be placed on one bridge with a concrete barrier to separate the opposing directions.			
Estimated Property Impacts:	**0**	**Estimated Total Cost:**	**$132,895,884**
Estimated ROW Cost:	**$0**	**Estimated CST Time:**	**18 M Const, 9 M Design**
Rationale: The existing bridge does not allow for the addition of the southbound auxiliary lane between SR 20/Buford Drive and SR 317/Lawrenceville Suwanee Road. This alternative was eliminated since without this auxiliary lane, the Project Justification Statement needs cannot be met.			

Comments: Nothing further at this time.

LIST OF ATTACHMENTS/SUPPORTING DATA

Appendix A. Project Justification Statement
Appendix B. Project Plan Sheets (Concept Layout)
Appendix C. Project Typical Section Sheets
Appendix D. Preferred Alternative Cost Estimate:
1. Construction including Engineering and Inspection
2. Completed Fuel & Asphalt Price Adjustment forms
3. Construction Cost Breakdown

Appendix E. Traffic Diagrams
Appendix F. Shoulder Width Design Exception Letter
Appendix G. Vertical Curve Design Exception Letter
Appendix H. Inside Shoulder Design Exception Letter
Appendix I. Public Involvement Plan
Appendix J. Initial Concept Team Meeting – Minutes
Appendix K. Concept Team Meeting – Minutes
Appendix L. Pavement Evaluation Summary and the Approved Pavement Designs
Appendix M. Bridge inventory/Inspection Reports

APPROVALS

Concur: _____
Director of Engineering

Approve: Margaret B. Pikel _____ 2-19-15
Chief Engineer Date

Appendix A. Project Justification Statement

Project Justification
Project Number NHIM0-0085-02(164)
P.I. Number: PI 110600
I-85 Express Lanes extension from just north of Old Peachtree Road to CR 134/Hamilton Mill Road

PI 110600 is the extension of the Interstate 85 managed lanes from north of Old Peachtree Road to Hamilton Mill Road. The project is listed among the Tier 1 projects identified in the Atlanta Managed Lane System Plan (MLSP) and is included in the conforming Atlanta Regional Commission's Plan 2040 constrained Long-Range Transportation Plan and the FY2014-2019 Transportation Improvement Program (TIP). The project is also consistent with the December 10, 2009 State Transportation Board Resolution requiring new capacity on limited access facilities in the metro Atlanta area be managed lanes.

Traffic Data

North of Old Peachtree Road, I-85 has a current (2014) AADT of 157,600 with four general purpose lanes in each direction. The volumes decrease to an AADT of 72,900 near Hamilton Mill Road and the typical section decreases to two general purpose lanes in each direction. North of Hamilton Mill the existing traffic drops 22% to 57,200 AADT. By 2038 traffic north of Old Peachtree Road is expected to increase to an AADT of 221,000; increase to 101,000 AADT near Hamilton Mill Road and 80,200 AADT north of Hamilton Mill Road.

In 2014, I-85 South at the SR 20 onramp is operating at LOS F in the AM. In the PM, I-85 northbound near the I-985 diverge operates at LOS E. By 2018 the southbound segment of I-85 from Hamilton Mill Road to Old Peachtree Road will function at a LOS D or worse in the morning (AM) and the northbound lanes from Old Peachtree Road to SR 20 will function at a LOS D or worse in the evening (PM). By 2038, the roadway segment between SR 317 to Old Peachtree Road will be at a D or worse in both directions for both the AM and PM.

Data provided from the State Road and Toll Authority (SRTA), operator of the adjacent HOT lane facility, for the existing HOT indicates that a majority of the trips in the existing HOT lane, both northbound and southbound, enter the lane at the starting point and exit at the ending point for the HOT lane. Approximately 57% of the drivers in the AM peak hour travel the full length of the HOT lane and 50% of the drives in the PM peak hour travel the full length of the HOT lane. These numbers suggest that there is a demand north of the existing HOT lane for current users of the HOT lane to enter and exit the HOT lane at a point north of the current lane's terminus.

Crash Data

The crash and injury rates for 2010-2012 were below the statewide average, while the fatality rate exceeded the statewide average in 2011 with four deaths and a fatality rate of 0.92 fatalities per 100 million vehicle miles traveled (see Table). While the crash rates are comparable with crashes on the interstate statewide, the number of crashes in conjunction with the traffic volumes on this segment of I-85 contributes to delay and increases the unreliability in travel time. During the 2010-2012 timeframe, there were 1,576 crashes on the corridor. On average, 8 crashes occurred each week in 2010, 10 crashes per week in 2011, and 12 crashes per week in 2012. On rare occasions there were weeks where there were no documented crashes.. The unpredictability

of the time, location, number and severity of crashes add to the delay in travelling through the corridor resulting in unreliable travel time.

Crash History of I-85 from Old Peachtree Road to Hamilton Mill Road

Year	Total Crashes/ Crash Rate/ Statewide Average Crash Rate*	Total Injuries/ Injury Rate/ Statewide Average Injury Rate*	Total Fatalities/ Fatality Rate/ Statewide Average Fatality Rate*
2012	620/143/205	205/47/63	0/0/0.50
2011	521/120/181	150/35/57	4/0.92/0.52
2010	435/96/175	149/33/59	2/0.44/0.51

* All crashes, injury, and fatality rates are per 100 million vehicle miles.

Proposed Project Limits

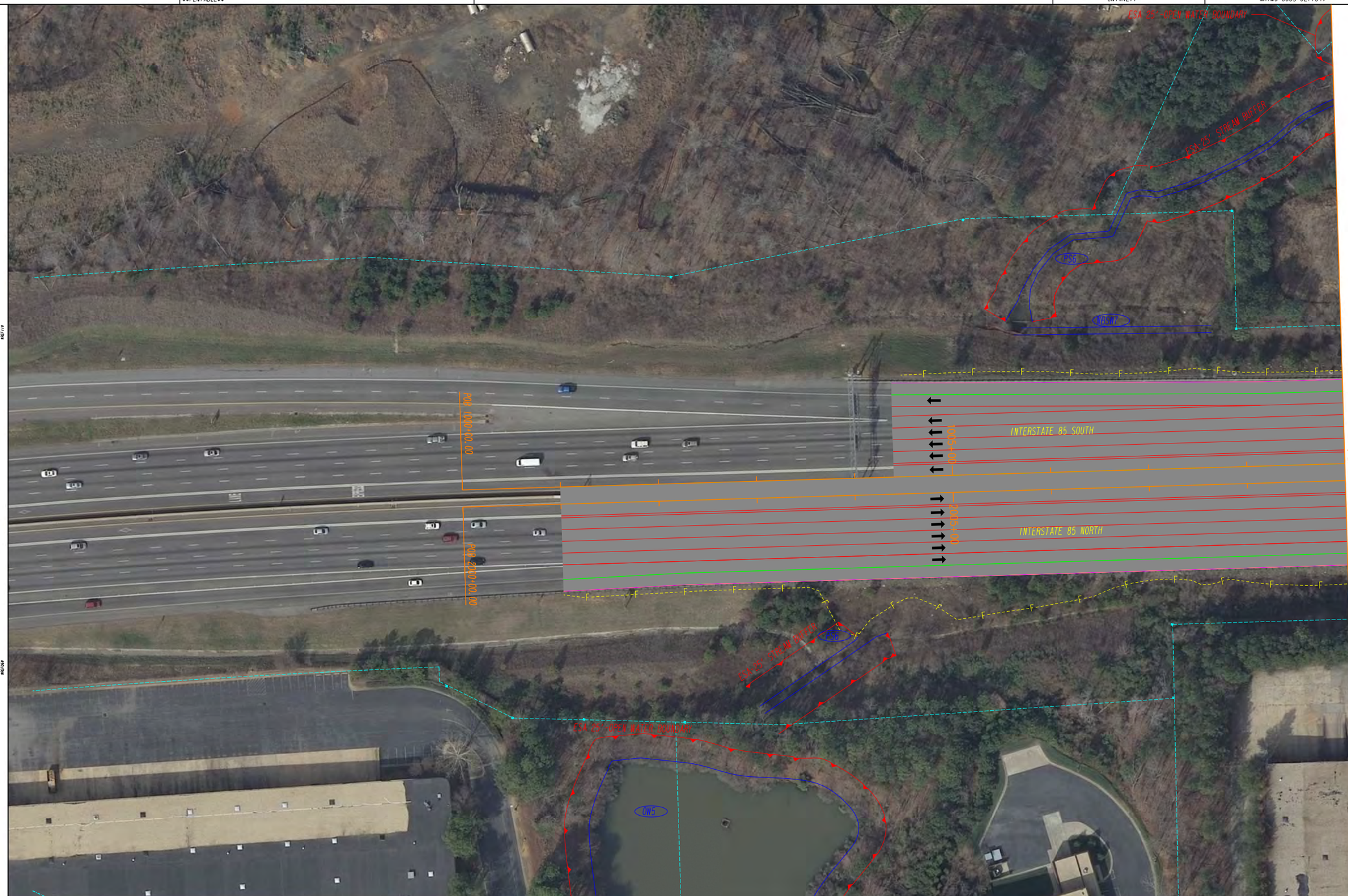
The proposed southern terminus for this project is the existing managed lanes at Old Peachtree Road. The northern terminus is Hamilton Mill Road, where the traffic volume decreases by 22%. Hamilton Mill Road is located just south of the urbanized area boundary and is the southern termini for Project 110610, which will widen the interstate from Hamilton Mill Road to SR 211. The project limits are consistent with the State Transportation Board Resolution of using managed lanes in the Atlanta Metro area and will extend the existing manage lanes through the congested corridor to tie into the proposed general purpose capacity lanes outside of the Atlanta Metro area.

Project Goal

Limited financial resources, development and right-of-way restrictions make it impossible to completely eliminate congestion in the Atlanta Metro Area. Therefore, this project aims to mitigate the congestion along the I-85 corridor by providing a strategy to keep a portion of the corridor uncongested by managing the access to selected lanes. Managing the access to selected lanes will allow the roadway to operate in the selected lane(s) at speeds that are equivalent to or greater than the travel speeds in the general purpose lanes. This will improve mobility and provide an option for a reliable travel time. This project aims to reduce the impact of congestion and crash induced delays and thus improves travel time on a segment of the corridor in order to provide the public with an option that will provide a more reliable travel time. Additionally this project aims to provide additional relief to congested area by adding auxiliary lanes.

Appendix B. Project Plan Sheets (Concept Layout)

DATETIME$$$ TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$	$$PENTABLE$$		GWINNETT	NHIMO-0085-021(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-01

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REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA		
CONSTRUCTION LIMITS	LIMIT OF ACCESS	3715 NORTHSIDE PARKWAY, NW	SCALE IN FEET
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS	400 NORTHCREEK, SUITE 600	0 50 100 200
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE	ATLANTA, GEORGIA 30327	
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN		

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-02

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PROPERTY LINE
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CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

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R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

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PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

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EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

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PROPERTY LINE
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CONSTRUCTION LIMITS
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EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

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R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
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REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

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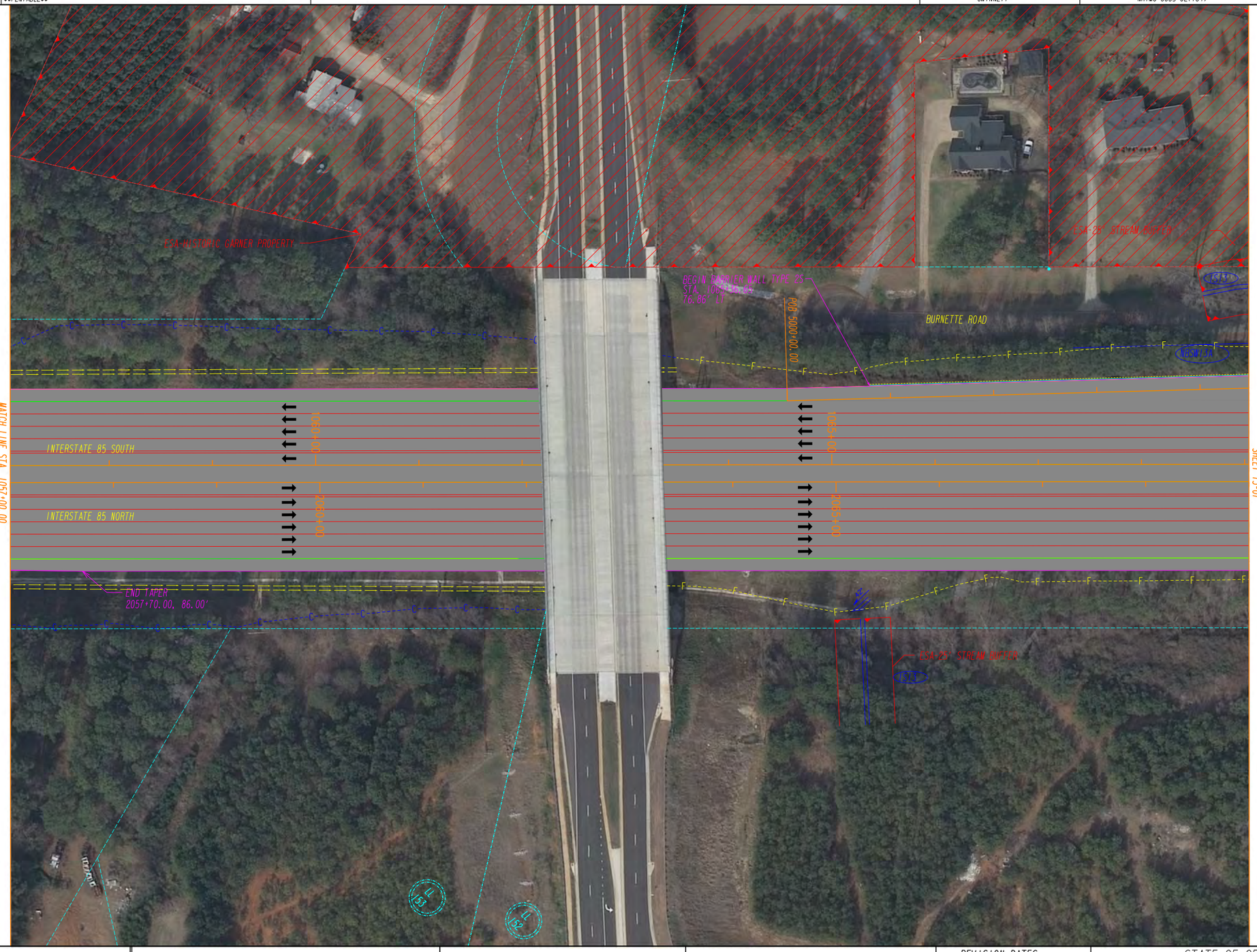

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EASEMENT FOR CONSTR OF DRIVES	

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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

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PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

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END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
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REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

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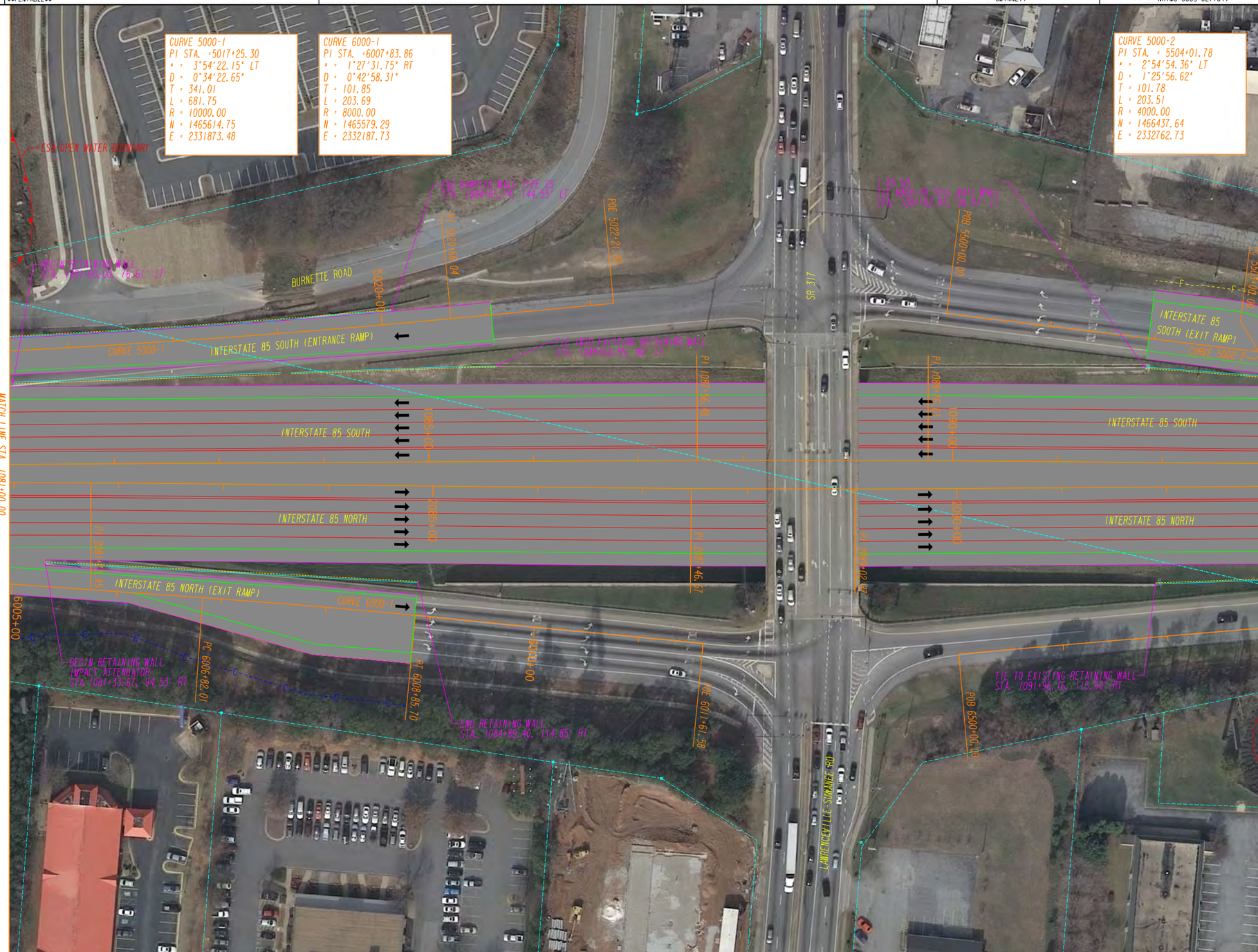

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HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

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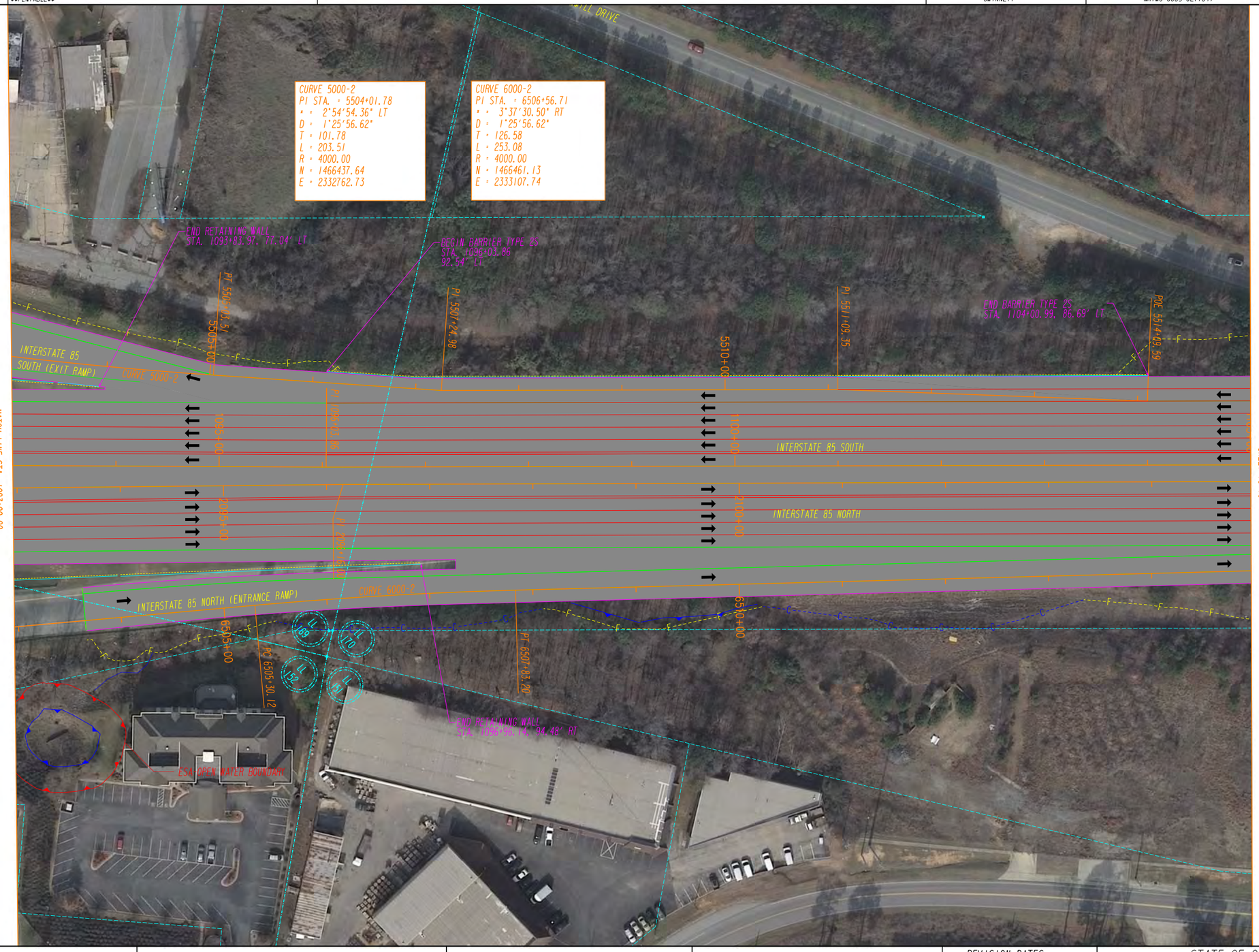

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EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN		

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

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EASEMENT FOR CONSTR OF DRIVES

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HNTB

3715 NORTHSIDE PARKWAY, NW
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ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

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PROPERTY LINE
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CONSTRUCTION LIMITS
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EASEMENT FOR CONSTR OF SLOPES
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LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
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ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-11

GPLN

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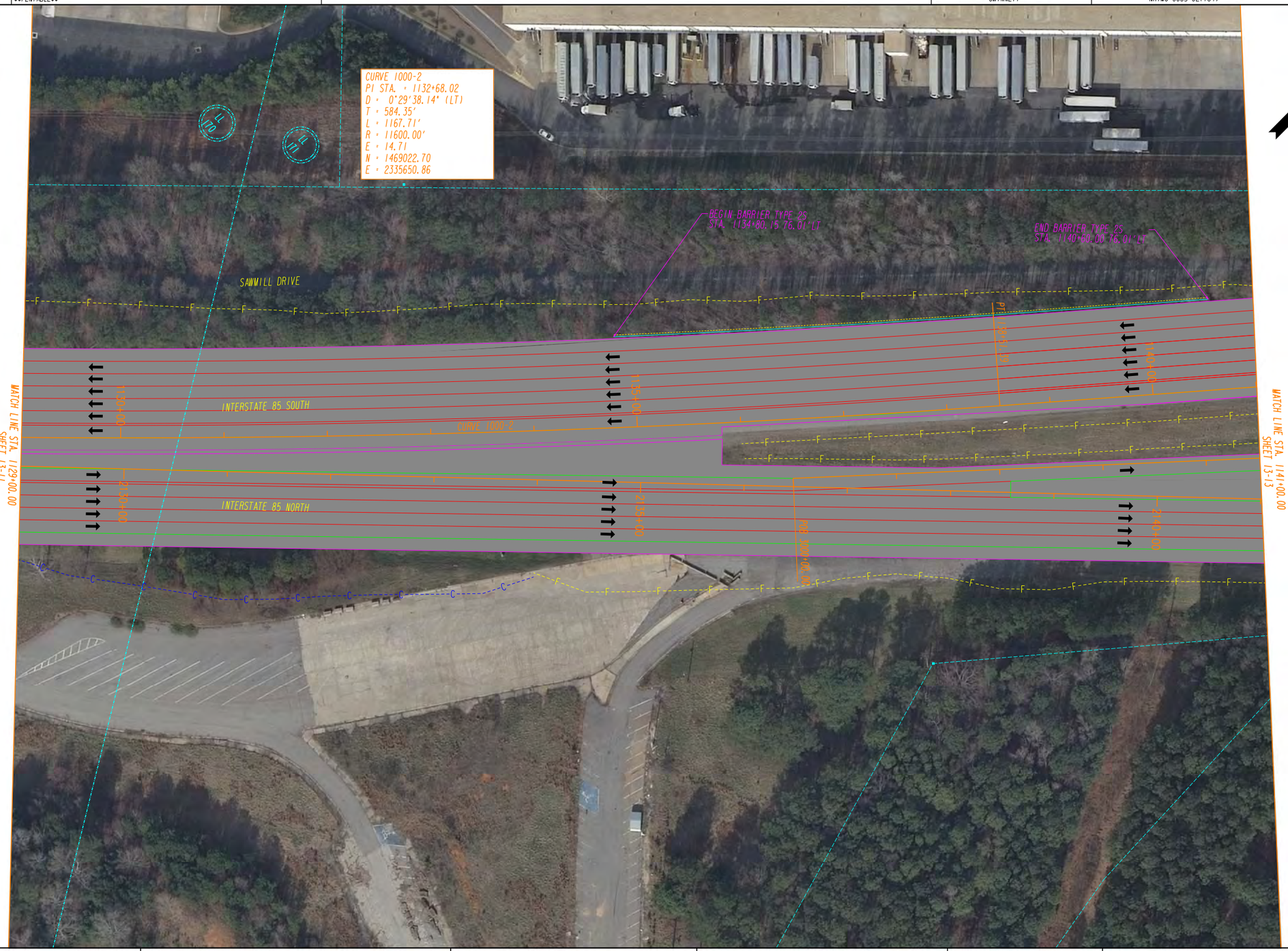

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REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA	3715 NORTHSIDE PARKWAY, NW	SCALE IN FEET
CONSTRUCTION LIMITS	LIMIT OF ACCESS	400 NORTHCREEK, SUITE 600	0 50 100 200
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS	ATLANTA, GEORGIA 30327	
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE		
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN		

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-12

GPLN

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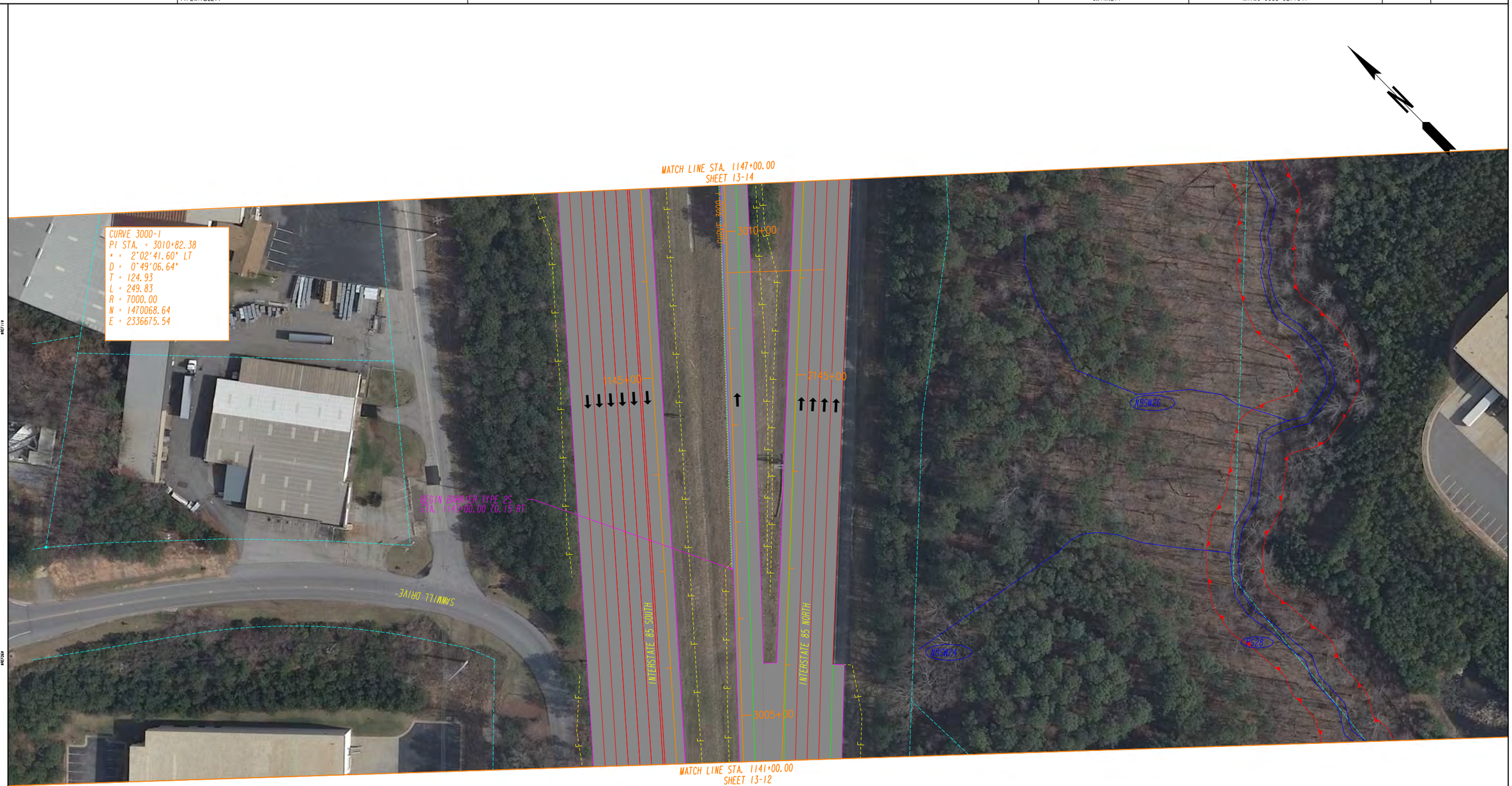

PROPERTY LINE	P	BEGIN LIMIT OF ACCESS	BLA
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EASEMENT FOR CONSTR OF SLOPES		EXISTING R/W LINE	
EASEMENT FOR CONSTR OF DRIVES		OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-13

GPLN 110600CP13.dgn 12/10/2014 1:40:52 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		

PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

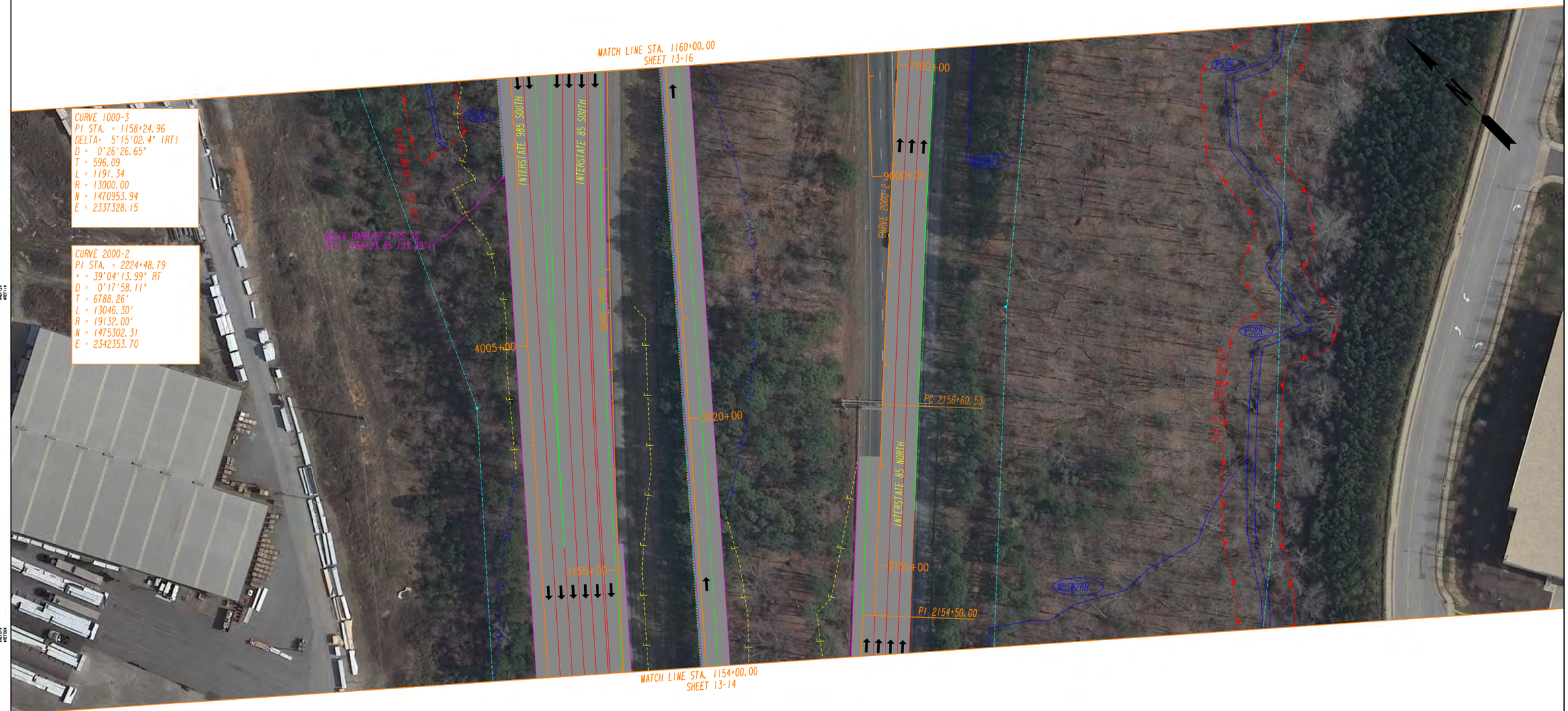
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-14

GPLN

110600CP14.dgn 12/10/2014 1:42:12 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-021(164)		



PROPERTY LINE		BEGIN LIMIT OF ACCESS.....BLA	
REQUIRED R/W LINE		END LIMIT OF ACCESS.....ELA	
CONSTRUCTION LIMITS		LIMIT OF ACCESS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES		R/W AND LIMIT OF ACCESS	
EASEMENT FOR CONSTR OF SLOPES		EXISTING R/W LINE	
EASEMENT FOR CONSTR OF DRIVES		OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

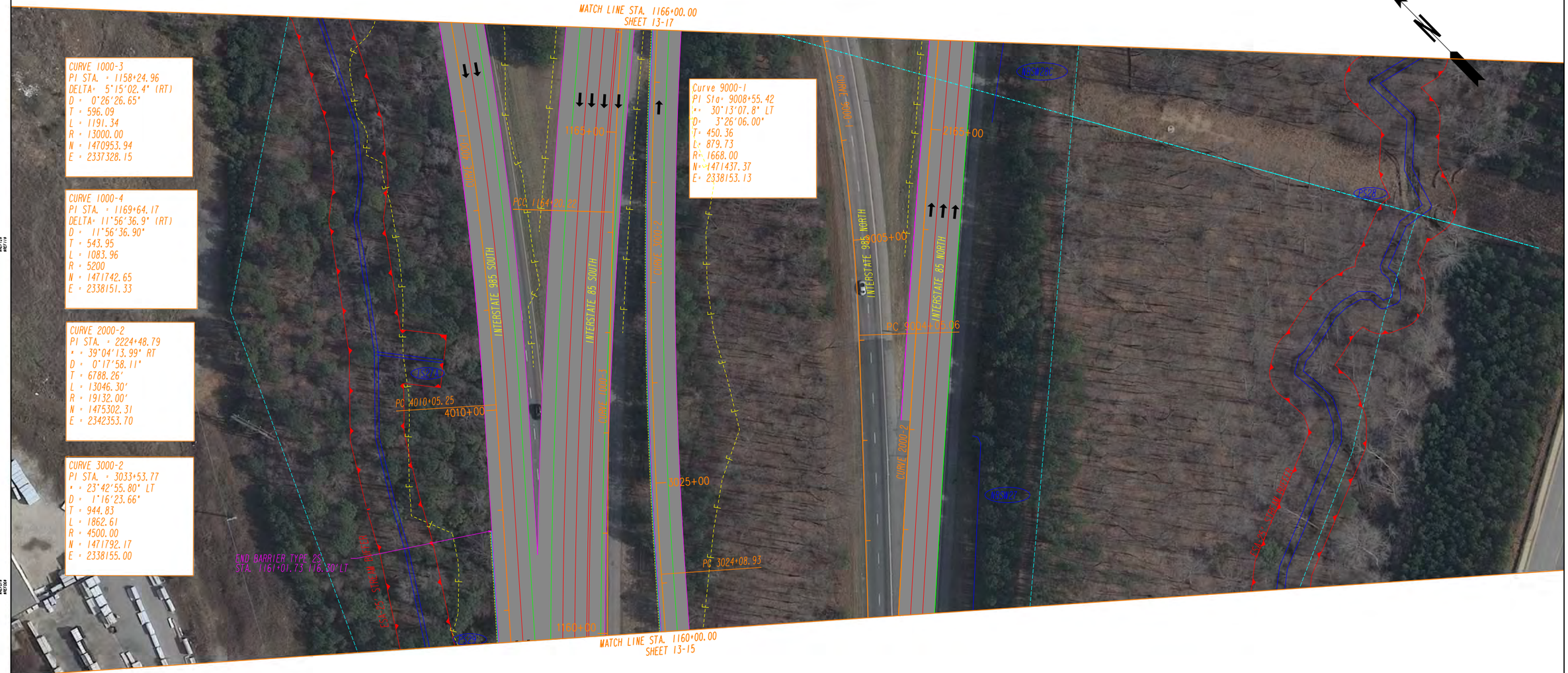
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-15

110600CP15.dgn 12/10/2014 1:44:40 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA	HNTB	COSTING PLANS FOR DESIGN-BUILD
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA	3715 NORTHSIDE PARKWAY, NW	SCALE IN FEET
CONSTRUCTION LIMITS	LIMIT OF ACCESS	400 NORTHCREEK, SUITE 600	0 50 100 200
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS	ATLANTA, GEORGIA 30327	
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE		
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN		

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

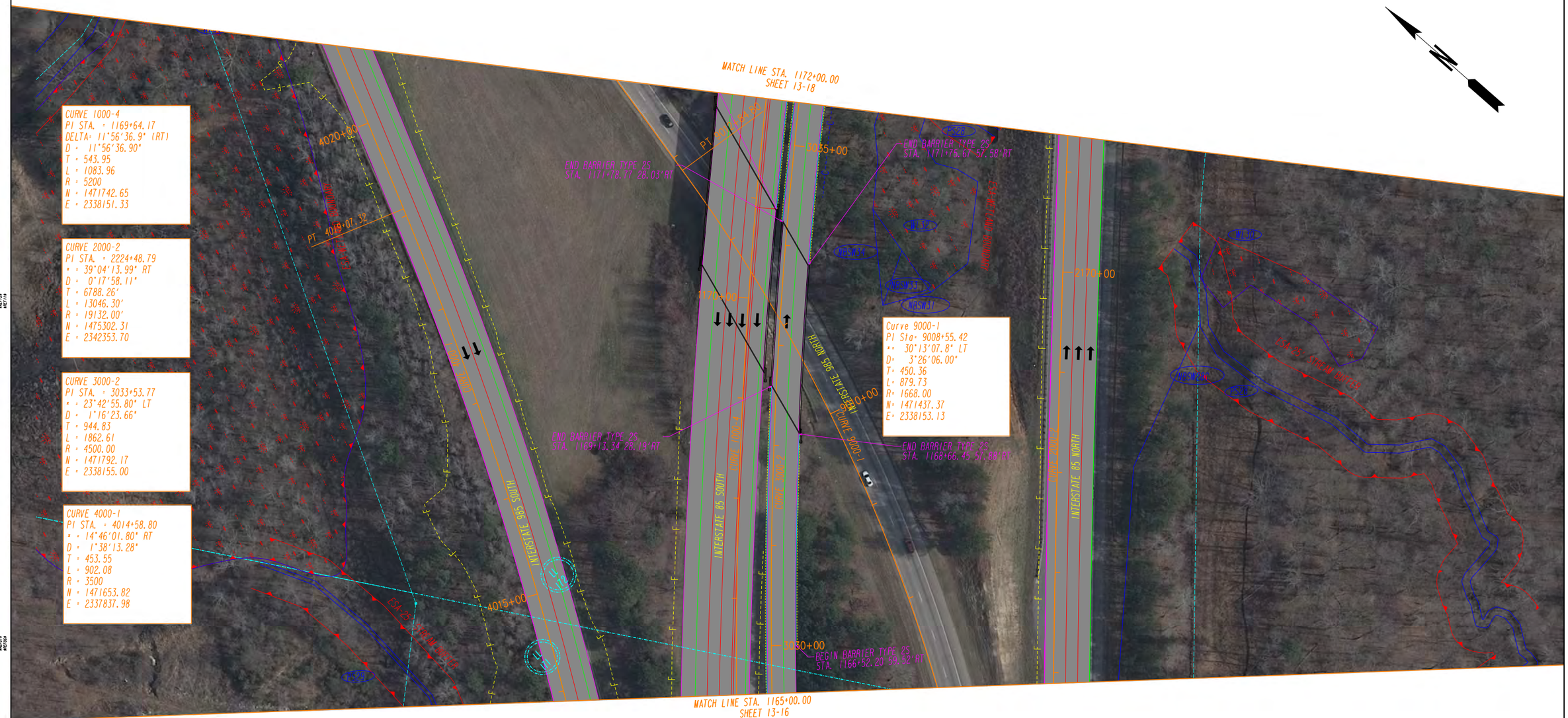
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-16

GPLN

110600CP16.dgn 12/10/2014 1:45:41 PM

DATETIME$$$ TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$	$$PENTABLE$$		GWINNETT	NHIMO-0085-021(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA	HNTB	COSTING PLANS FOR DESIGN-BUILD
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA		
CONSTRUCTION LIMITS	LIMIT OF ACCESS	3715 NORTHSIDE PARKWAY, NW	SCALE IN FEET
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS	400 NORTHCREEK, SUITE 600	0 50 100 200
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE	ATLANTA, GEORGIA 30327	
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN		

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

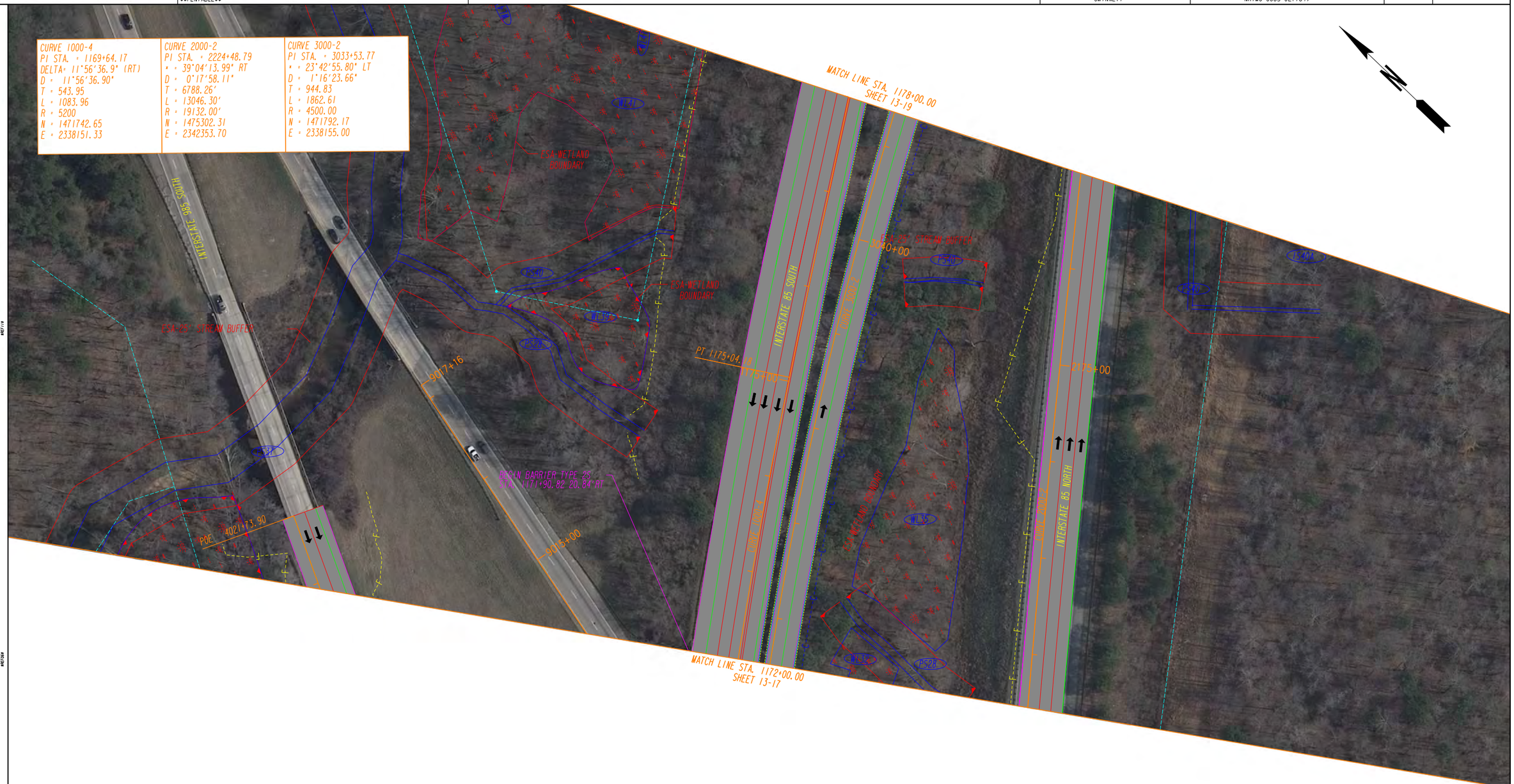
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-17

GPLK 08/27/14 08/27/14 08/27/14 08/27/14 08/27/14 08/27/14

110600CP17.dgn 12/10/2014 1:47:03 PM

DATETIME$$$ TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$	$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA	HNTB	COSTING PLANS FOR DESIGN-BUILD
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA	3715 NORTHSIDE PARKWAY, NW	SCALE IN FEET
CONSTRUCTION LIMITS	LIMIT OF ACCESS	400 NORTHCREEK, SUITE 600	0 50 100 200
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS	ATLANTA, GEORGIA 30327	
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE		
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN		

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

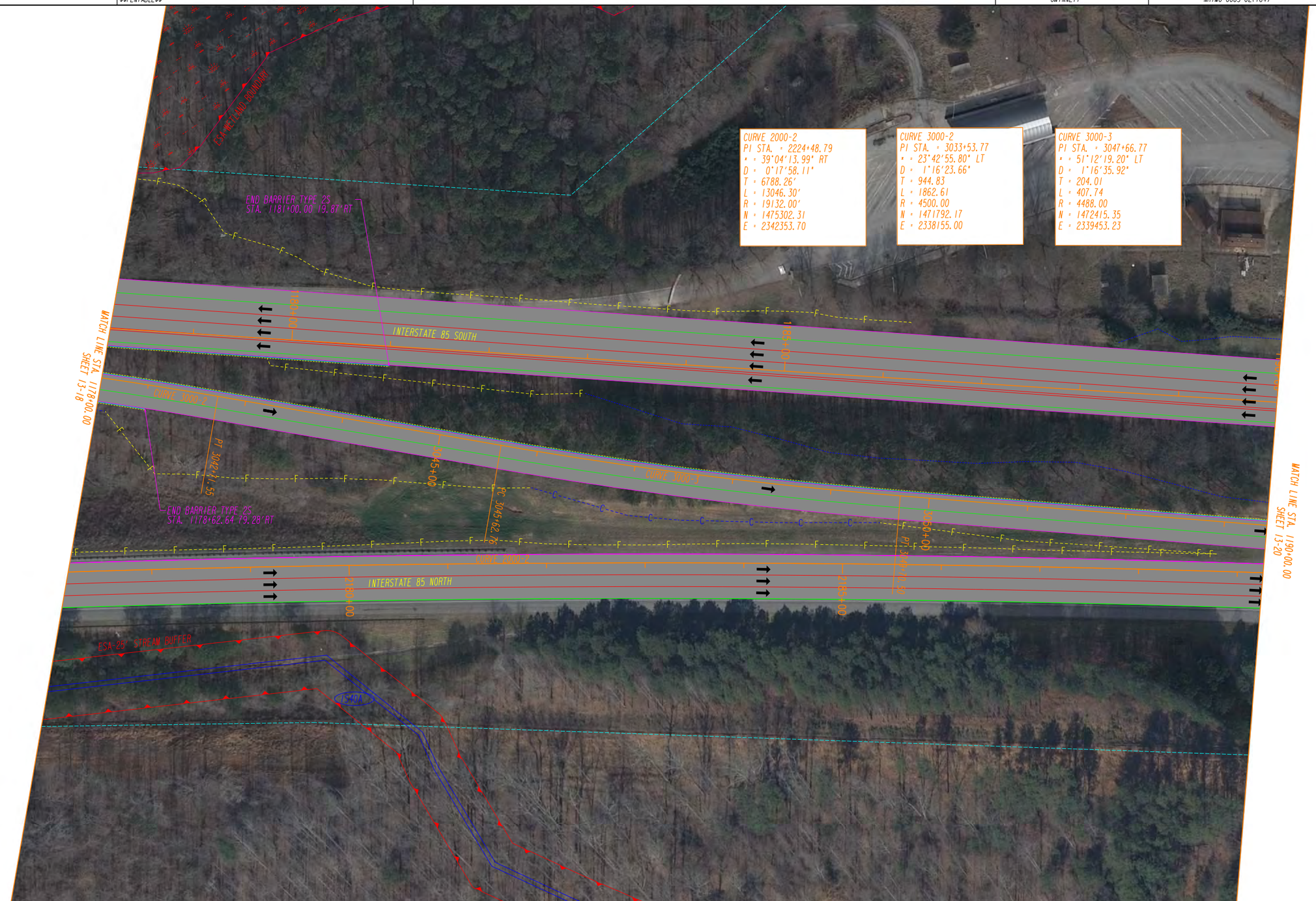
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-18

GPLN

110600CP18.dgn 12/10/2014 1:48:22 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	P	BEGIN LIMIT OF ACCESS.....BLA	
REQUIRED R/W LINE		END LIMIT OF ACCESS.....ELA	
CONSTRUCTION LIMITS	C F	LIMIT OF ACCESS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES		R/W AND LIMIT OF ACCESS	
EASEMENT FOR CONSTR OF SLOPES		EXISTING R/W LINE	
EASEMENT FOR CONSTR OF DRIVES		OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

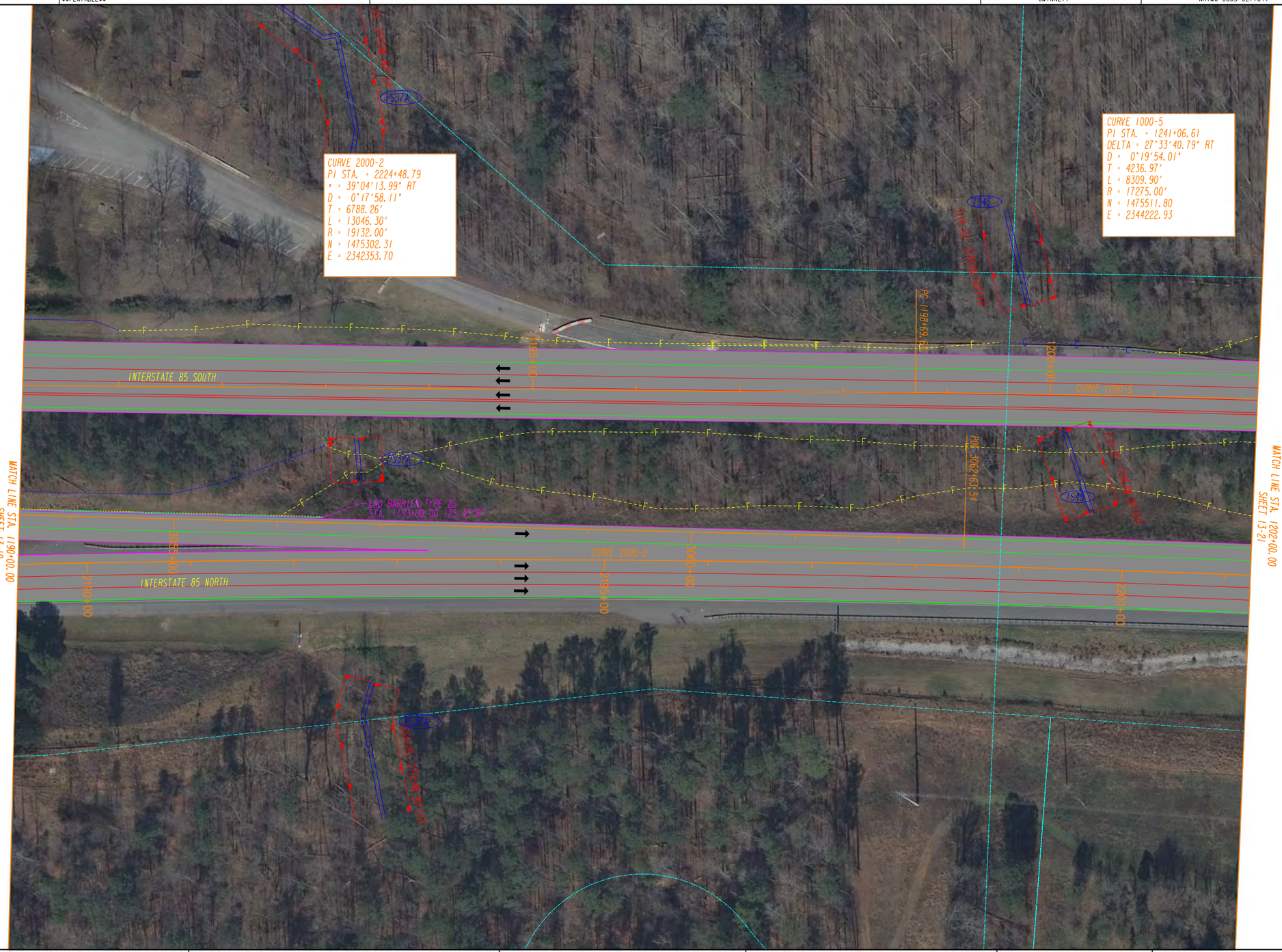
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-19

110600CP19.dgn 12/10/2014 1:50:04 PM

DATETIME$$$ TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$	$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	P
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	C F
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

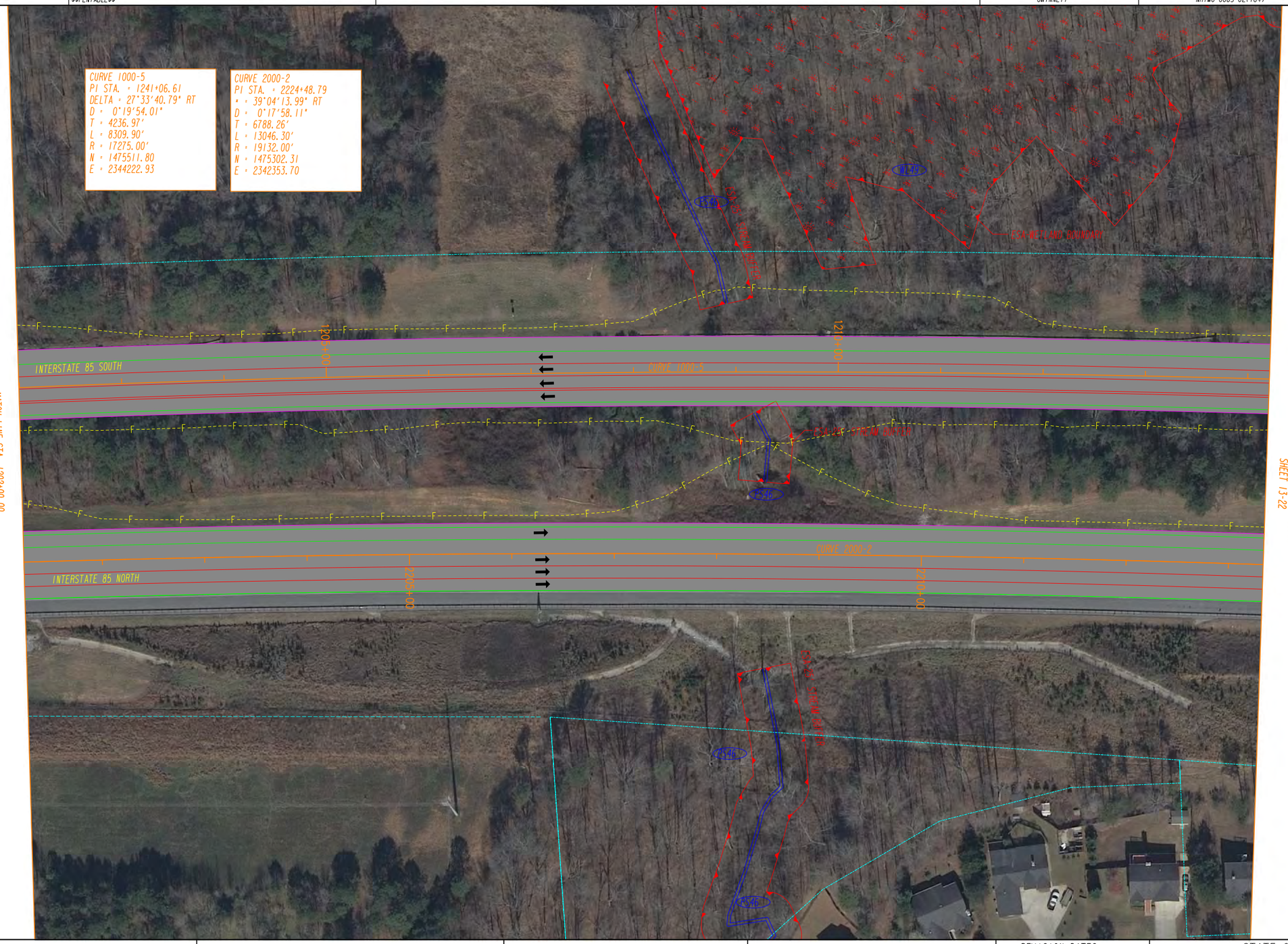
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-20

110600CP20.dgn 12/10/2014 1:52:04 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

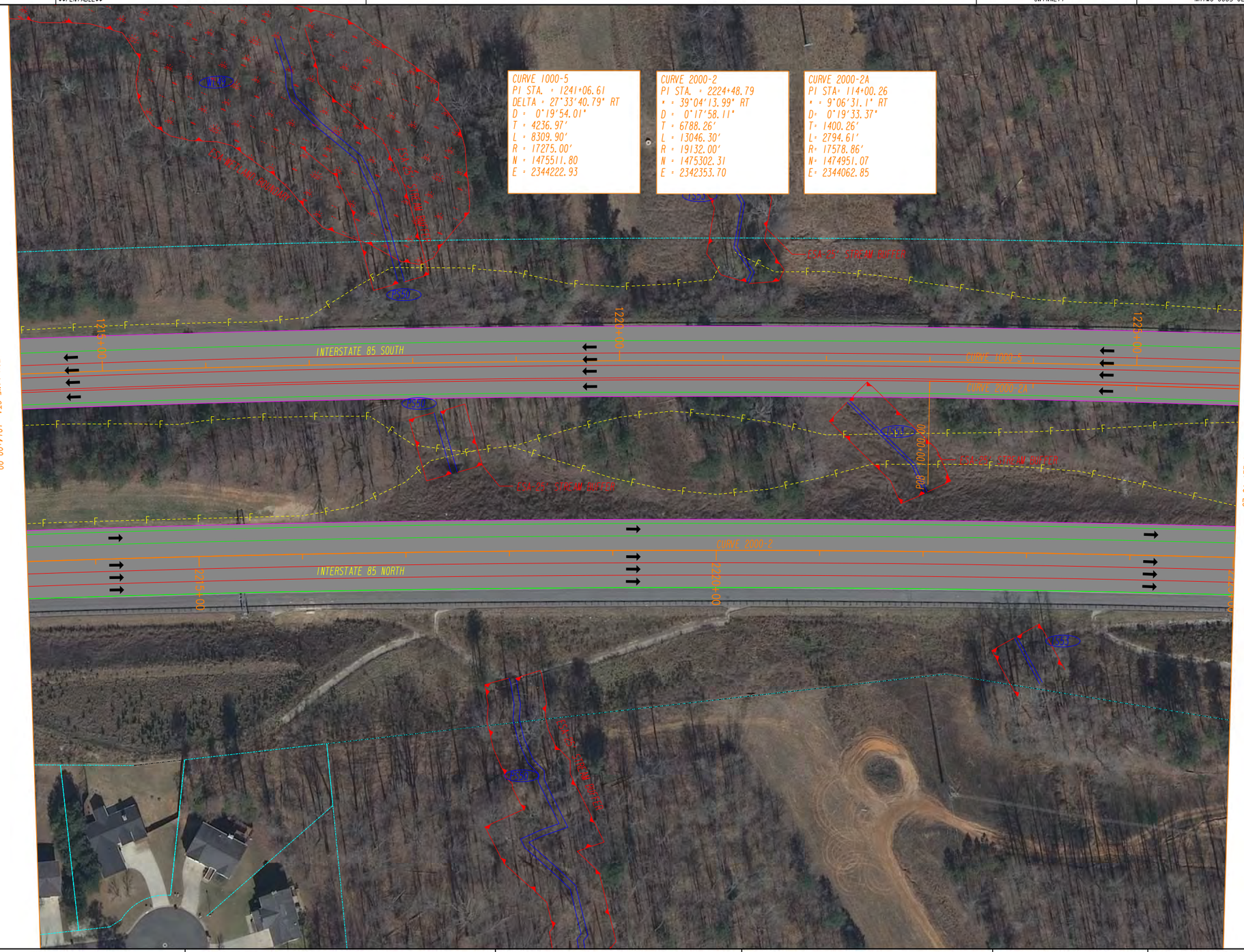
OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-21

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

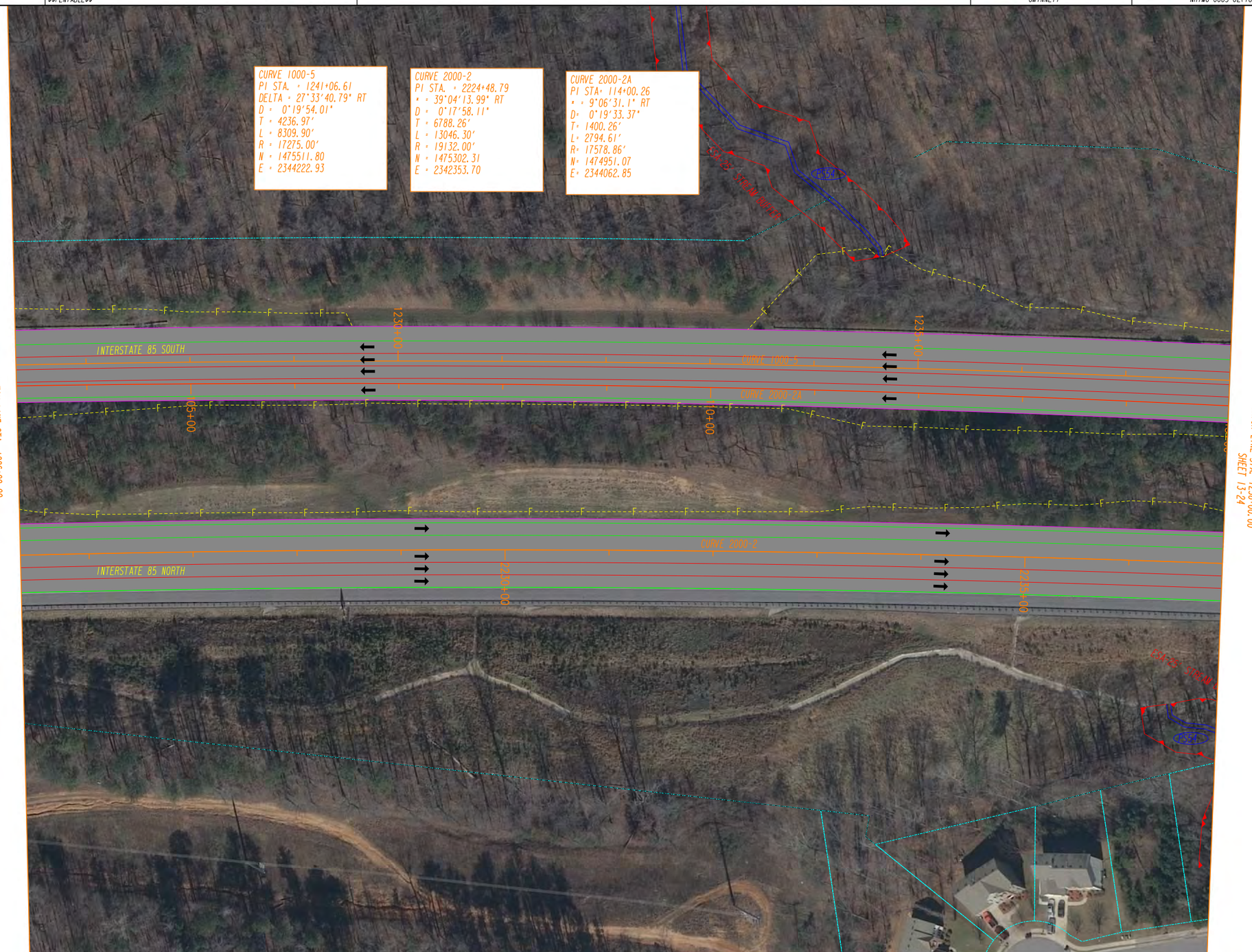
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-22

110600CP22.dgn 12/10/2014 1:55:02 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE		BEGIN LIMIT OF ACCESS.....BLA	
REQUIRED R/W LINE		END LIMIT OF ACCESS.....ELA	
CONSTRUCTION LIMITS		LIMIT OF ACCESS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES		R/W AND LIMIT OF ACCESS	
EASEMENT FOR CONSTR OF SLOPES		EXISTING R/W LINE	
EASEMENT FOR CONSTR OF DRIVES		OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

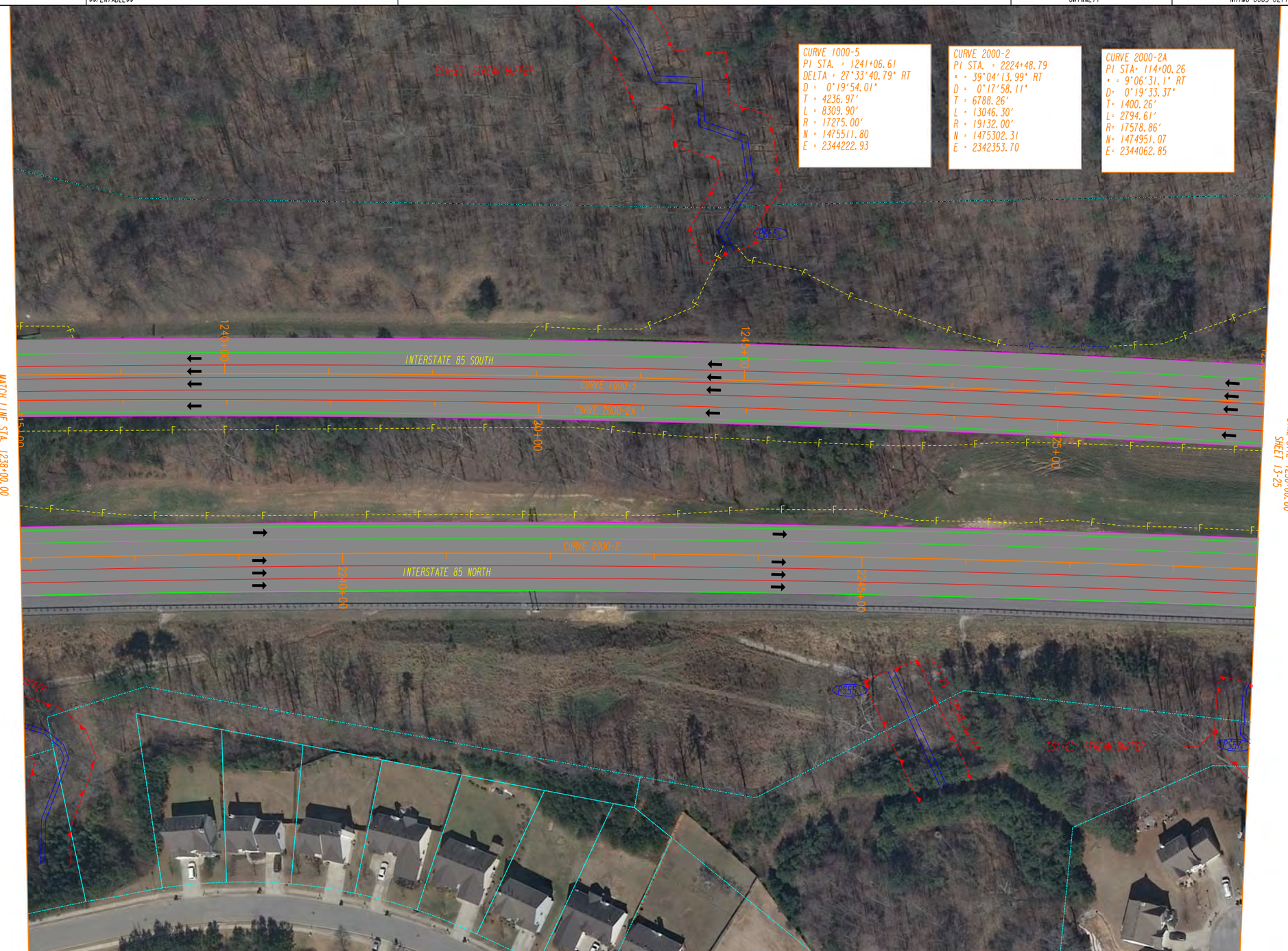
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-23

110600CP23.dgn 12/10/2014 1:56:45 PM

DATETIME$$$ TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$	$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA	HNTB	COSTING PLANS FOR DESIGN-BUILD
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA		
CONSTRUCTION LIMITS	LIMIT OF ACCESS	3715 NORTHSIDE PARKWAY, NW	SCALE IN FEET
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS	400 NORTHCREEK, SUITE 600	0 50 100 200
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE	ATLANTA, GEORGIA 30327	
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN		

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

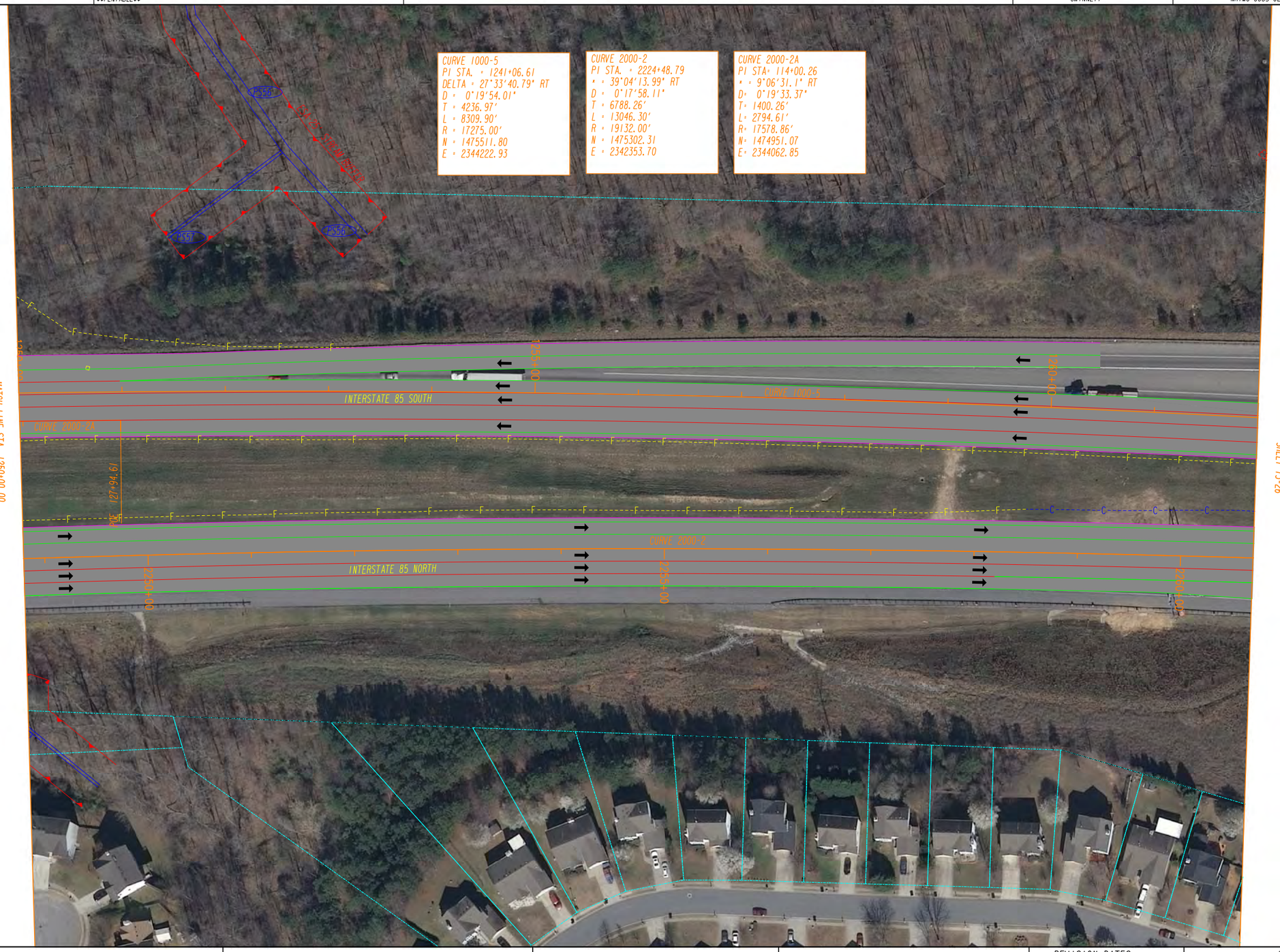
OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-24

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-25

GPLN

110600CP25.dgn 12/10/2014 2:05:20 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-021(164)		

PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

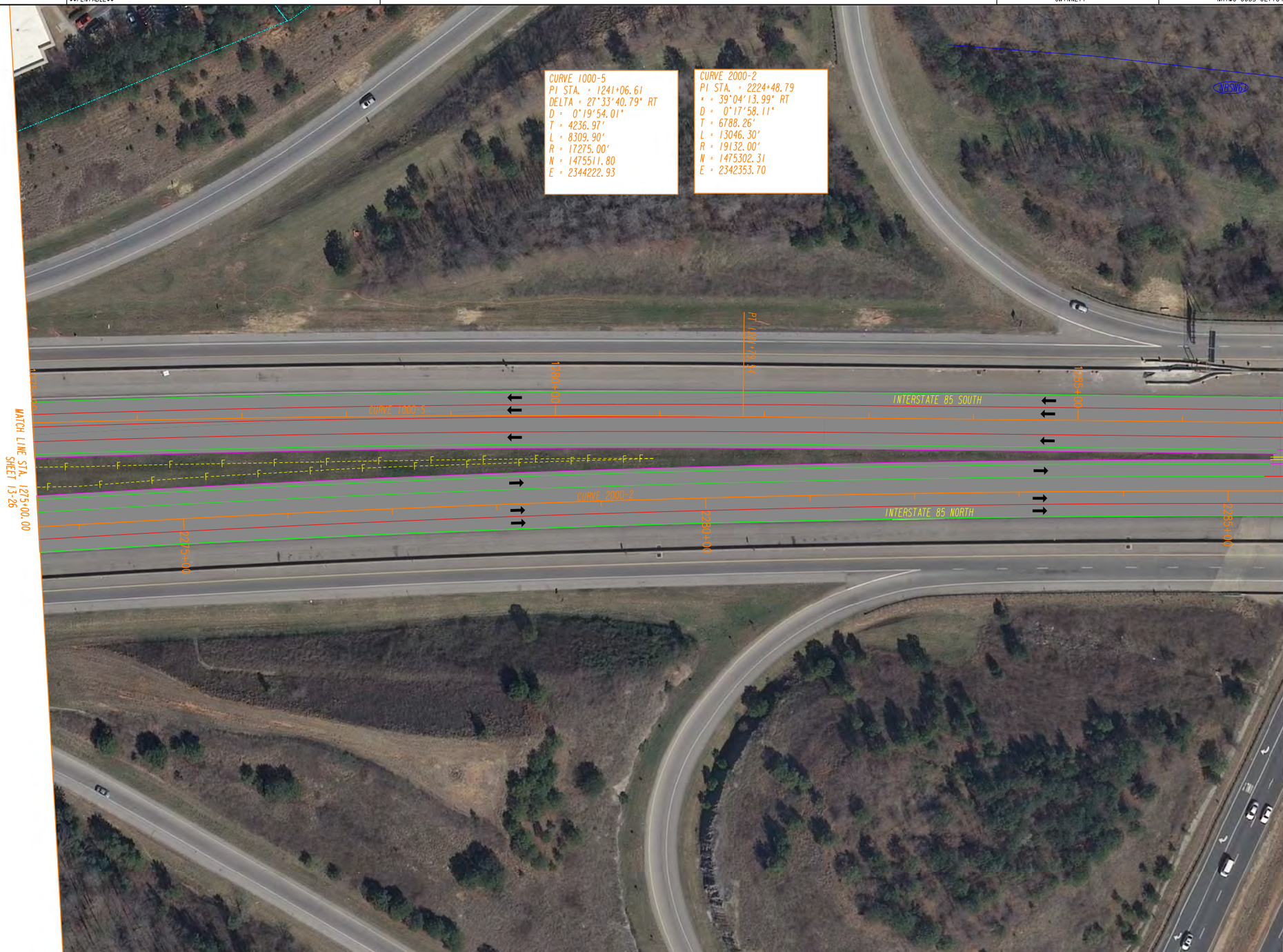
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-26

GPLN 110600CP26.dgn 12/10/2014 2:07:11 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-27

GPLN

110600CP27.dgn 12/10/2014 2:09:49 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		

PROPERTY LINE	P	BEGIN LIMIT OF ACCESS.....BLA	
REQUIRED R/W LINE		END LIMIT OF ACCESS.....ELA	
CONSTRUCTION LIMITS	C F	LIMIT OF ACCESS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES		R/W AND LIMIT OF ACCESS	
EASEMENT FOR CONSTR OF SLOPES		EXISTING R/W LINE	
EASEMENT FOR CONSTR OF DRIVES		OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

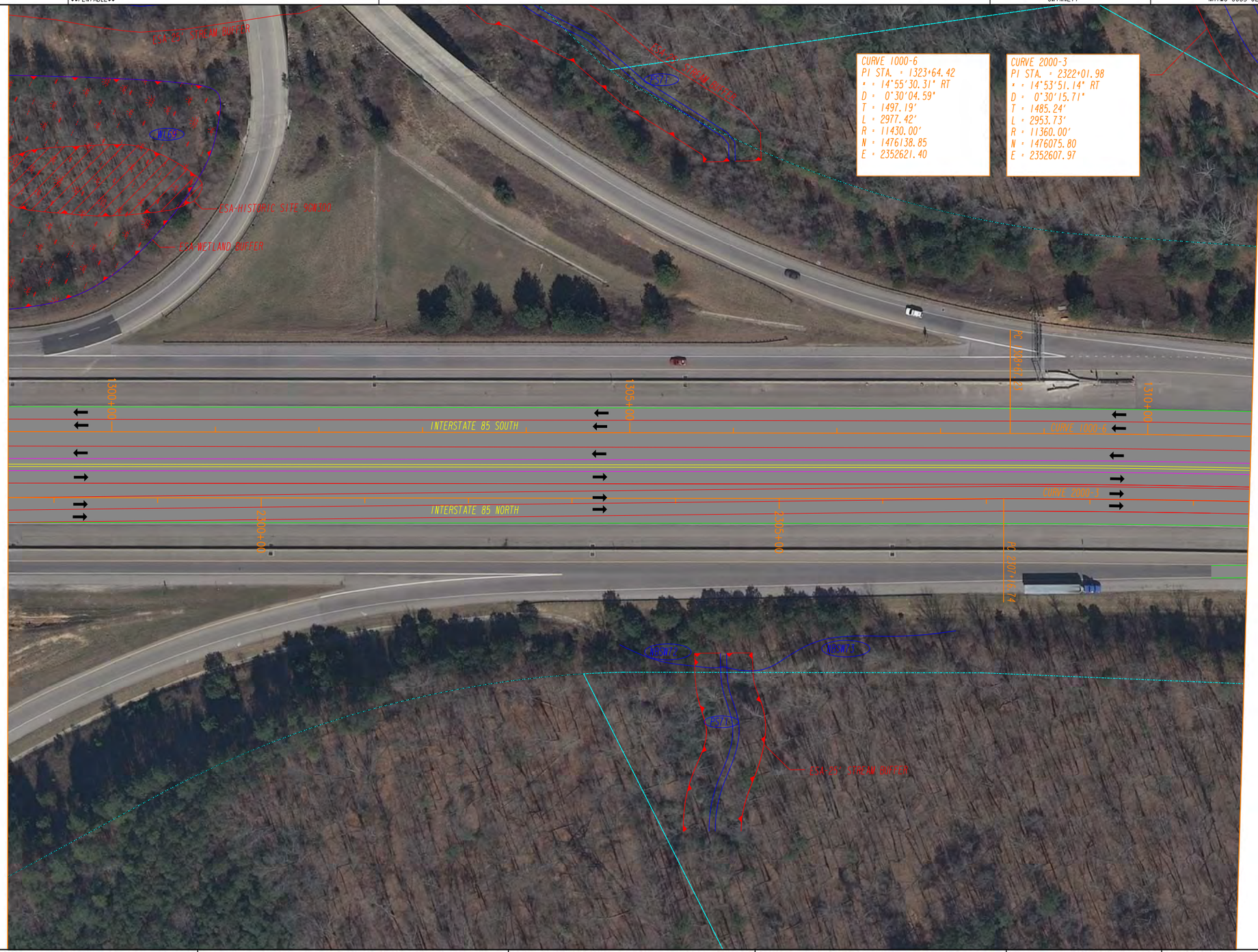
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-28

GPLN

110600CP28.dgn 12/10/2014 2:11:21 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	---P---	BEGIN LIMIT OF ACCESS.....BLA	
REQUIRED R/W LINE	———	END LIMIT OF ACCESS.....ELA	
CONSTRUCTION LIMITS	---C----F---	LIMIT OF ACCESS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES		R/W AND LIMIT OF ACCESS	
EASEMENT FOR CONSTR OF SLOPES		EXISTING R/W LINE	
EASEMENT FOR CONSTR OF DRIVES		OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

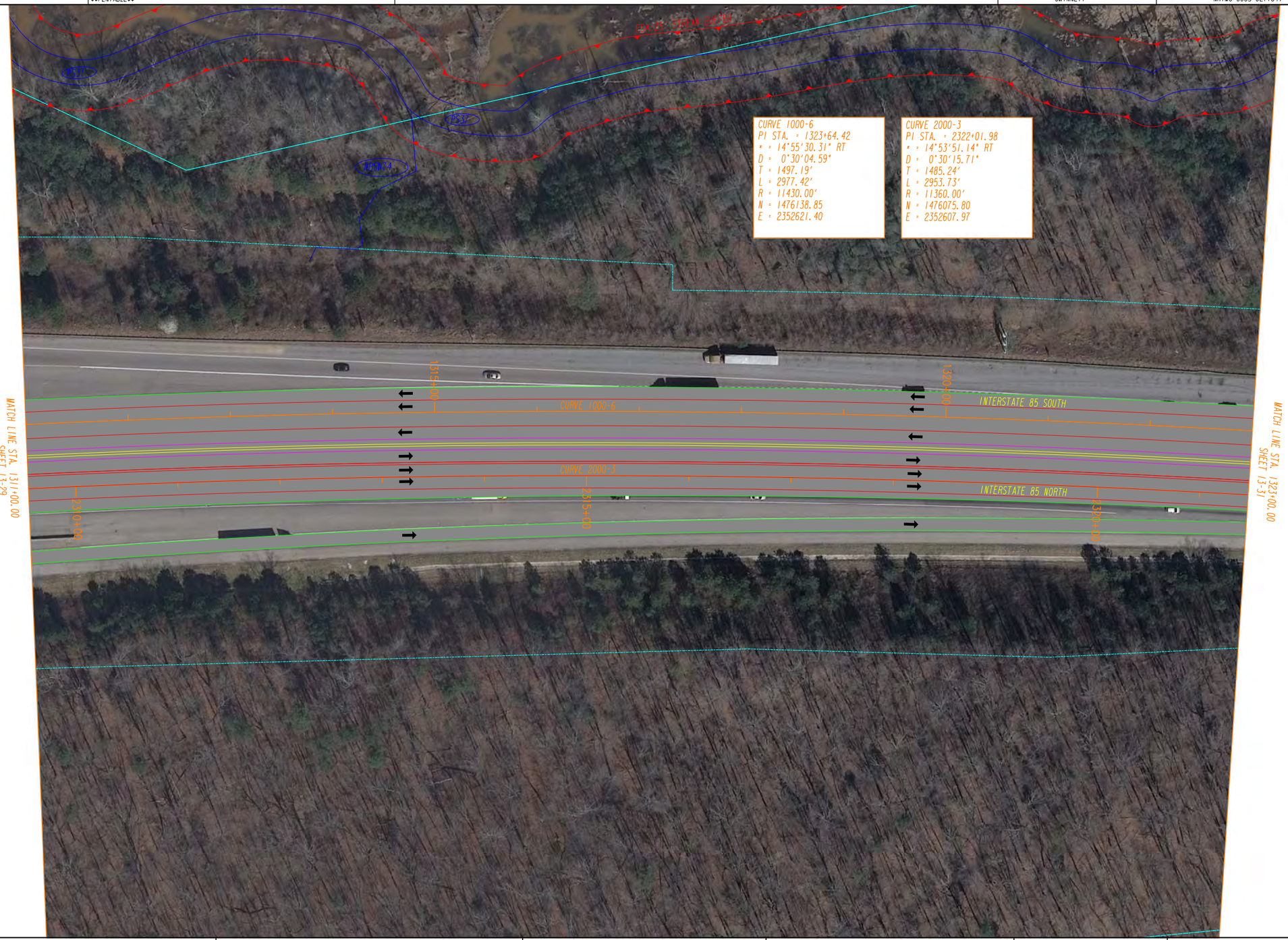
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-29

GPLN

110600CP29.dgn 12/10/2014 2:12:42 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-30

110600CP30.dgn 12/10/2014 2:14:44 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-021(164)		

PROPERTY LINE	
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	C F
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-31

110600CP31.dgn 12/10/2014 2:18:17 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		

PROPERTY LINE	P	BEGIN LIMIT OF ACCESS.....BLA	
REQUIRED R/W LINE		END LIMIT OF ACCESS.....ELA	
CONSTRUCTION LIMITS	C F	LIMIT OF ACCESS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES		R/W AND LIMIT OF ACCESS	
EASEMENT FOR CONSTR OF SLOPES		EXISTING R/W LINE	
EASEMENT FOR CONSTR OF DRIVES		OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-32

110600CP32.dgn 12/10/2014 2:20:00 PM

DATETIME$$$ TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$	$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		

PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

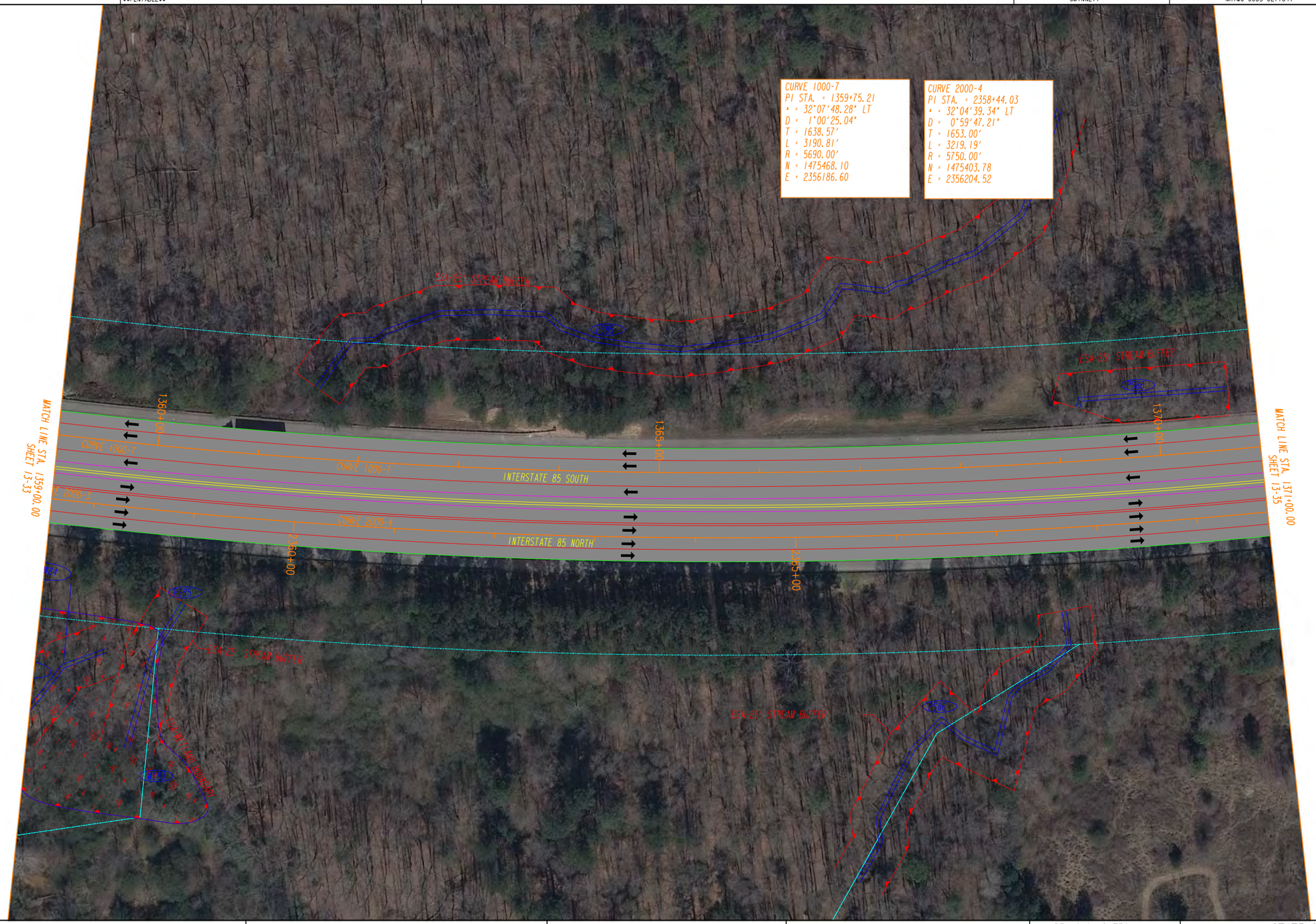
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-33

GPLN

110600CP33.dgn 12/10/2014 2:22:46 PM

DATETIME$$$ TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$	$$PENTABLE$$		GWINNETT	NHIMO-0085-021(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA	HNTB	COSTING PLANS FOR DESIGN-BUILD
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA		
CONSTRUCTION LIMITS	LIMIT OF ACCESS	3715 NORTHSIDE PARKWAY, NW	SCALE IN FEET
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS	400 NORTHCREEK, SUITE 600	0 50 100 200
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE	ATLANTA, GEORGIA 30327	
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN		

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-34

GPLN

110600CP34.dgn 12/10/2014 2:24:12 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-021(164)		

PROPERTY LINE	P
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	C F
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-35

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		

PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

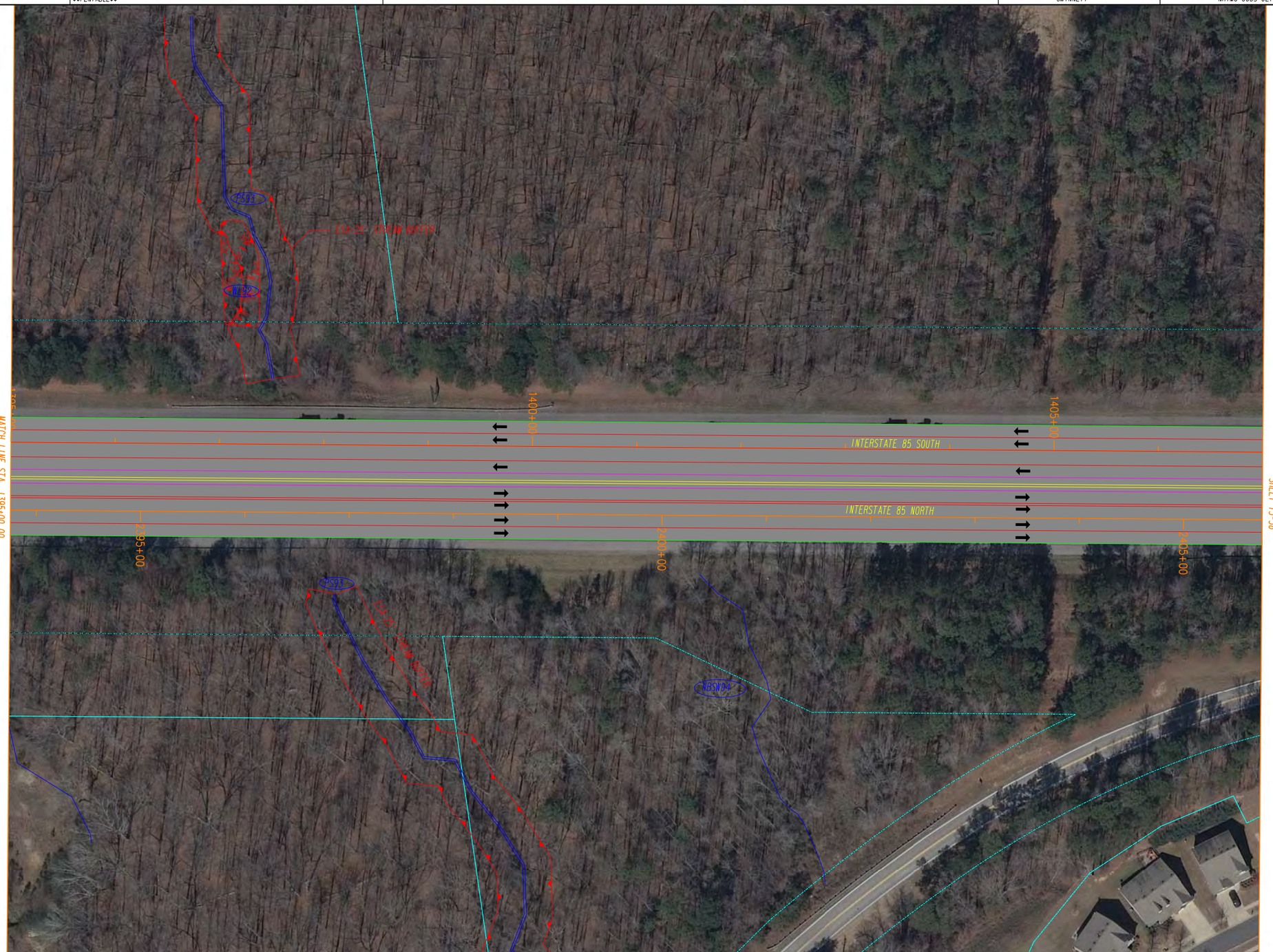
OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-36

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	P
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	C F
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-37

GPLN

110600CP37.dgn 12/10/2014 2:29:25 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-021(164)		

PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-38

110600CP38.dgn 12/10/2014 2:30:42 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-021(164)		

PROPERTY LINE	P	BEGIN LIMIT OF ACCESS	BLA
REQUIRED R/W LINE		END LIMIT OF ACCESS	ELA
CONSTRUCTION LIMITS	C F	LIMIT OF ACCESS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES		R/W AND LIMIT OF ACCESS	
EASEMENT FOR CONSTR OF SLOPES		EXISTING R/W LINE	
EASEMENT FOR CONSTR OF DRIVES		OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

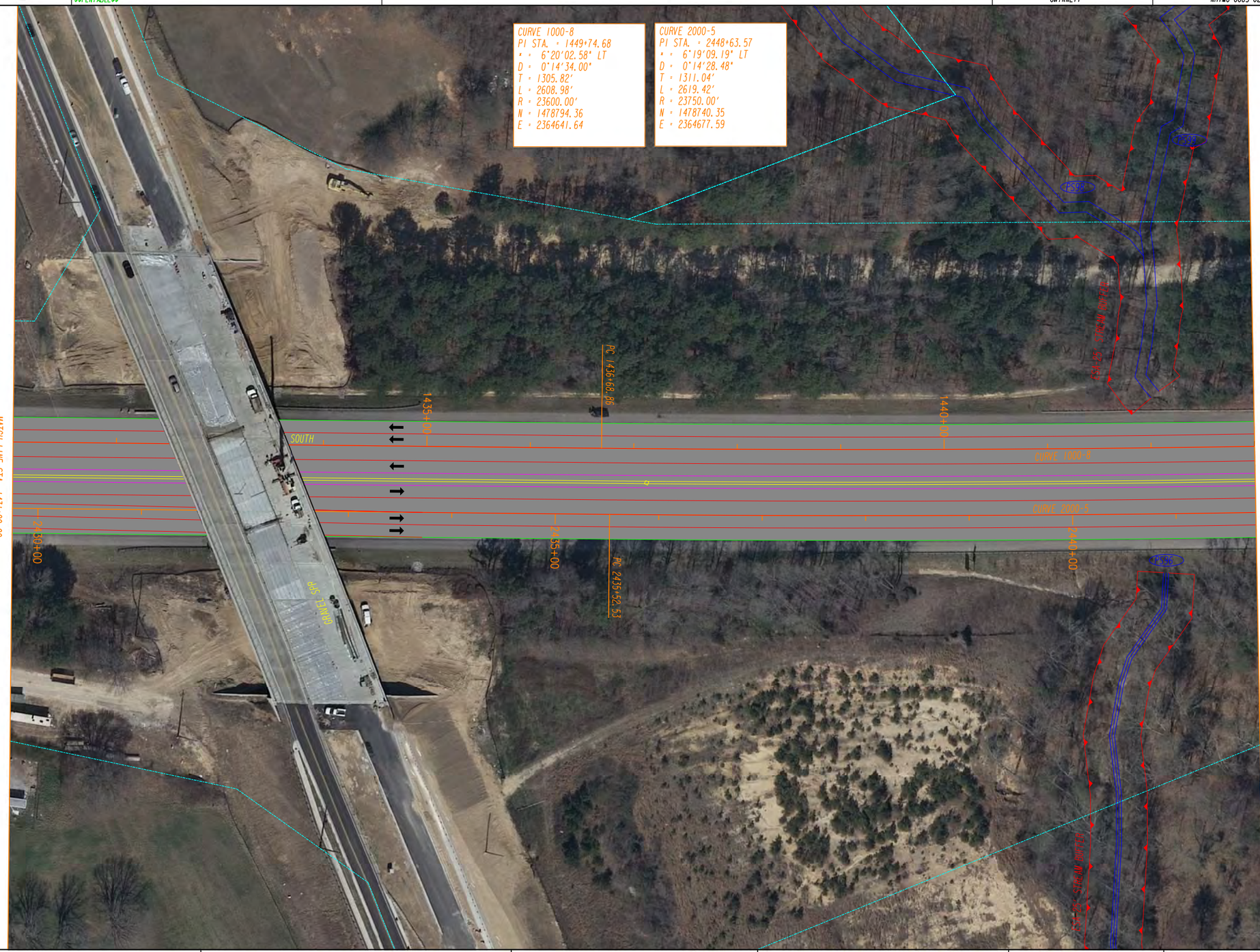
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-39

GPLN

110600CP39.dgn 12/10/2014 2:31:38 PM



PROPERTY LINE	P	BEGIN LIMIT OF ACCESS.....BLA	
REQUIRED R/W LINE		END LIMIT OF ACCESS.....ELA	
CONSTRUCTION LIMITS	C F	LIMIT OF ACCESS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES		R/W AND LIMIT OF ACCESS	
EASEMENT FOR CONSTR OF SLOPES		EXISTING R/W LINE	
EASEMENT FOR CONSTR OF DRIVES		OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-40

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		

PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

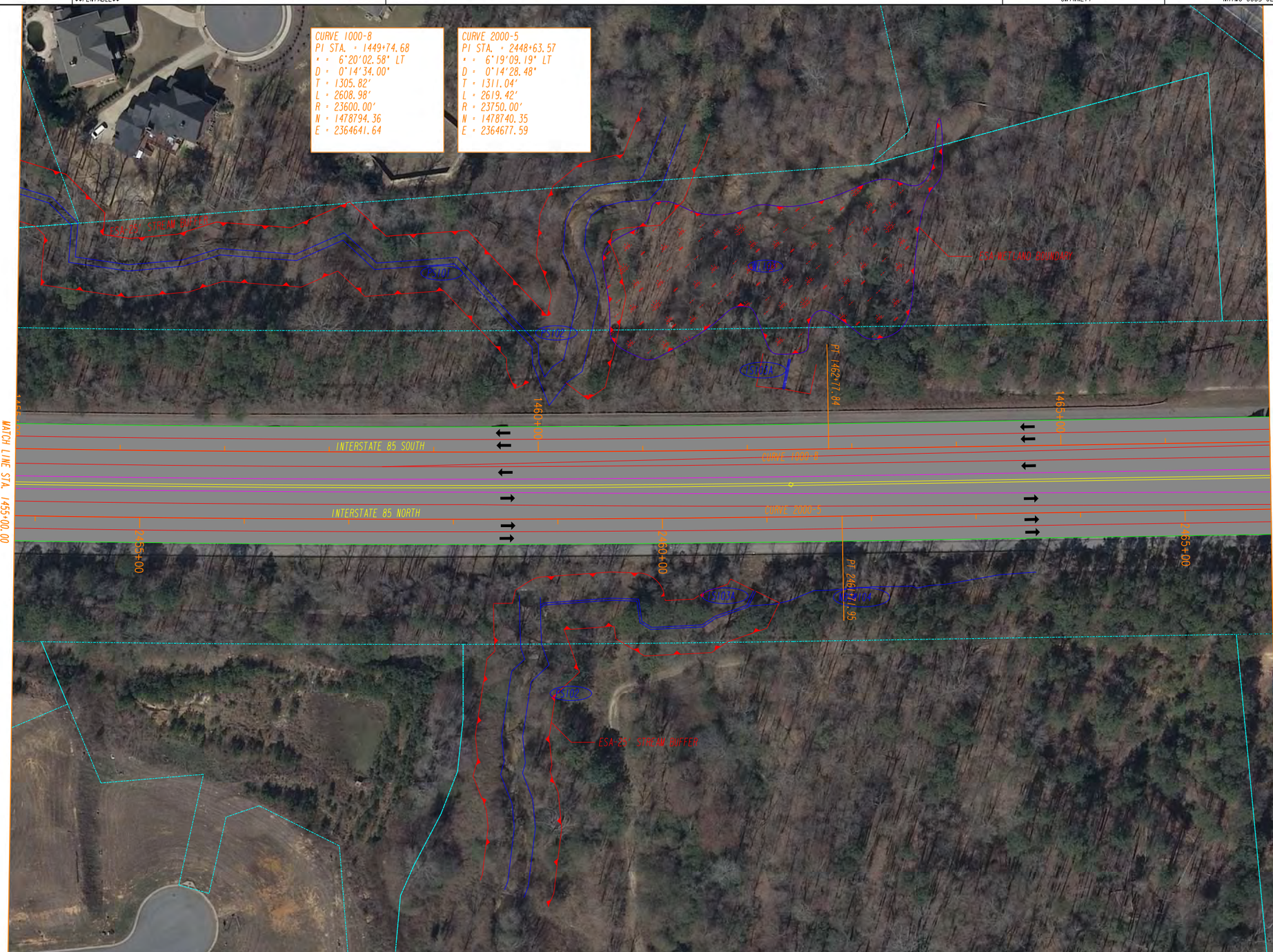
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-41

110600CP41.dgn 12/10/2014 2:36:43 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	P	BEGIN LIMIT OF ACCESS	BLA
REQUIRED R/W LINE		END LIMIT OF ACCESS	ELA
CONSTRUCTION LIMITS	C F	LIMIT OF ACCESS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES		R/W AND LIMIT OF ACCESS	
EASEMENT FOR CONSTR OF SLOPES		EXISTING R/W LINE	
EASEMENT FOR CONSTR OF DRIVES		OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-42

GPLN

110600CP42.dgn 12/10/2014 2:37:58 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		

PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-43

110600CP43.dgn 12/10/2014 2:39:15 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		

PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-44

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		

PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

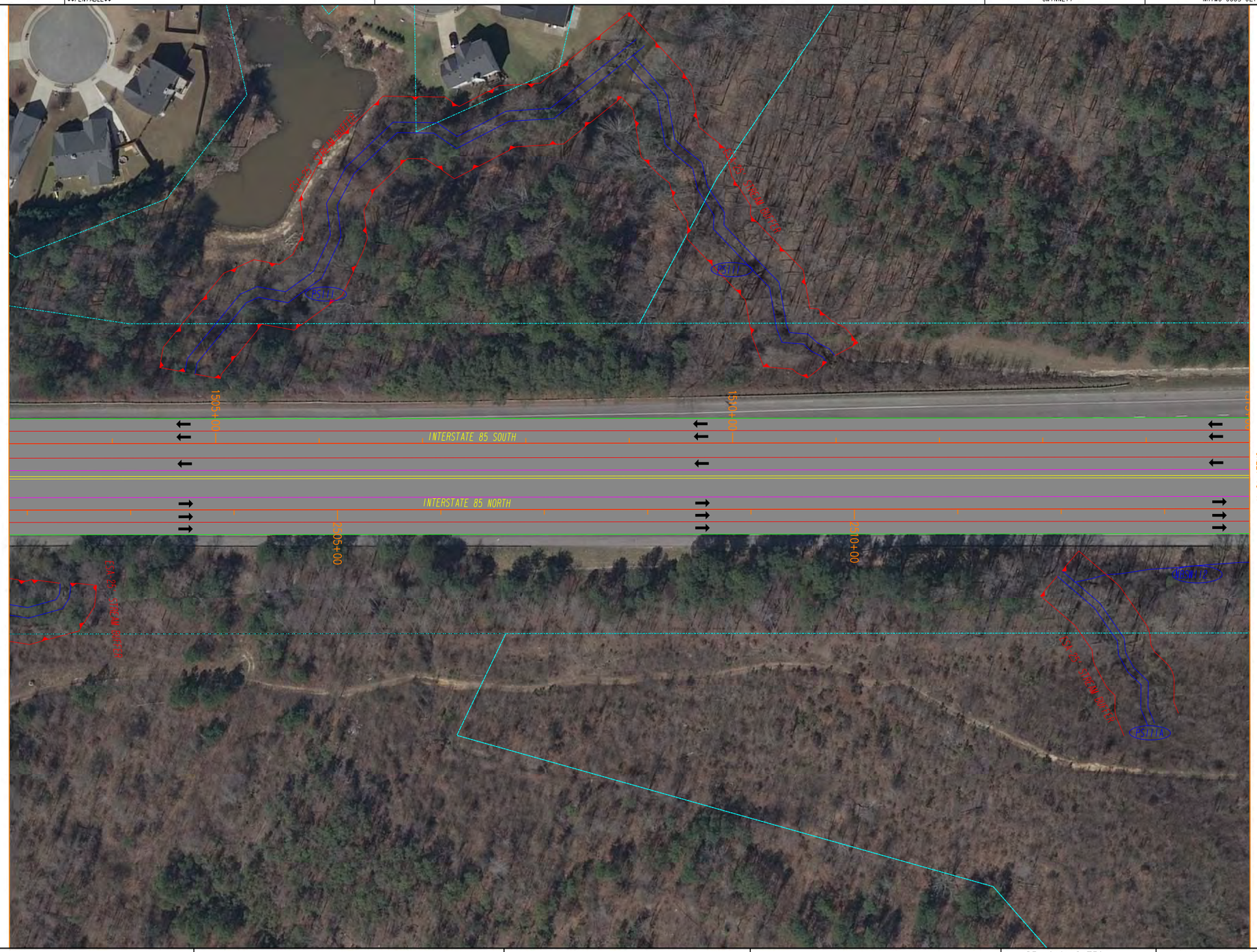
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-45

110600CP45.dgn 12/10/2014 2:42:24 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	P
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	C F
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

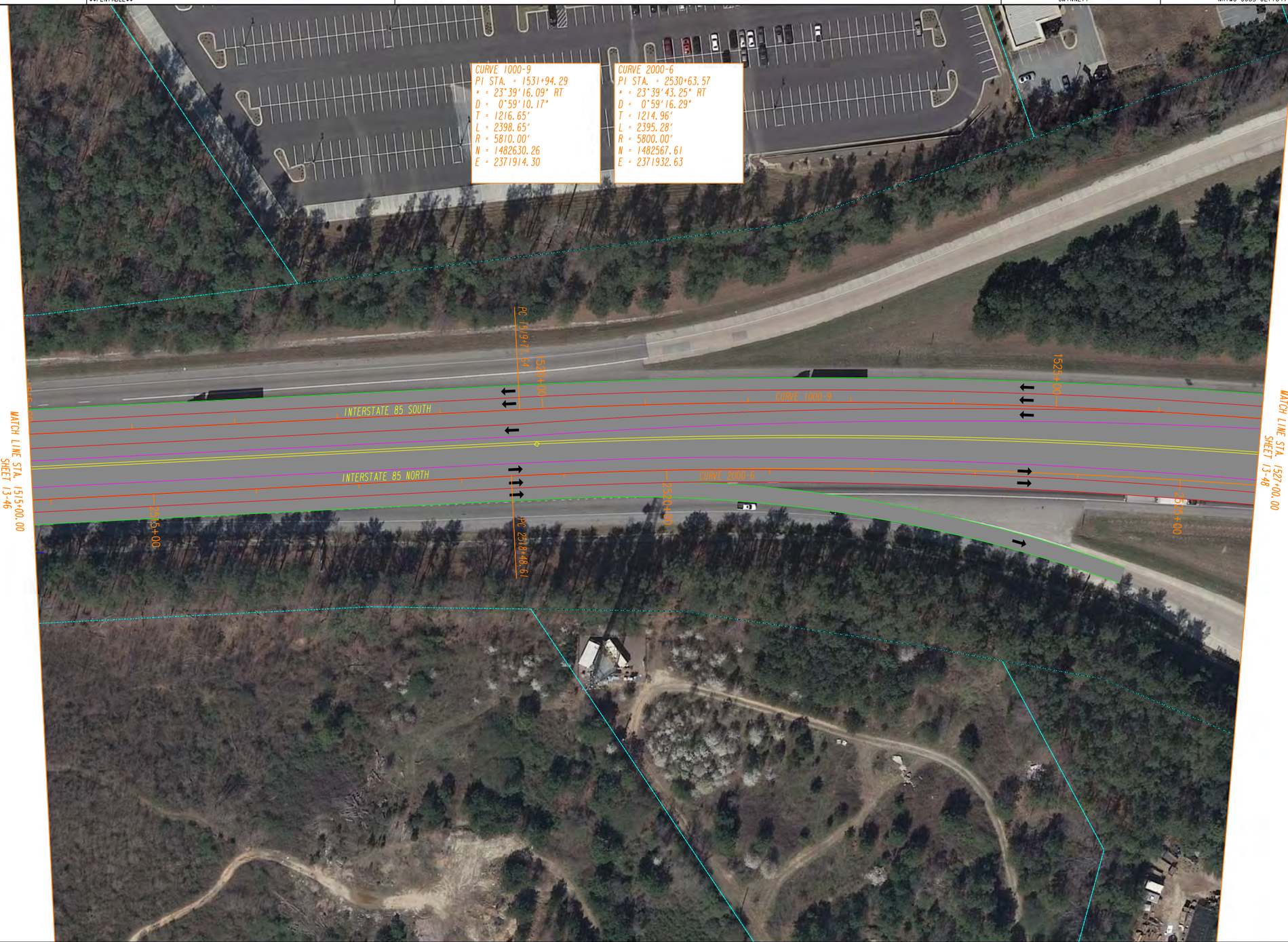
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-46

GPLN

110600CP46.dgn 12/10/2014 2:44:37 PM

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	C F
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-47

110600CP47.dgn 12/10/2014 2:48:08 PM

DATE/TIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		

PROPERTY LINE		BEGIN LIMIT OF ACCESS.....BLA	
REQUIRED R/W LINE		END LIMIT OF ACCESS.....ELA	
CONSTRUCTION LIMITS		LIMIT OF ACCESS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES		R/W AND LIMIT OF ACCESS	
EASEMENT FOR CONSTR OF SLOPES		EXISTING R/W LINE	
EASEMENT FOR CONSTR OF DRIVES		OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

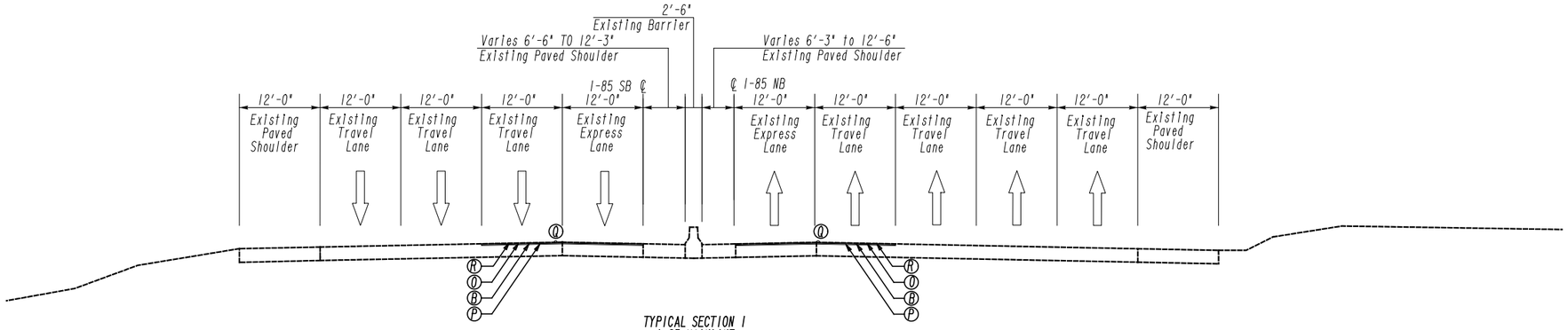
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-48

GPLN

110600CP48.dgn 12/10/2014 2:49:51 PM

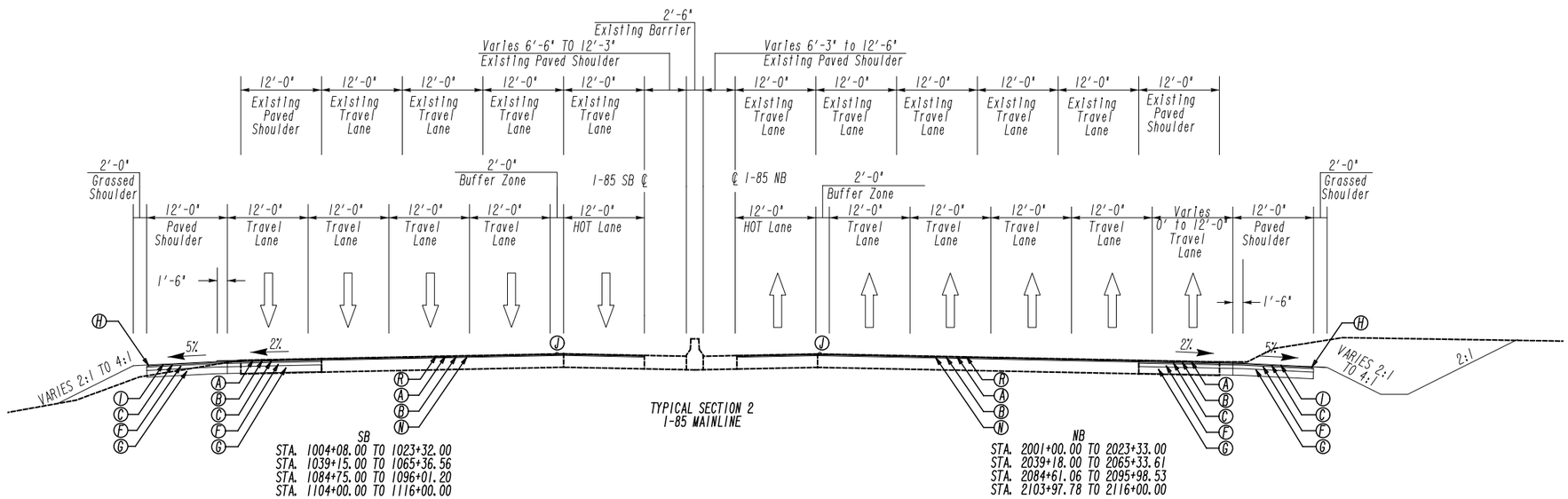
Appendix C. Project Typical Section Sheets



TYPICAL SECTION 1
I-85 MAINLINE

SB
STA. 1000+00.00 TO 1004+08.00

NB
STA. 2000+00.00 TO 2001+00.00



TYPICAL SECTION 2
I-85 MAINLINE

SB
STA. 1004+08.00 TO 1023+32.00
STA. 1039+15.00 TO 1065+36.56
STA. 1084+75.00 TO 1096+01.20
STA. 1104+00.00 TO 1116+00.00

NB
STA. 2001+00.00 TO 2023+33.00
STA. 2039+18.00 TO 2065+33.61
STA. 2084+61.06 TO 2095+98.53
STA. 2103+97.78 TO 2116+00.00

(A) 90 LBS/SY ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(B) 220 LBS/SY RECYCLED ASPH CONC 12.5 MM SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(C) 220 LBS/SY RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
(D) 440 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
(E) 1100 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
(F) 1320 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
(G) GRADED AGGREGATE BASE, 12"
(H) GDOT DETAIL P7
(I) 220 LBS/SY RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(J) INDENTATION RUMBLE STRIPS
(K) CONCRETE SIDE BARRIER, TYPE 2-S
(L) CONCRETE MEDIAN BARRIER, TYPE S-1
(M) CONCRETE MEDIAN BARRIER, TYPE S-2
(N) MILL ASPH CONC PVMT, 3 IN DEPTH
(O) 90 LBS/SY ASPH CONC 12.5 MM PEM, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(P) MICRO-MILL ASPHALTIC CONCRETE PAVEMENT, VARIABLE DEPTH
(Q) REMOVE RUMBLE STRIPS
(R) LEVELING, AS REQUIRED

NOTES:
1) SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS
2) ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 8%

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

NO SCALE

REVISION DATES

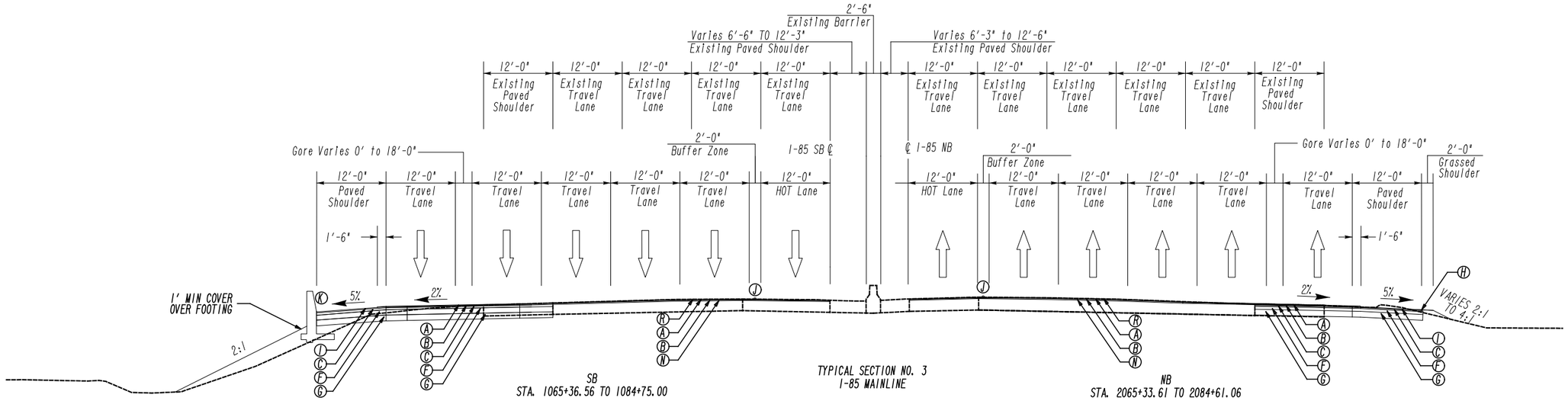
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: INNOVATIVE DELIVERY

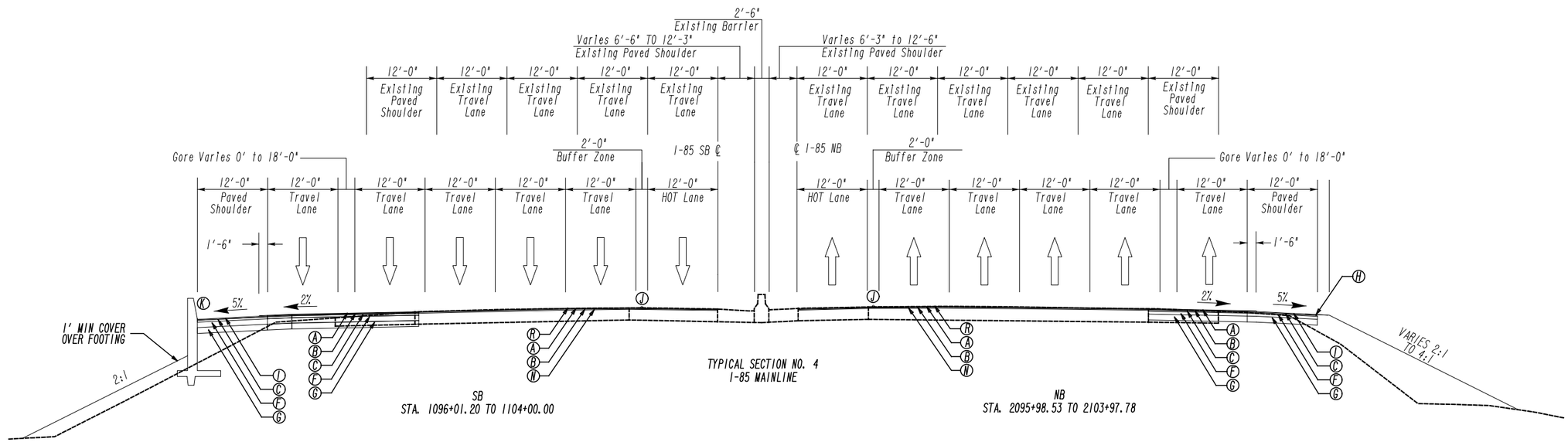
TYPICAL SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
5-01

GPLN





- (A) 90 LBS/SY ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
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- (Q) REMOVE RUMBLE STRIPS
- (R) LEVELING, AS REQUIRED

NOTES:
1) SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS
2) ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 8%

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

NO SCALE

REVISION DATES

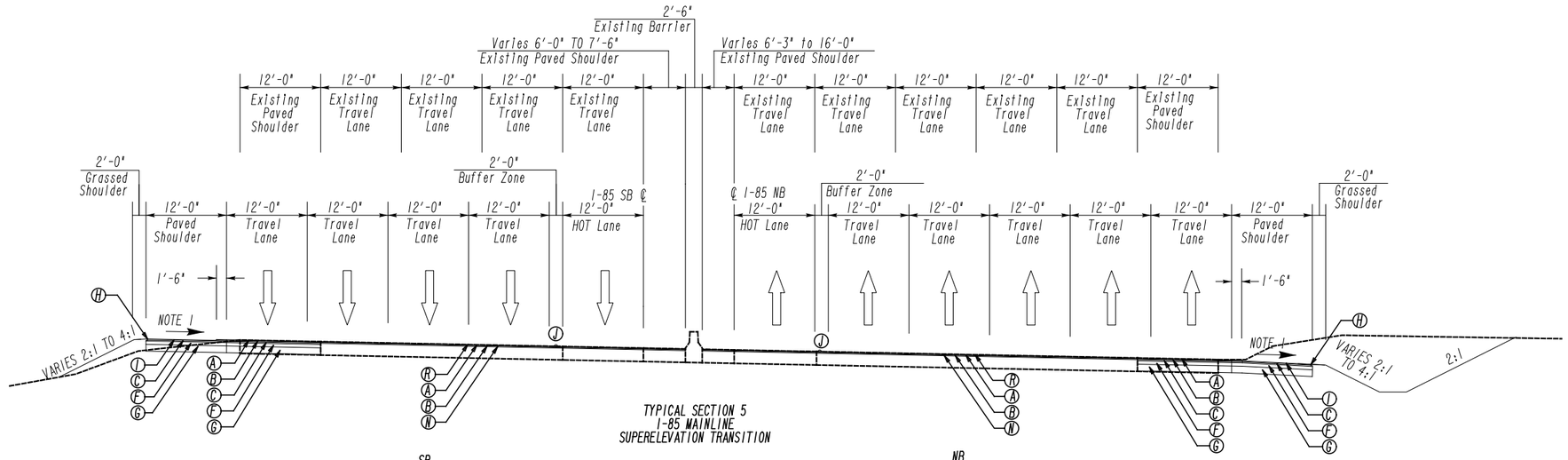
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: INNOVATIVE DELIVERY

TYPICAL SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 5-02

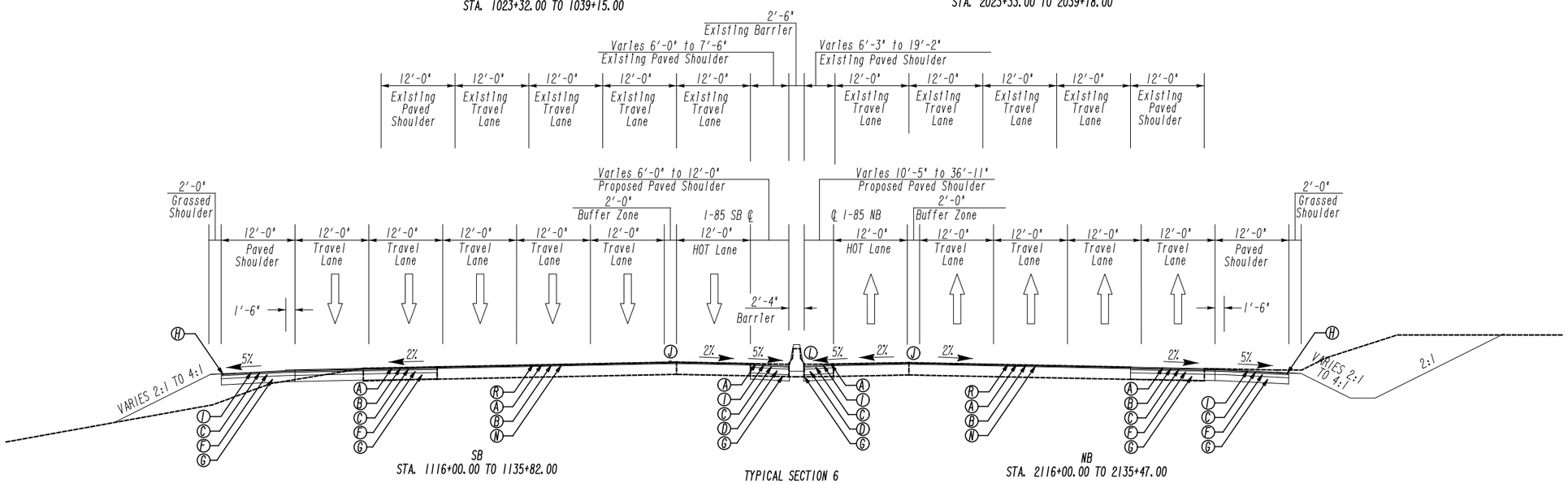
GPLN



TYPICAL SECTION 5
I-85 MAINLINE
SUPERELEVATION TRANSITION

SB
STA. 1023+32.00 TO 1039+15.00

NB
STA. 2023+33.00 TO 2039+18.00



SB
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TYPICAL SECTION 6
I-85 MAINLINE

NB
STA. 2116+00.00 TO 2135+47.00

Ⓐ 90 LBS/SY ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
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Ⓠ REMOVE RUMBLE STRIPS
Ⓡ LEVELING, AS REQUIRED

S.E. RATE	SHOULDER SLOPE
MANAGED LANE 2.0% - 6.0%	6.0% - 2.0%
MAINLINE 2.0% - 4.0%	6.0% - 4.0%

NOTES:
1) SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS
2) ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 8%

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STATE OF GEORGIA
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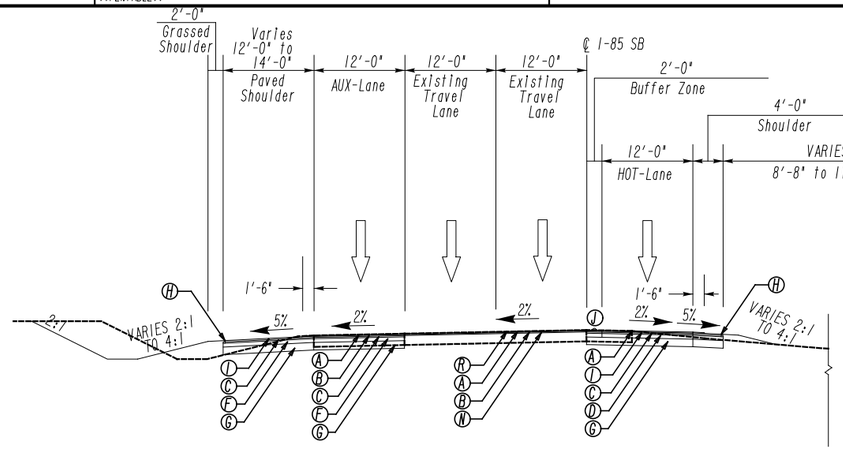
OFFICE: INNOVATIVE DELIVERY

TYPICAL SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
5-03



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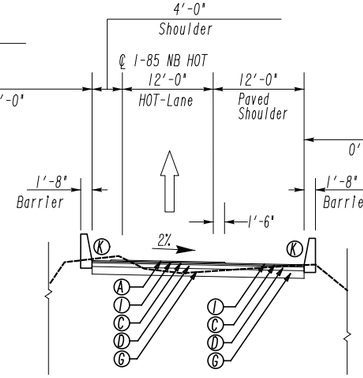
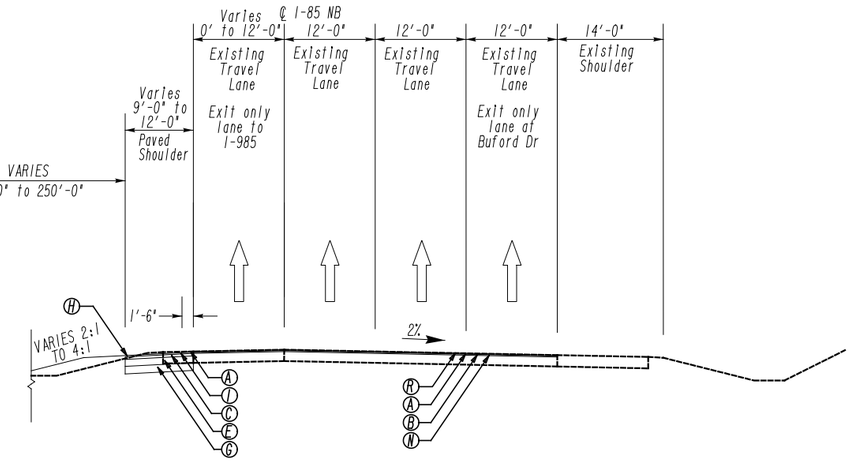
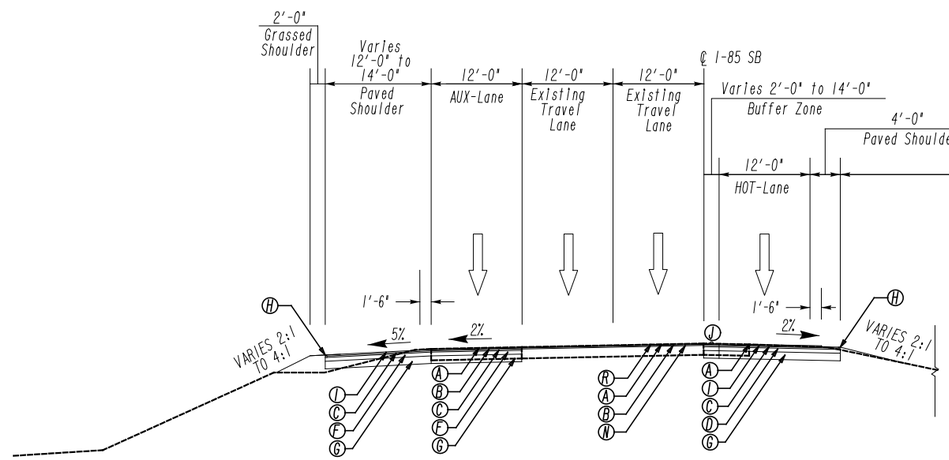


TYPICAL SECTION 7
I-85 MAINLINE

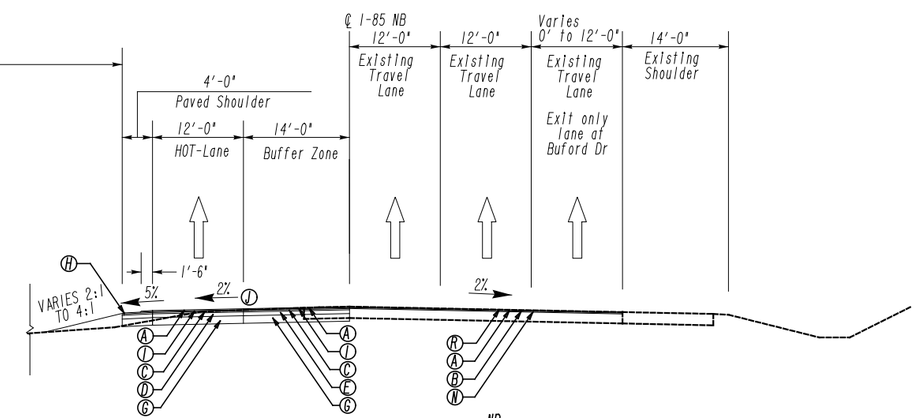


NB
STA. 2135+47.00 TO 2193+30.00



SB
STA. 1194+00.00 TO 1286+85.00

TYPICAL SECTION 8
I-85 MAINLINE



NB
STA. 2193+30.00 TO 2285+40.00

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NOTES:
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2) ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 8%

HNTB
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200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

NO SCALE

REVISION DATES

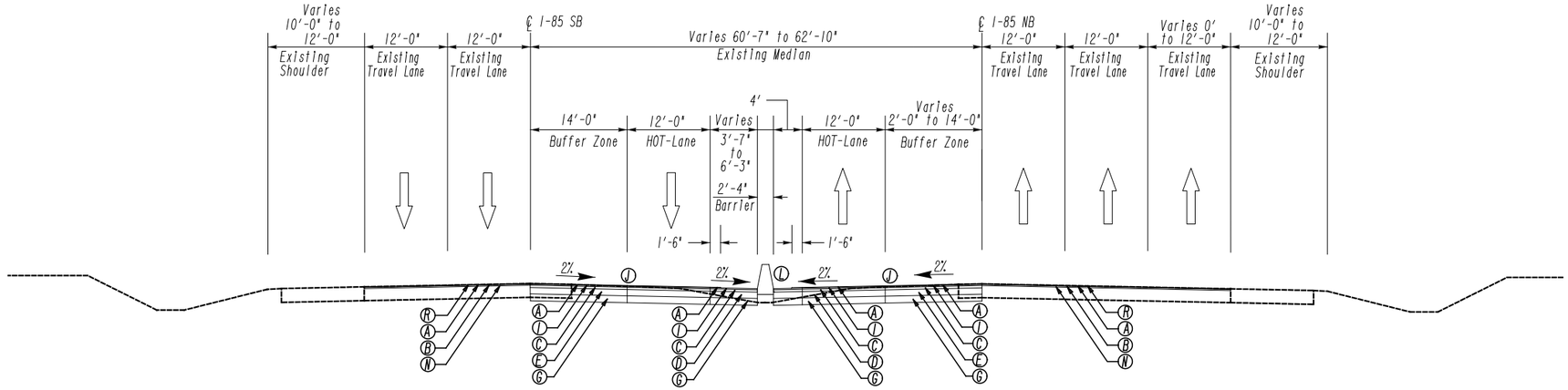
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: INNOVATIVE DELIVERY

TYPICAL SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 5-04

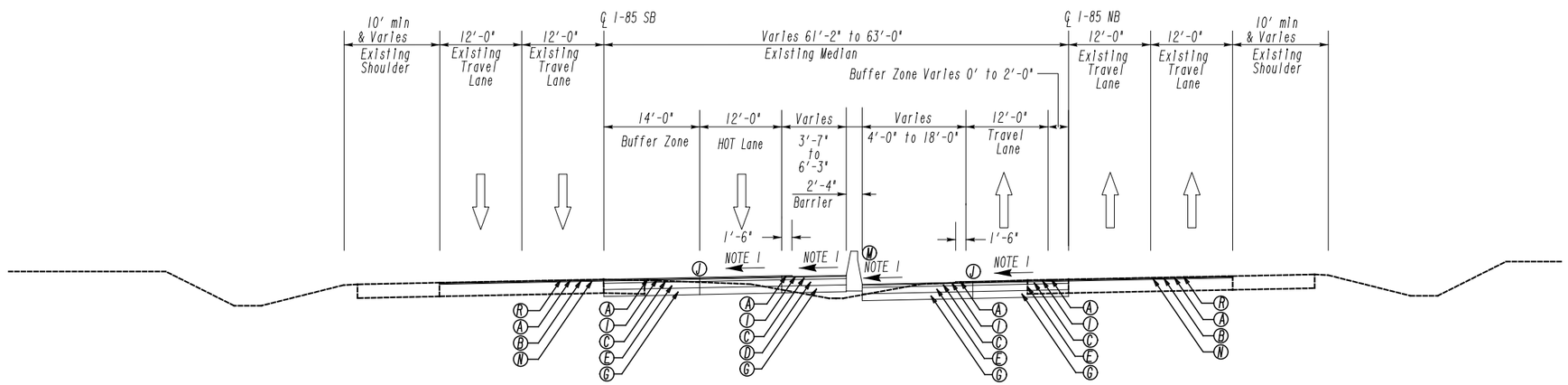
GPLN



SB
STA. 1286+85.00 TO 1342+69.00

TYPICAL SECTION 9
I-85 MAINLINE

NB
STA. 2285+40.00 TO 2341+28.00



SB
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TYPICAL SECTION NO. 10
I-85 MAINLINE

NB
STA. 2341+28.00 TO 2517+86.00

- (A) 90 LBS/SY ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
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HNTB

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COSTING PLANS FOR DESIGN-BUILD

NO SCALE

REVISION DATES

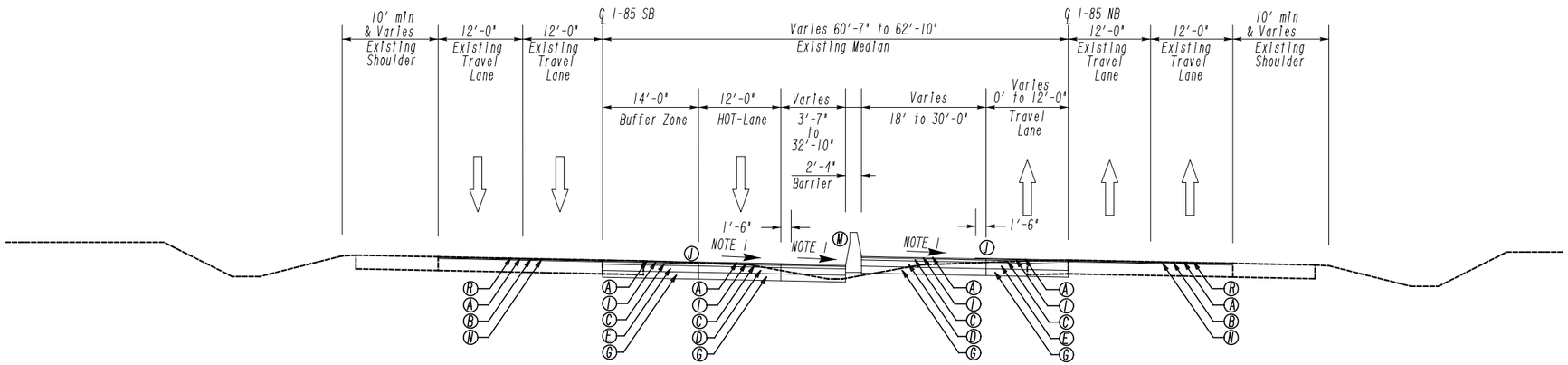
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: INNOVATIVE DELIVERY

TYPICAL SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 5-05

GPLN



SB
STA. 1519+15.00 TO 1531+20.00

TYPICAL SECTION NO. 11
I-85 MAINLINE

NB
STA. 2517+86.00 TO 2529+90.00

Ⓐ 90 LBS/SY ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
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Ⓠ REMOVE RUMBLE STRIPS
Ⓡ LEVELING, AS REQUIRED

S.E. RATE	SHOULDER SLOPE
MAINLINE 2.0% - 4.0%	6.0% - 4.0%

NOTES:
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2) ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 8%

HNTB
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ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

NO SCALE

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: INNOVATIVE DELIVERY

TYPICAL SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 5-06

GPLN

Appendix D. Preferred Alternative Cost Estimate

I-85 North Express Budget Summary

Project	Activity			Total
I-85 North Express Lanes Extension	GDOT Administrative =	1.5%	$	1,500,819
PI 110600	PM Support =	2.0%	$	2,001,092
Gwinnett County	Stipulated Fee		$	800,000
From Old Peachtree to Hamilton			$	-
Mill Road	AC Adjustment Index		$	7,070,527
	Design-Build Contract		$	100,054,602
	Engineering and Inspection =	2.0%	$	2,001,092
	Design-Build Contingency =	10.0%	$	10,005,460
	Project Total		$	123,500,000

PROJ. NO.	NHIM0-0085-02(164)	CALL NO.	9/29/2009
P.I. NO.	110600		
DATE	11/25/2014		

INDEX (TYPE)	**DATE**	**INDEX**
REG. UNLEADED	Nov-14	$ 2.896
DIESEL		$ 3.539
LIQUID AC		$ 595.00

Link to Fuel and AC Index:
http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx

LIQUID AC ADJUSTMENTS

PA=[((APM-APL)/APL)]xTMTxAPL

Asphalt

Price Adjustment (PA)				**6686610**	**$ 6,686,610.00**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$	952.00	
Monthly Asphalt Cement Price month project let (APL)			$	595.00	
Total Monthly Tonnage of asphalt cement (TMT)				18730	

ASPHALT	**Tons**	**%AC**	**AC ton**
Leveling		5.0%	0
12.5 OGFC	33329	5.0%	1666.45
12.5 mm SP	90266	5.0%	4513.3
9.5 mm SP		5.0%	0
25 mm SP	204307	5.0%	10215.35
19 mm SP	46698	5.0%	2334.9
	374600		**18730**

BITUMINOUS TACK COAT

Price Adjustment (PA)			**$**	**117,002.35**	**$ 117,002.35**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$	952.00	
Monthly Asphalt Cement Price month project let (APL)			$	595.00	
Total Monthly Tonnage of asphalt cement (TMT)				327.7376759	

Bitum Tack Gals	gals/ton	tons
76305	232.8234	327.737676

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)				**0**	**$ -**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$	952.00	
Monthly Asphalt Cement Price month project let (APL)			$	595.00	
Total Monthly Tonnage of asphalt cement (TMT)				0	

Bitum Tack	SY	Gals/SY	Gals	gals/ton	tons
Single Surf. Trmt.		0.20	0	232.8234	0
Double Surf.Trmt.		0.44	0	232.8234	0
Triple Surf. Trmt		0.71	0	232.8234	0
					0

TOTAL LIQUID AC ADJUSTMENT **$ 6,803,612.35**

PROJECT NO. NH-IM-85-2(164)

PEACH PASS

I-85 MANAGED LANES
COST ESTIMATE & PROPOSAL SCHEDULE

JUNE 2014

Georgia Department of Transportation

HNTB

I-85 Managed Lanes
Design Build Estimate & Proposal Schedule

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Detailed Cost Estimate 2

Total Summary Report 3

Take-Off & Backup

Roadway Takeoff 4

Structure Takeoff 5

Material Quotes & Backup 6

Proposal Schedule

Design Build Detailed Schedule 7

Design Build Detailed Schedule Longest Path 8

HNTB

I-85 Managed Lanes
Design Build Estimate & Proposal Schedule

Basis Of Estimate

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LIST OF ATTACHMENTS

1. Detailed Cost Estimate
2. Estimate Total Summary Report
3. Quantity Surveys & Take-off's
4. Material Quotes

1 INTRODUCTION

This document provides the basis for the Independent Cost Estimate (ICE) for GDOT's P.I. No. 110600, I-85 Managed Lanes Extension. The primary goal of this estimate is to evaluate the proposed Concept documents and design plans for the project, provide a detailed cost estimate for performing the work on the job, as well as providing a comparison for quantities, and unit prices for the project. The items of work for this scope are as follows:

1) Provide summary and detailed cost breakdowns for the grading, road construction, walls, bridges and tolling system. At a minimum, the estimate provides the following:

   a) Grading (Cubic Yard)
   b) Erosion Control (LS)
   c) Base Construction (Ton)
   d) Bituminous Pavement (Ton)
   e) Side Barrier (LF)
   f) Retaining Walls (SF)
   g) Noise Walls (SF)
   h) Drainage (Storm Sewer and Drop Inlets)
   i) Concrete Medians (LF)
   j) Signs (Lump Sum)
   k) ITS & Tolling System (Lump Sum)
   l) Erosion Control & Permanent Seeding (Lump Sum)
   m) Bridges (EA)
   n) MOT (LS)
   o) Traffic Markings (LS)

HNTB utilized the Project Concept Report as a basis for preparing this estimate. Additional in-house resources were also used to provide information on the existing site conditions and the proposed roadway design. Information was reviewed and where detail was not available, or information was not clear, assumptions were made and documented within this report.

Additionally completed is a Detailed Proposal Schedule based on the cost estimate and given information from the concept report and design documents. The Schedule has been broken down into a work breakdown structure. The main structure of the schedule is as follows:

a) Milestones – Shows the high level summary of important dates
b) Project Management – Highlights the various reports typically required
c) Design – Details out separate packages in order to properly flow the phases of construction
d) Procurement – lists the main items that typically have long leads associated with them
e) Construction – Broken out into three main phases to capture the work

The Proposal Schedule starts from June 23rd 2014, and goes through the Request for Proposal Stage to Substantial Completion and Final Completion. There is also a summary task that captures the construction days, including design starting at approximate contract execution and goes to physical completion date. This summary level task is based in calendar days.

The Basis of Estimate Report defines the estimate parameters, scope of work, estimate structure, assumptions and exclusions. Separate reports may be developed if new alternatives are evaluated during the review process.

Quantity surveys as developed are attached in the exhibits. Each page contains the quantities present on that sheet. The summary page allows for combining all take off in a variety of presentations. These quantities are used throughout the estimate and are complimented by details (shown or assumed) for the element being estimated. The design of the estimate, at this level, is to provide an accurate accounting and pricing of the information developed to date for the project. Further, details not yet developed are accounted for by estimator assumptions, designer review and comment, and contingency. The procedures used in the development of this estimate are consistent with Association for the Advancement of Cost Engineering (AACE)

2 BASELINE PARAMETERS

2.1 CIVIL / EARTHWORK

The overall civil covers excavation, embankment, stripping, and removals. The topsoil is stripped off and reclaimed for final embankment, and slope reclamation. The total excavation for the job is not sufficient for the final embankment; therefore, borrow will be required to complete the final embankment. As follows is the main breakout of the earthwork on the project:

(1) Total excavation breakout is 359,417 Cubic Yards:
  (a) Excavation = 308,967 CY
  (b) Stripping = 50,450 CY
(2) Required Fill at 20% shrink/swell is 431,300 Cubic Yards
  (a) Fill = 348,232 CY
  (b) Topsoil = 50,450 CY
(3) Project Borrow will require approximately 40,000 Cubic Yards

The estimate assumes that no additional on-site excavation is feasible and that the borrow material will be imported to the project.

Removals have been accounted for as well. Existing pavement demolition, bridge removal, clear and grub, guard rail, and existing signage are included in the removal items.

The following Bituminous pavement options are utilized for the main pavement sections in the estimate. The main pavement sections are as follows:

(1) I-85 Mainline Overlay:
  (a) 135 lbs/sy Asph Conc, 12.5 MM, PEM, GP 2, PMBM/HL
  (b) 220 lbs/sy Asph Conc, 12.5 MM, SMA, GP 2, PMBM/HL
  (c) From NB Begin Station & SB End Station to SR20 Structure
(4) I-85 Mainline Widening:
  (a) 135 lbs/sy Asph Conc, 12.5 MM, PEM, GP 2, PMBM/HL
  (b) 220 lbs/sy Asph Conc, 12.5 MM, SMA, GP 2, PMBM/HL
  (c) 275 lbs/sy Recyl Asph Conc, 19 MM, SP, GP 1/2, BM/HL
  (d) 1320 lbs/sy Recyl Asph Conc, 25 MM, SP, GP 1/2, BM/HL
  (e) Graded Aggregate Base, 12”
(5) I-85 NB HOT Lane
  (a) 135 lbs/sy Asph Conc, 12.5 MM, PEM, GP 2, PMBM/HL

(b) 220 lbs/sy Asph Conc, 12.5 MM, SMA, GP 2, PMBM/HL
(c) 275 lbs/sy Recyl Asph Conc, 19 MM, SP, GP 1/2, BM/HL
(d) 1320 lbs/sy Recyl Asph Conc, 25 MM, SP, GP 1/2, BM/HL
(e) Graded Aggregate Base, 12”

(6) All Paved Shoulder
(a) 220 lbs/sy Asph Conc, 12.5 MM, SMA, GP 2, PMBM/HL
(b) 275 lbs/sy Recyl Asph Conc, 19 MM, SP, GP 1/2, BM/HL
(c) 660 lbs/sy Recyl Asph Conc, 25 MM, SP, GP 1/2, BM/HL
(d) Graded Aggregate Base, 6”
(7) Paved Median
(a) 220 lbs/sy Asph Conc, 12.5 MM, SMA, GP 2, PMBM/HL
(b) 275 lbs/sy Recyl Asph Conc, 19 MM, SP, GP 1/2, BM/HL
(c) Graded Aggregate Base, 6”

Erosion control BMP’s are included and silt fence has been added where required by construction.

Storm water drainage has been included. Sizes and quantities of drainage materials are based on assumptions by the estimator of the project requirements. The 3 barrel culverts at the Ivy Creek crossing of I-85 do not appear to require adjustments. The take-off and assumptions are included in the backup files provided with the document.

2.2 STRUCTURAL ELEMENTS

The project consists of multiple walls and bridges throughout various areas of the project. The provided Concept Report has assumed wall types of Cast In Place (CIP) and MSE design. The walls names and locations are as follows:

a. Wall 1, Side Barrier, Type 2A, Sta. 1081+50 to 1083+00 Lt
b. Wall 2, MSE, Sta. 1083+00 to 1085+45 Lt
c. Wall 3, MSE, Sta. 1081+50 to 1084+88 Rt
d. Wall 4, MSE, Sta. 1091+84 to 1093+00 Lt
e. Wall 5, MSE, Sta. 1091+84 to 1094+50 Rt
f. Wall 6, Side Barrier, Type 2C, Sta.1134+50 to 1140+50 Rt

Wall excavation, structural fill, and general backfill are included in the wall costs, and through review, it does not appear any of the walls will require shoring or support of excavation.

Two existing bridges will be widened and two new bridges will be constructed. The locations of these bridges are as follows:

a. SB I-85 Bridge over NB I-985, Sta. 1170+00 – New Precast Girder Bridge
b. HOT Lane Bridge over NB I-985, Sta. 1170+00 – New Precast Girder Bridge
c. NB I-85 Bridge over SR 20, Sta. 1289+00 – Widen Bridge
d. SB I-85 Bridge over SR 20, Sta. 1289+00 – Widen Bridge

Structural excavation, foundation piling, structural fill and general backfill are included in the bridge costs.

Noise Barriers will be placed at four locations. The locations of these walls are as follows:

a. Barrier 1-1, Sta. 1083+00 Rt
b. Barrier 1-2, Sta. 1093+00 Rt
c. Barrier 1-3, Sta. 1083+00 Lt
d. Barrier 2-2, Sta. 1238+00 Rt

Clear and grub, post construction, and wall panels are included in the costs. Barriers 6-1 and 6-2 are not included as they are approximately 3 miles north of the project limits.

2.3 ELECTRICAL / TOLLING / ITS

Ramp meters have been identified for (4) locations. Each location will have (2) ramp meters and associated loop detectors. No other traffic control or intersection modifications have been included in this estimate.

New lighting has not been identified or included for this project. All existing light structures are assumed to provide sufficient lighting levels as required.

Type 3 Ductbank will run continuous on both sides of the road throughout the project (122,000 lf). The ductbank will consist of (4) 2" conduits, encased in concrete, with (2) 144 SM fiber optic cables. Hand holes to be placed every 1,000ft as noted in the provided documents. The ductbank will tie into (1) HUB/tolling equipment building.

The HUB/tolling equipment building is a 24' x 30' precast tilt up building with mechanical and electrical systems. The following electrical is included: (3) distribution panels, (1) ATS, (1) generator, (1) UPS, general lighting, grounding & lightning protection as per GDOT specifications. SRTA tolling equipment & installation has not been included.

Gantry structures have been assumed every half mile for various ITS & Tolling systems. Regardless of structure type, (41) locations have been included and will consist of the following systems: (2) electrical services, (1) Type C ground mounted base cabinet, (2) Type 336 pole mounted cabinet, (2) 2" RMS conduits to center of structure, (1) in ground loop-j-box, (2) pole mounted pull/j-boxes, (3) HOT CCTV cameras, & (1) LPR-VES Camera.

CCTV/VDS/IVDS pole locations (41) have been assumed every half mile for various ITS also. Each location will consist of the following systems: (1) 60ft concrete pole, (1) in ground loop-j-box, (2) pole mounted pull/j-boxes, (1) equipment cabinet, (1) CCTV camera, (1) VDS camera, (1) IVDS camera.

Changeable Message Signs (CMS) have been identified on structures at (4) locations on the sign plot only. CMS's show being mounted on overhead gantries spanning North or Southbound Lanes. No other information has been provided regarding these signs. An allowance has been included in the estimate for the CMS signs based on projects in other areas. Concept documents do not indicate or state that CMS signs will be required, if to be included within the Design Build Contract, these should be stated clearly.

MDS Loop Detectors are also identified on the sign plot only (55 locations). Basic loop detectors have been included in the estimate for this system. No other information was found regarding this system.

3 SCOPE OF WORK

3.1 ESTIMATE STRUCTURE

The cost estimate is structured to provide transparency to the listed items required in the scope. Where applicable, GDOT pay items are utilized for reference. Each pay item or work activity number is broken down into further activities that make up the line item. Costs are derived to roll up to these numbers, and are too numerous to list out individually, but the below is the roll up structure.

010 Mobilization – This is not a true construction mobilization, but includes the general conditions, staffing, permits, quality control, survey, etc.

020 Removals – Includes clear and grub, pavement removals, guardrail, storm sewer, bridge and other associated removal items.

030 Earthwork – Includes topsoil stripping, common excavation, restoration, embankment, borrow and placement of aggregate base,

031 Geotechnical – Includes soil borings and analysis for pavement and structure design.

040 Storm Drainage – Includes storm water structures, drainage pipe, and accessory items.

050 Erosion Control – Consists of construction entrances, temp seeding, slope protection, inlet protection, and silt fence.

055 Erosion Control – Consists of permanent seeding and slope restoration.

060 Paving – Consists of bituminous pavement sections and associated items.

061 Temp X-over – Consists of temporary crossover construction and removal for bridge construction.

070 MOT – Includes MOT, flagging, and staging material.

080 Structures – Consists concrete barrier, concrete side barrier, MSE walls and noise walls.

081 SR 20 Bridges – Consists of items associated with the widening of the existing bridges over SR 20.

082 I- 85 SB Bridge – Consists of items associated with the construction of the new SB I-85 bridge over NB I-985.

083 HOT Lane Bridge – Consists of items associated with the construction of the new HOT Lane bridge over NB I-985.

090 Traf Marking – Includes pavement marking items.

100 Signs – Includes Structure, Sign, and guardrail items.

100 Traff Mgmt Stm - Includes items for loop detectors and cable installation.

105 ITS Ductbank – Includes items for duct bank construction.

110 ITS – Includes loop detectors, cable installation, pole assemblies and ITS Hub Bldg.

115 GANT – Includes the appropriated systems and associated rough-in/cabling. Structures for these systems are included in 100 Signs

3.2 SCHEDULE STRUCTURE

The Detailed Proposal schedule has been sequenced out in the following stages:

(1) Phase 1 – Outside Widening (NB & SB I-85)
   a. This consists of all work between the beginning of the project Station 1000+00 to approximately Station 1187+00
   b. Sequencing starts with wall construction and the NB widening as the NB widening finishes it rolls into the SB widening.
   c. Excavation and Embankment movement also starts the embankment of Phase 2 with the NB HOT Lane Alignment.

(2) Phase 2 – NB HOT Lane Alignment
   a. Includes all work, tolling, signs, ductbank, etc. within the new NB HOT alignment
   b. The NB HOT lane bridge structure begins concurrently with Phase 1
   c. The embankment of the NB alignment begins with Phase 1 as well

(3) Phase 3 – Median Widening
   a. Includes all work from Station 1187+00 to 1531+00. It is separately broken out as well from STA 1187+00 to 1287+00 (SR20 Structure), and then the median complete pave from 1287+00 to 1531+00.
   b. The SR20 Structure widening starts concurrently along with the NB I-85 Structure
   c. The majority of all work follows from Phase 1, and the main construction of this phase is done in the 2017 season.

The proposal schedule utilized quantities where applicable from the detailed cost estimate. Additionally it is based off productions and assumption made within the cost estimate.

4 ESTIMATE EXCLUSIONS

1. Hazardous or contaminated material – with the exception of existing roadway removal and existing bridge removal.
2. Archeological finds and/or delay caused by them.
3. 3rd Party utilities – There have not been any identified conflicts other than normal project coordination for working around existing utilities, locates, etc. Therefore no additional utility costs have been included in this estimate.
4. Work is assumed to be done throughout the entire year, and weather days have been assigned to the project schedule. No additional weather considerations have been included, such as heaters, blankets, haul roads for rain weather, heated concrete, etc.
5. No additional ROW procurement was anticipated, and it is assumed staging will be accommodated within the provided easements and ROW.
6. 8’ x 8’ Box culvert modifications at Ivy Creek were reviewed and determined as not required, so it is not included in the estimate.
7. Unforeseen conditions due to additional borings. Additional Borings have been included as listed in the estimate for certain applications.
8. Additional subcut or excavation due to unsuitable materials were not included.
9. Environmental mitigation other than standard BMP’s and Wetland Credits
10. Temporary signals and permanent signals are not anticipated and not included in the estimate.
11. Temporary lighting is not included outside of normal lighting for construction work during night operations
12. Coordination with future projects is not included.
13. Integration and Testing of ITS, and local systems are not included in the estimate.
14. Digital tolling rate blocks in the entry/exit Peach Pass signs are not included. The sign and infrastructure are included

15. Warranty outside of a normal 1 to 2 year construction contract are not included, if tolling infrastructure is to be warrantied for a longer duration, the estimate will have to change to include.
16. Any structure modifications to existing bridges outside of SR20, and I-85 SB over I-985 are not included

5 ESTIMATE ASSUMPTIONS

5.1 LABOR RATES

Local Labor Rates – Atlanta, GA Region were utilized

5.2 OVERTIME

Standard Shifts were utilized and an overtime factor of 20% was utilized in anticipation of additional night work from lane restrictions

5.3 UNIT COST DEVELOPMENT

The costs have been developed using typical estimating strategies. Quantities have been taken off using all available information regarding the alignment. If there was enough information to allow quantity take-off and pricing, this method was chosen. In some instances unit costs were applied in lieu of developing a full labor estimate. Unit costs are developed by utilizing historical data developed over many years of estimating and construction experience. The estimate file provided included the crewed up estimates whenever applicable, identifying labor, equipment, subcontractors and materials.

5.4 CURRENT YEAR DOLLARS

The costs for this Estimate are in 2014 dollars.

5.5 CONTINGENCY

No additional contingency has been included

5.6 ESCALATION

The costs were calculated using 2014 dollars. Escalation has been included in the estimate, and is currently based on the following:

Historical labor market for the past four years is currently 3.4% – 3.5%. The current market factors on materials and consumer goods, oil, steel, etc. are in a level market. The futures for these materials are in fluctuation and a solid indicator will fluctuate through the mid-year construction date. The current forecast is expected to rise, but uncertainty to what factor the economy will experience is not certain. A responsible 5% is applied to cover the unknowns with the market, and the expected labor increase. The following documents what has been included in the estimate for escalation.

a. Current Year dollars is 2014
b. Expected midpoint of construction is June 2016
c. Escalation factor 5%
    i. Estimate is currently at 98.3 Million
    ii. Year 1 escalation is 1.05 x 98.3 Million = $103,215,000
    iii. Year 2 escalation is 1.05 x 103.2 Million = $108,375,750

If the estimate changes, or is updated; escalation should be properly factored in and updated along with the estimate.

5.7 ENGINEERING ASSUMPTIONS

1. The I-85 paved shoulders will utilize the 25 MM Recycled Asph Conc SP at a rate of 660 lbs/sy in lieu of 1320 lbs/sy.
2. Material quotes for bituminous paving were called on, given pricing was quoted as GDOT Item Mean Summary dated June 21, 2014.
3. On-site materials appear to be suitable for pipe bedding and import is not included for drainage
4. Due to time constraints, a detailed analysis of the storm water system requirements was not performed. Quantities and sizing for these items were derived from general storm water system requirements.
5. Construction is based on being completed in two work seasons, and does not include winterization or heavy overtime to complete the project. It does assume that some night work will need to be completed.
6. All work would be completed in standard shifts with an overtime factor as listed above
7. The SB I-85 bridge is assumed to be 72 feet wide to accommodate the driving lanes, buffer zone, shoulders and bridge rail. The concept report calls for a bridge 62.5 feet wide.
8. Bridge estimates were based on designs similar to the existing structures.
9. Strap length for the MSE walls is calculated on a 1:1 ratio.
10. Silt fence is included where it appeared to be require, and construction entrances / exits are utilized throughout the project
11. GDOT's standard plans Nos. 4940, 4948A, 4948B, and 4948C were utilized for the concrete barrier and concrete side barriers.
12. Barrier construction is assumed to be done without any support of excavation or shoring
13. A tax rate of 8.0% is applied to align with Georgia Sales tax rates.
14. Crossovers at the SB I-85 Bridge and NB HOT Lane Bridge were included, phasing assumed traffic would be switched onto the NB HOT lane bridge once completed, then demolition, and new construction of the SB I-85 Bridge takes place.
15. The detailed proposal schedule has two calendars included.
    a. Five Day work week with standard holidays for all design, procurement, and project management.
    b. Working Five-Day calendar with weather included as follows:
        i. April – October (5 Day work week with 1-day weather per month)
        ii. November – March (5 Day work week with 3-days weather per month)
16. Environmental Wetland Credits has been included at a lump sum price of $450,000.00
17. Type III ductbank is along both NB & SB shoulders, and is currently assumed as encased in concrete, with GDOT and SRTA each having a dedicated 144smf. The ductbank also carries a maxcell innerduct.
18. Power has been included to each gantry location as well as monitoring poles (CCTV etc.), and required electrical signs.

HNTB

I-85 Managed Lanes
Design Build Estimate & Proposal Schedule

Detailed Cost Estimate

Project name	I-85 Managed Lanes Ext
Estimator	HNTB
Labor rate table	CIVL2013
Equipment rate table	CIVL2013
Report format	Sorted by 'Work Type/Bid Item/Activity' 'Detail' summary Allocate addons
Cost index	Georgia-Atlanta

Work Type	Bid Item	Activity	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Amount	Material Price	Material Amount	Sub Cost/Unit	Sub Amount	Equip Amount	Other Price	Other Amount	Grand Total Unit Price	Grand Total
010 - Mobilization																
	151-1000		Mobilization													
		As Built Surveys	As Built Surveys													
			Surveying, crew for roadway layout, 4 person crew	90.00 day	2,880.00	32.000 mh/day	167,160	-	-	-	-	6,980	-	-	3,118.95 /day	280,705
			As Built Surveys As Built Surveys	1.00 LS	2,880.00		167,160			/LS		6,980			280,705.33 /LS	280,705
		Construction Surveys	Construction Surveys													
			Surveying, crew for roadway layout, 4 person crew	800.00 day	25,600.00	32.000 mh/day	1,485,862	-	-	-	-	62,042	-	-	3,118.95 /day	2,495,159
			Construction Surveys Construction Surveys	1.00 LS	25,600.00		1,485,862			/LS		62,042			2,495,158.53 /LS	2,495,159
		Equipment Mob	Equipment Mobilization													
			Mobilization	200.00 EA	800.00	0.250 EA/hr	35,722	/EA				51,940	/EA		585.47 /EA	117,094
			Equipment Mob Equipment Mobilization	2.00 LS	800.00		35,722			/LS		51,940			58,546.87 /LS	117,094
		Permits	Permits													
			NPDES Stormwater Permit / Misc Permits	1.00 ea			-	0.00 /ea	0	-	-	-	400.00 /ea	400	452.80 /ea	453
			Electrical Permit	1.00 ea			-	0.00 /ea	0	-	-	-	500.00 /ea	500	566.00 /ea	566
			Wetland Mitigation Credits/Allowance	1.00 ea			-	0.00 /ea	0	-	-	-	450,000.00 /ea	450,000	509,400.00 /ea	509,400
			Permits Permits	1.00 LS						/LS				450,900	510,418.80 /LS	510,419
		Project Management	Project Management													
			Field Engineer	156.00 week	6,240.00		252,174	-	-	-	-	-	-	-	2,638.13 /week	411,548
			Field Personnel, project manager, average	120.00 week	4,800.00		314,760	-	-	-	-	-	-	-	4,280.74 /week	513,688
			Field Personnel, superintendent, average	102.00 week	4,080.00		248,880	-	-	-	-	-	-	-	3,982.08 /week	406,172
			Field Personnel, timekeeper, average	78.00 week	3,120.00		111,813	-	-	-	-	-	-	-	2,339.47 /week	182,479
			Field Personnel, safety manager	78.00 week	3,120.00		111,813	-	-	-	-	-	-	-	2,339.47 /week	182,479
			Project Management Project Management	1.00 LS	21,360.00		1,039,440			/LS					1,696,366.08 /LS	1,696,366
		QA / QC	QA / QC													
			Construction QA / QC	1.00 ls	8.00	8.000 ch/ls		-	-	500,000.00 /ls	500,000	-	-	-	566,000.00 /ls	566,000
			QA / QC QA / QC		8.00					/LS	500,000				/LS	566,000
			151-1000 Mobilization	1.00 LS	50,648.00		2,728,184			500,000.00 /LS	500,000	120,961		450,900	5,665,742.48 /LS	5,665,742
	153-1300		Field Engineers Office, Type 3													
		Field Office	Field Office													
			Field Office Expense, office equipment rental, average	24.00 mo			-	202.80 /mo	4,867	-	-	-	-	-	229.57 /mo	5,510
			Field Office Expense, office equipment rental, average	24.00 mo			-	202.80 /mo	4,867	-	-	-	-	-	229.57 /mo	5,510
			Field Office Expense, office equipment rental, average	24.00 mo			-	202.80 /mo	4,867	-	-	-	-	-	229.57 /mo	5,510
			Field Office Expense, office equipment rental, average	24.00 mo			-	202.80 /mo	4,867	-	-	-	-	-	229.57 /mo	5,510
			Set Up Field Offioce	4.00 ea	64.00	2.000 ea/day	3,697	202.80 /ea	811	-	-	3,147	-	-	2,628.64 /ea	10,515
			Field Office Field Office		64.00		3,697		20,280	/mo		3,147			/mo	32,553
			153-1300 Field Engineers Office, Type 3	1.00 LS	64.00		3,697		20,280	/LS		3,147			32,553.23 /LS	32,553
			010 - Mobilization	1.00 LS	50,712.00		2,731,881		20,280	500,000.00 /LS	500,000	124,108		450,900	5,698,295.71 /LS	5,698,296
020 - Removals																
	201-1500		Clear & Grub													
		Clear & Grub														
			Dump charges, trees, brush, lumber, 30 cy, includes tipping fees only	520.00 load			-	250.00 /load	130,000	-	-	-	-	-	283.00 /load	147,160
			Clearing & grubbing, heavy trees, to 24" diameter, cut and chip	52.00 acre	4,680.00	90.000 mh/acre	115,848	-	-	-	-	51,796	-	-	4,763.39 /acre	247,696
			Hauling, truck per hour, no loading equipment	520.00 hr	520.00	1.000 mh/hr	19,108	-	-	-	-	48,048	-	-	164.57 /hr	85,575
			Clear & Grub		5,200.00		134,956		130,000			99,844				480,431
			201-1500 Clear & Grub	52.00 AC	5,200.00		134,956		130,000	/AC		99,844			9,239.06 /AC	480,431
	609-1000		Remove Roadway Slab													
		Rem Shldr Pavmnt														
			Bituminous Dump Fees	1,142.00 load			-	120.00 /load	137,040	-	-	-	-	-	135.84 /load	155,129
			Hauling, truck per hour, no loading equipment	1,142.00 hr	1,142.00	1.000 mh/hr	41,964	-	-	-	-	105,521	-	-	164.57 /hr	187,935
			Sawcut Existing Pavement	22,000.00 lf	220.00	0.010 mh/lf	8,084	-	-	-	-	10,164	-	-	1.12 /lf	24,699
			Load Out Shoulder Pavement	125,559.00 sy	3,199.24	0.004 ch/sy	130,849	-	-	-	-	233,945	-	-	3.81 /sy	478,371
			Rem Shldr Pavmnt	125,559.00 SY	4,561.24		180,898		137,040	/SY		349,629			6.74 /SY	846,135
			609-1000 Remove Roadway Slab	125,559.00 sy	4,561.24		180,898		137,040	/sy		349,629			6.74 /sy	846,135
	610-0959		Remove Storm Sewer													
		Remove Storm Sewer														
			Concrete Dump Fee	57.00 load			-	1,040.00 /load	59,280	-	-	-	-	-	1,177.28 /load	67,105
			Remove Storm Sewer	4,582.00 lf	320.74	100.000 lf/ch	9,680	-	-	-	-	23,127	-	-	9.16 /lf	41,978
			Hauling, truck per hour, no loading equipment	57.00 hr	57.00	1.000 mh/hr	2,095	-	-	-	-	5,267	-	-	164.57 /hr	9,380
			Remove Storm Sewer		377.74		11,775		59,280			28,393				118,463
			610-0959 Remove Storm Sewer	4,365.00 LF	377.74		11,775		59,280	/LF		28,393			27.14 /LF	118,463
	610-1055		Remove Guardrail													
		Rem Guardrail														
			Selective demolition, highway guard rails & barriers, corrugated steel	33,778.00 lf	810.67	125.000 lf/ch	29,864	-	-	-	-	12,410	-	-	1.86 /lf	62,786
			Dump Fees	866.00 tn				-	-	-	-	-	51.36 /ea	44,478	58.14 /tn	50,349
			Hauling, truck per hour, no loading equipment	108.00 hr	108.00	1.000 mh/hr	3,969	-	-	-	-	9,979	-	-	164.57 /hr	17,773
			Rem Guardrail		918.67		33,832					22,389		44,478		130,908
			610-1055 Remove Guardrail	33,778.00 LF	918.67		33,832			/LF		22,389		44,478	3.88 /LF	130,908
	610-1065		Remove Cable Barrier													
		Rem Cable Barrier														
			Selective demolition, highway guard rails & barriers, corrugated steel	24,021.00 lf	576.50	125.000 lf/ch	21,237	-	-	-	-	8,825	-	-	1.86 /lf	44,650
			Dump Fees	600.00 tn				-	-	-	-	-	51.36 /ea	30,816	58.14 /tn	34,884
			Hauling, truck per hour, no loading equipment	60.00 hr	60.00	1.000 mh/hr	2,205	-	-	-	-	5,544	-	-	164.57 /hr	9,874

Work Type	Bid Item	Activity	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Amount	Material Price	Material Amount	Sub Cost/Unit	Sub Amount	Equip Amount	Other Price	Other Amount	Grand Total Unit Price	Grand Total
			Rem Cable Barrier		636.50		23,442					14,369		30,816		89,407
			610-1065 Remove Cable Barrier	24,021.00 LF	636.50		23,442			/LF		14,369		30,816	3.72 /LF	89,407
	610-1075		Remove Guardrail Anchor, All Types													
		Rem Grdrl Anchor														
			Selective demolition, highway guard rails & barriers, corrugated steel, end sections	81.00 ea	162.00	0.500 ch/ea	6,374	-	-	-	-	2,698	-	-	166.14 /ea	13,457
			Dump Fees	108.00 tn				-	-	-	-	-	51.36 /ea	5,547	58.14 /tn	6,279
			Hauling, truck per hour, no loading equipment	9.00 hr	9.00	1.000 mh/hr	331	-	-	-	-	832	-	-	164.57 /hr	1,481
			Rem Grdrl Anchor		171.00		6,705					3,530		5,547		21,218
			610-1075 Remove Guardrail Anchor, All Types	81.00 EA	171.00		6,705			/EA		3,530		5,547	261.95 /EA	21,218
	610-2735		Remove Concrete Ditch Paving													
		Rem Ditch Paving														
			Concrete Dump Fee	40.00 load			-	1,040.00 /load	41,600	-	-	-	-	-	1,177.28 /load	47,091
			Remove Flume	3,930.00 lf	27.51	1,000.000 lf/ch	830	-	-	-	-	1,984	-	-	0.92 /lf	3,600
			Hauling, truck per hour, no loading equipment	40.00 hr	40.00	1.000 mh/hr	1,470	-	-	-	-	3,696	-	-	164.57 /hr	6,583
			Rem Ditch Paving		67.51		2,300		41,600			5,680				57,274
			610-2735 Remove Concrete Ditch Paving	3,930.00 LF	67.51		2,300		41,600	/LF		5,680			14.57 /LF	57,274
	610-5715		Remove Catch Basin													
		Remove Catch Basin	Remove Catch Basin													
			Concrete Dump Fee	11.00 load			-	1,040.00 /load	11,440	-	-	-	-	-	1,177.28 /load	12,950
			Remove Catch Basin	43.00 ea	75.25	4.000 ea/ch	2,271	-	-	-	-	5,426	-	-	229.04 /ea	9,849
			Hauling, truck per hour, no loading equipment	11.00 hr	11.00	1.000 mh/hr	404	-	-	-	-	1,016	-	-	164.57 /hr	1,810
			Remove Catch Basin Remove Catch Basin		86.25		2,675		11,440			6,442				24,609
			610-5715 Remove Catch Basin	43.00 EA	86.25		2,675		11,440	/EA		6,442			572.30 /EA	24,609
	610-6015		Remove Flared End Section													
		Remove Flared End														
			Concrete Dump Fee	15.00 load			-	1,040.00 /load	15,600	-	-	-	-	-	1,177.28 /load	17,659
			Remove Flared End	66.00 ea	115.50	4.000 ea/ch	3,486	-	-	-	-	8,328	-	-	229.04 /ea	15,116
			Hauling, truck per hour, no loading equipment	62.00 hr	62.00	1.000 mh/hr	2,278	-	-	-	-	5,729	-	-	164.57 /hr	10,203
			Remove Flared End		177.50		5,764		15,600			14,057				42,979
			610-6015 Remove Flared End Section	62.00 EA	177.50		5,764		15,600	/EA		14,057			693.20 /EA	42,979
	610-9010															
		Rem Bridge														
			Concrete Dump Fee	39.00 load			-	1,040.00 /load	40,560	-	-	-	-	-	1,177.28 /load	45,914
			Hauling, truck per hour, no loading equipment	40.00 hr	40.00	1.000 mh/hr	1,470	-	-	-	-	3,696	-	-	164.57 /hr	6,583
			Remove Bridge	2,800.00 sy	156.80	0.008 ch/sy	6,842	-	-	-	-	11,306	-	-	8.56 /sy	23,965
			Rem Bridge		196.80		8,312		40,560			15,002				76,461
			610-9010		196.80		8,312		40,560			15,002				76,461
			020 - Removals	**1.00 LS**	**12,393.22**		**410,660**		**435,520**	**/LS**		**559,336**		**80,841**	**1,887,884.83 /LS**	**1,887,885**
030 - Earthwork																
	205-0001		Unclassified Excavation													
		Common Ex Long Haul														
			Excavate & Place Haul on Site (>1/2 Mi.)	216,267.00 cy	5,406.68	400.000 cy/ch	313,779	-	-	-	-	1,156,190	-	-	8.42 /cy	1,820,894
			Common Ex Long Haul		5,406.68		313,779					1,156,190				1,820,894
		Common Ex Short Haul														
			Excavate & Place Haul on Site (<1/2 Mi.)	92,700.00 cy	1,854.00	500.000 cy/ch	107,598	-	-	-	-	396,469	-	-	6.74 /cy	624,402
			Common Ex Short Haul		1,854.00		107,598					396,469				624,402
		Import & Place Borro														
			Trucking	39,265.00 cy	981.63	40.000 cy/ch	38,011	-	-	-	-	84,960	-	-	4.03 /cy	158,209
			Excavate Off Site Borrow Area	39,265.00 cy	588.98	400.000 cy/ch	34,215	-	-	-	-	105,446	-	-	4.46 /cy	175,204
			Import & Place Borro		1,570.60		72,226					190,406				333,413
		Restore Topsoil														
			Trucking	50,450.00 cy	1,401.39	36.000 cy/ch	54,266	-	-	-	-	121,290	-	-	4.48 /cy	225,862
			Topsoil Stripping Load & Haul	50,450.00 cy	378.38	200.000 cy/ch	20,073	-	-	-	-	42,031	-	-	1.59 /cy	80,338
			Restore Topsoil	50,450.00 cy	1,779.76		74,338			/cy		163,321			6.07 /cy	306,200
		Strip Topsoil														
			Trucking	50,450.00 cy	1,401.39	36.000 cy/ch	54,266	-	-	-	-	121,290	-	-	4.48 /cy	225,862
			Topsoil Stripping Load & Haul	50,450.00 cy	378.38	200.000 cy/ch	20,073	-	-	-	-	42,031	-	-	1.59 /cy	80,338
			Strip Topsoil	50,450.00 cy	1,779.76		74,338			/cy		163,321			6.07 /cy	306,200
			205-0001 Unclassified Excavation	359,417.00 CY	12,390.80		642,279			/CY		2,069,708			9.44 /CY	3,391,109
	310-1101		GR Agg Base Course, Incl Matl													
		12" Aggregate Base														
			Place Aggregate Base	237,297.00 tn	4,745.94	0.004 ch/tn	218,234	/tn		-	-	311,761	-	-	2.99 /tn	709,070
			Aggregate Base Matl	237,297.00 tn		mh/tn		9.63 /tn	2,285,170	-	-		-	-	10.90 /tn	2,586,813
			Hauling, truck per hour, no loading equipment	11,715.00 hr	11,715.00	1.000 mh/hr	430,484	-	-	-	-	1,082,466	-	-	164.57 /hr	1,927,902
			12" Aggregate Base		16,460.94		648,718		2,285,170			1,394,227				5,223,784
		6" Aggregate Base														
			Place Aggregate Base	25,135.00 tn	502.70	250.000 tn/ch	23,116	/tn		-	-	33,022	-	-	2.99 /tn	75,106
			Aggregate Base Matl	25,135.00 tn		mh/tn		9.63 /tn	242,050	-	-		-	-	10.90 /tn	274,001
			Hauling, truck per hour, no loading equipment	1,257.00 hr	1,257.00	1.000 mh/hr	46,190	-	-	-	-	116,147	-	-	164.57 /hr	206,861
			6" Aggregate Base		1,759.70		69,306		242,050			149,169				555,968
		Finish Grading														
			Fine grading, finish grading granular subbase for highway paving, +/- 1"	149,400.00 sy	448.20	0.001 ch/sy	19,867	-	-	-	-	17,622	-	-	0.35 /sy	52,371
			Finish Grading		448.20		19,867					17,622				52,371
		Patrol Pulloff														

Work Type	Bid Item	Activity	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Amount	Material Price	Material Amount	Sub Cost/Unit	Sub Amount	Equip Amount	Other Price	Other Amount	Grand Total Unit Price	Grand Total
		Patrol Pulloff														
			Pulloff - 2 Graded Areas for State Patrol	450.00 sy	40.50	0.030 ch/sy	1,795	-	-	-	-	1,592	-	-	10.52 /sy	4,732
			Patrol Pulloff		40.50		1,795					1,592				4,732
			310-1101 GR Agg Base Course, Incl Matl	259,432.00 TN	18,709.34		739,686		2,527,220	/TN		1,562,610			22.50 /TN	5,836,855
			030 - Earthwork	**1.00 LS**	**31,100.14**		**1,381,965**		**2,527,220**	**/LS**		**3,632,318**			**9,227,963.79 /LS**	**9,227,964**
031 - Geotechnical																
	Soil Borings		Soil Borings													
		Soil Borings - Bridg														
			Subsurface investigation - Soil Bore at each abutment	600.00 lf	441.72	0.736 mh/lf	10,072	32.26 /lf	19,357	-	-	19,727	-	-	101.13 /lf	60,680
			Soil Borings - Bridg	6.00 ea	441.72		10,072		19,357	/ea		19,727			10,113.30 /ea	60,680
		Soil Borings - New R														
			Subsurface investigation - Soil Bore @ 1000' - New Alignment	240.00 lf	176.69	0.736 mh/lf	4,029	32.26 /lf	7,743	-	-	7,891	-	-	101.13 /lf	24,272
			Soil Borings - New R	6.00 ea	176.69		4,029		7,743	/ea		7,891			4,045.32 /ea	24,272
		Soil Borings - Walls														
			Subsurface investigation - Soil Bore at Each Wall	240.00 lf	176.69	0.736 mh/lf	4,029	32.26 /lf	7,743	-	-	7,891	-	-	101.13 /lf	24,272
			Soil Borings - Walls	6.00 ea	176.69		4,029		7,743	/ea		7,891			4,045.32 /ea	24,272
		Soil Borings - Widen														
			Subsurface investigation - Soil Bore @ 2000' - Road Widening	840.00 lf	618.41	0.736 mh/lf	14,101	32.26 /lf	27,099	-	-	27,617	-	-	101.13 /lf	84,952
			Soil Borings - Widen	21.00 ea	618.41		14,101		27,099	/ea		27,617			4,045.32 /ea	84,952
			Soil Borings Soil Borings	39.00 EA	1,413.50		32,231		61,941	/EA		63,125			4,978.86 /EA	194,175
			031 - Geotechnical	**1.00 LS**	**1,413.50**		**32,231**		**61,941**	**/LS**		**63,125**			**194,175.42 /LS**	**194,175**
040 - Storm Drainage																
	441-0204		Plain Concrete Ditch Paving, 4 In.													
		Conc Ditch Paving														
			Plain Concrete Ditch Paving, 4 In.	19,550.00 sf	782.00	0.040 mh/sf	30,461	1.54 /sf	30,146	-	-	-	-	-	4.29 /sf	83,838
			Conc Ditch Paving		782.00		30,461		30,146							83,838
			441-0204 Plain Concrete Ditch Paving, 4 In.	2,173.00 SY	782.00		30,461		30,146	/SY					38.58 /SY	83,838
	550-1150		Storm Drain Pipe, 15 In., H 1-10													
		Storm Drain Pipe 15"														
			Reinforced concrete pipe (RCP), 15" diameter	499.00 lf	93.56	32.000 lf/hr	4,127	12.08 /lf	6,028	-	-	3,576	-	-	35.29 /lf	17,608
			Storm Drain Pipe 15"		93.56		4,127		6,028			3,576				17,608
			550-1150 Storm Drain Pipe, 15 In., H 1-10	499.00 LF	93.56		4,127		6,028	/LF		3,576			35.29 /LF	17,608
	550-1180		Storm Drain Pipe, 18 In., H 1-10													
		Storm Drain Pipe 18"														
			Reinforced concrete pipe (RCP), 18" diameter	185.00 lf	34.69	32.000 lf/hr	1,530	16.20 /lf	2,997	-	-	1,326	-	-	39.95 /lf	7,391
			Storm Drain Pipe 18"		34.69		1,530		2,997			1,326				7,391
			550-1180 Storm Drain Pipe, 18 In., H 1-10	185.00 LF	34.69		1,530		2,997	/LF		1,326			39.95 /LF	7,391
	550-1240		Storm Drain Pipe, 24 In., H 1-10													
		Storm Drain Pipe 24"														
			Reinforced concrete pipe (RCP), 24" diameter	23,972.00 lf	4,494.75	32.000 lf/hr	198,276	21.30 /lf	510,604	-	-	171,812	-	-	45.72 /lf	1,096,081
			Storm Drain Pipe 24"		4,494.75		198,276		510,604			171,812				1,096,081
			550-1240 Storm Drain Pipe, 24 In., H 1-10	23,972.00 LF	4,494.75		198,276		510,604	/LF		171,812			45.72 /LF	1,096,081
	550-1300		Storm Drain Pipe, 30 In., H 1-10													
		Storm Drain Pipe 30"														
			Reinforced concrete pipe (RCP), 30" diameter	131.00 lf	32.75	24.000 lf/hr	1,445	34.65 /lf	4,539	-	-	1,252	-	-	68.04 /lf	8,913
			Storm Drain Pipe 30"		32.75		1,445		4,539			1,252				8,913
			550-1300 Storm Drain Pipe, 30 In., H 1-10	131.00	32.75		1,445		4,539			1,252			68.04	8,913
	550-1360		Storm Drain Pipe, 36 In., H 1-10													
		Storm Drain Pipe 36"														
			Reinforced concrete pipe (RCP), 36" diameter	42.00 lf	10.50	24.000 lf/hr	463	52.35 /lf	2,199	-	-	401	-	-	88.08 /lf	3,699
			Storm Drain Pipe 36"		10.50		463		2,199			401				3,699
			550-1360 Storm Drain Pipe, 36 In., H 1-10	42.00 LF	10.50		463		2,199	/LF		401			88.08 /LF	3,699
	550-1420		Storm Drain Pipe, 42 In., H 1-10													
		Storm Drain Pipe 42"														
			Reinforced concrete pipe (RCP), 42" diameter	195.00 lf	48.75	24.000 lf/hr	2,151	72.98 /lf	14,231	-	-	1,863	-	-	111.43 /lf	21,729
			Storm Drain Pipe 42"		48.75		2,151		14,231			1,863				21,729
			550-1420 Storm Drain Pipe, 42 In., H 1-10	195.00 LF	48.75		2,151		14,231	/LF		1,863			111.43 /LF	21,729
	550-4215		Flared End Section, 15 In.													
		FES 15"														
			(RCP) flared ends, 15" diameter	12.00 ea	24.00	3.000 ea/hr	1,059	291.00 /ea	3,492	-	-	917	-	-	559.94 /ea	6,719
			FES 15"		24.00		1,059		3,492			917				6,719
			550-4215 Flared End Section, 15 In.	12.00 EA	24.00		1,059		3,492	/EA		917			559.94 /EA	6,719
	550-4218		Flared End Section, 18 In.													
		FES 18"														
			(RCP) flared ends, 18" diameter	4.00 ea	8.00	3.000 ea/hr	353	324.75 /ea	1,299	-	-	306	-	-	598.14 /ea	2,393
			FES 18"		8.00		353		1,299			306				2,393
			550-4218 Flared End Section, 18 In.	4.00 EA	8.00		353		1,299	/EA		306			598.14 /EA	2,393
	550-4224		Flared End Section, 24 In.													
		FES 24"														
			(RCP) flared ends, 24" diameter	22.00 ea	66.00	2.000 ea/hr	2,911	393.00 /ea	8,646	-	-	2,523	-	-	790.66 /ea	17,395

Work Type	Bid Item	Activity	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Amount	Material Price	Material Amount	Sub Cost/Unit	Sub Amount	Equip Amount	Other Price	Other Amount	Grand Total Unit Price	Grand Total
			FES 24"		66.00		2,911		8,646			2,523				17,395
			550-4224 Flared End Section, 24 In.	22.00 EA	66.00		2,911		8,646	/EA		2,523			790.66 /EA	17,395
	550-4230		Flared End Section, 30 In.													
		FES 30"														
			RCP Flared Ends, 30" diameter	2.00 ea	6.00	2.000 ea/hr	265	501.75 /ea	1,004	-	-	229	-	-	913.77 /ea	1,828
			FES 30"		6.00		265		1,004			229				1,828
			550-4230 Flared End Section, 30 In.	2.00 EA	6.00		265		1,004	/EA		229			913.77 /EA	1,828
	550-4236		Flared End Section, 36 In.													
		FES 36"														
			RCP Flared Ends 36" diameter	11.00 ea	66.00	1.000 ea/hr	2,911	786.75 /ea	8,654	-	-	2,523	-	-	1,582.18 /ea	17,404
			FES 36"		66.00		2,911		8,654			2,523				17,404
			550-4236 Flared End Section, 36 In.	11.00 EA	66.00		2,911		8,654	/EA		2,523			1,582.18 /EA	17,404
	550-4242		Flared End Section, 42 In.													
		FES 42"														
			RCP Flared Ends, 42" diameter	6.00 ea	36.00	1.000 ea/hr	1,588	978.75 /ea	5,873	-	-	1,376	-	-	1,799.52 /ea	10,797
			FES 42"		36.00		1,588		5,873			1,376				10,797
			550-4242 Flared End Section, 42 In.	6.00 EA	36.00		1,588		5,873	/EA		1,376			1,799.52 /EA	10,797
	550-9991		Box Culvert, 5' x 5'													
		Box Culvert 5' x 5'														
			Reinforced Concrete Box Culvert, 5' x 5'	72.00 lf	54.00	8.000 lf/hr	2,382	322.40 /lf	23,213	-	-	2,064	-	-	451.40 /lf	32,501
			Box Culvert 5' x 5'		54.00		2,382		23,213			2,064				32,501
			550-9991 Box Culvert, 5' x 5'	72.00 LF	54.00		2,382		23,213	/LF		2,064			451.40 /LF	32,501
	550-9992		Box Culvert, 5' x 6'													
		Box Culvert 5' x 6'														
			Reinforced Concrete Box Culvert, 5' x 6'	210.00 lf	157.50	8.000 lf/hr	6,948	343.20 /lf	72,072	-	-	6,020	-	-	474.95 /lf	99,739
			Box Culvert 5' x 6'		157.50		6,948		72,072			6,020				99,739
			550-9992 Box Culvert, 5' x 6'	210.00 LF	157.50		6,948		72,072	/LF		6,020			474.95 /LF	99,739
	550-9993		Reinforced Concrete Box Culvert End, 5' x 5'													
		Box Culvert End 5x5														
			Reinforced Box Culvert End, 5' x 5'	4.00 ea	48.00	0.500 ea/hr	2,117	2,256.00 /ea	9,024	-	-	1,835	-	-	3,936.95 /ea	15,748
			Box Culvert End 5x5		48.00		2,117		9,024			1,835				15,748
			550-9993 Reinforced Concrete Box Culvert End, 5' x 5'	4.00 EA	48.00		2,117		9,024	/EA		1,835			3,936.95 /EA	15,748
	550-9994		Reinforced Concrete Box Culvert End, 6' x 5'													
		Box Culvert End 6x5														
			Reinforced Concrete Box Culvert End, 6' x 5'	7.00 ea	84.00	0.500 ea/hr	3,705	2,853.00 /ea	19,971	-	-	3,211	-	-	4,612.75 /ea	32,289
			Box Culvert End 6x5		84.00		3,705		19,971			3,211				32,289
			550-9994 Reinforced Concrete Box Culvert End, 6' x 5'	7.00 EA	84.00		3,705		19,971	/EA		3,211			4,612.75 /EA	32,289
	600-0001		CLSM Low Density Fill													
		CLSM Low Density Fil														
			CLSM Low Denisty Fill	140.00 cy		cy/ch		-	-	212.00 /cy	29,680		-	-	239.98 /cy	33,598
			CLSM Low Density Fil								29,680					33,598
			600-0001 CLSM Low Density Fill	140.00 cy						212.00 /cy	29,680				239.98 /cy	33,598
	603-2182		STN Dumped Riprap, Type 3, 24"													
		Riprap														
			Rip-rap and rock lining, random, broken stone, 100 lb. average, dumped	584.00 ton	46.72	0.080 mh/ton	1,837	26.54 /ton	15,498	-	-	3,892	-	-	42.72 /ton	24,948
			Riprap		46.72		1,837		15,498			3,892				24,948
			603-2182 STN Dumped Riprap, Type 3, 24"	584.00 ton	46.72		1,837		15,498	/ton		3,892			42.72 /ton	24,948
	615-1000		Jack Storm Drain													
		Jack 24" Storm Drain														
			Horizontal boring, roadwork, 24" diameter casing, excludes jacking pits or dewatering	200.00 lf	2,400.00	12.000 mh/lf	91,012	0.00 /lf	0	-	-	66,880	-	-	1,121.20 /lf	224,239
			Horizontal boring, prepare jacking pits, includes mobilization and demobilization, minimum	2.00 ea			-	-	-	-	-	-	3,150.00 /ea	6,300	3,565.80 /ea	7,132
			Reinforced concrete pipe (RCP), 24" diameter	200.00 lf	37.50	32.000 lf/hr	1,654	21.30 /lf	4,260	-	-	1,433	-	-	45.72 /lf	9,145
			Jack 24" Storm Drain	200.00 lf	2,437.50		92,666		4,260	/lf		68,313		6,300	1,202.58 /lf	240,516
		Jack 36" Storm Drain														
			Horizontal boring, roadwork, 36" diameter casing, excludes jacking pits or dewatering	1,126.00 lf	13,512.00	12.000 mh/lf	512,398	/lf		-	-	376,532	-	-	1,121.20 /lf	1,262,467
			Horizontal boring, prepare jacking pits, includes mobilization and demobilization, minimum	12.00 ea			-	-	-	-	-	-	3,150.00 /ea	37,800	3,565.80 /ea	42,790
			Reinforced concrete pipe (RCP), 36" diameter	1,126.00 lf	281.50	24.000 lf/hr	12,418	52.35 /lf	58,946	-	-	10,760	-	-	88.08 /lf	99,173
			Jack 36" Storm Drain	1,126.00 LF	13,793.50		524,815		58,946	/LF		387,292		37,800	1,247.27 /LF	1,404,430
			615-1000 Jack Storm Drain	1,326.00 LF	16,231.00		617,482		63,206	/LF		455,606		44,100	1,240.53 /LF	1,644,946
	668-1100		48" Dia. Drop Inlet													
		48" Dia. Drop Inlet														
			Storm Drainage Manholes, 4' inside diameter	1,160.00 vlf	1,740.00	4.000 vlf/hr	76,756	90.84 /vlf	105,377	-	-	66,512	-	-	275.73 /vlf	319,844
			Storm Drainage Manholes, Base Slab	116.00 ea	2,784.00	24.000 mh/ea		189.26 /ea	21,954	-	-		-	-	214.24 /ea	24,851
			Storm Drainage Manholes, Top Slab	116.00 ea	217.50	1.875 mh/ea		167.92 /ea	19,479	-	-		-	-	190.09 /ea	22,050
			Frames, and Covers, heavyweight cast iron	116.00 ea	174.00	2.000 ea/hr	9,217	401.45 /ea	46,568	-	-	8,633	-	-	668.36 /ea	77,530
			48" Dia. Drop Inlet		4,915.50		85,973		193,378			75,145				444,276
			668-1100 48" Dia. Drop Inlet	116.00 EA	4,915.50		85,973		193,378	/EA		75,145			3,829.96 /EA	444,276
	668-1200		60" Dia. Drop Inlet													

Work Type	Bid Item	Activity	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Amount	Material Price	Material Amount	Sub Cost/Unit	Sub Amount	Equip Amount	Other Price	Other Amount	Grand Total Unit Price	Grand Total
		60" Dia. Drop Inlet														
			Storm Drainage Manholes, 5' inside diameter	120.00 vlf	180.00	4.000 vlf/hr	7,940	161.73 /vlf	19,407	-	-	6,881	-	-	355.97 /vlf	42,716
			Storm Drainage Manholes, Base Slab	12.00 ea	288.00	24.000 mh/ea		366.81 /ea	4,402	-	-		-	-	415.23 /ea	4,983
			Storm Drainage Manholes, Top Slab	12.00 ea	22.50	1.875 mh/ea		358.55 /ea	4,303	-	-		-	-	405.88 /ea	4,871
			Frames, and Covers, heavyweight cast iron	12.00 ea	18.00	2.000 ea/hr	953	401.45 /ea	4,817	-	-	893	-	-	668.36 /ea	8,020
			60" Dia. Drop Inlet		508.50		8,894		32,929			7,774				60,590
			668-1200 60" Dia. Drop Inlet	12.00 EA	508.50		8,894		32,929	/EA		7,774			5,049.16 /EA	60,590
	999-3110															
		Swales	Additional Drainage Capacity													
			Embank & Place Swale for Drainage	6,000.00 sy	540.00	0.030 ch/sy	23,936	-	-	-	-	21,231	-	-	10.52 /sy	63,098
			Rip-rap and rock lining	130.00 ton	10.40	0.080 mh/ton	409	26.54 /ton	3,450	-	-	866	-	-	42.72 /ton	5,554
			Swales Additional Drainage Capacity		550.40		24,345		3,450			22,097				68,651
			999-3110		550.40		24,345		3,450			22,097				68,651
			040 - Storm Drainage	**1.00 LS**	**28,298.62**		**1,001,224**		**1,032,452**	**29,680.00 /LS**	**29,680**	**765,749**		**44,100**	**3,753,079.90 /LS**	**3,753,080**
050 - Erosion Cntrl																
	163-0232		Temporary Grassing													
		Temp Seeding														
			Seeding, mechanical seeding, 215 lb/acre	120.00 acre	180.00	1.500 mh/acre	7,980	260.00 /acre	31,200	-	-	5,868	-	-	458.21 /acre	54,985
			Temp Seeding		180.00		7,980		31,200			5,868				54,985
			163-0232 Temporary Grassing	120.00 AC	180.00		7,980		31,200	/AC		5,868			458.21 /AC	54,985
	163-0242		Mulch													
		Temp Mulch														
			Soil preparation, mulching, oat straw, 1" deep, power mulcher, large	2,995.00 msf	90.42	0.030 mh/msf	3,112	50.40 /msf	150,948	-	-	3,341	-	-	60.01 /msf	179,733
			Temp Mulch		90.42		3,112		150,948			3,341				179,733
			163-0242 Mulch	900.00 TN	90.42		3,112		150,948	/TN		3,341			199.70 /TN	179,733
	163-0300		Construction Exit													
		Const Exit														
			Construction Exit	53.00 EA	212.00	1.000 EA/ch	7,619	520.00 /EA	27,560			10,425	/EA		1,087.51 /EA	57,638
			Const Exit		212.00		7,619		27,560			10,425				57,638
			163-0300 Construction Exit	53.00 EA	212.00		7,619		27,560	/EA		10,425			1,087.51 /EA	57,638
	163-0550		Const & Remove Inlet Sediment Trap													
		Inlet Protection														
			Synthetic erosion control, silt fence, polypropylene, ideal conditions, 3' high	4,325.00 lf	480.56	18.000 lf/ch	16,150	0.24 /lf	1,042	-	-	-	-	-	6.37 /lf	27,536
			Inlet Protection		480.56		16,150		1,042							27,536
			163-0550 Const & Remove Inlet Sediment Trap	172.00 EA	480.56		16,150		1,042	/EA					160.10 /EA	27,536
	165-0010		Maint of Temp Silt Fence, Type A													
		Temp Silt Fen Maint														
			Synthetic erosion control, silt fence, polypropylene, adverse conditions, 3' high	66,423.00 lf	265.69	0.001 ch/lf	8,929	0.24 /lf	16,008	-	-	-	-	-	0.49 /lf	32,693
			Temp Silt Fen Maint		265.69		8,929		16,008							32,693
			165-0010 Maint of Temp Silt Fence, Type A	66,423.00 LF	265.69		8,929		16,008	/LF					0.49 /LF	32,693
	171-0010		Temporary Silt Fence, Type A													
		Temp Silt Fence TP A														
			Synthetic erosion control, silt fence, polypropylene, adverse conditions, 3' high	66,423.00 lf	2,656.92	0.010 ch/lf	89,290	0.24 /lf	16,008	-	-	-	-	-	2.47 /lf	163,842
			Temp Silt Fence TP A		2,656.92		89,290		16,008							163,842
			171-0010 Temporary Silt Fence, Type A	66,423.00 LF	2,656.92		89,290		16,008	/LF					2.47 /LF	163,842
			050 - Erosion Cntrl	**1.00 LS**	**3,885.59**		**133,080**		**242,766**	**/LS**		**19,634**			**516,427.85 /LS**	**516,428**
055 - Erosion Cntrl																
	163-0242		Mulch													
		Straw Mulch														
			Soil preparation, mulching, oat straw, 1" deep, power mulcher, large	2,995.00 msf	90.42	0.030 mh/msf	3,112	50.40 /msf	150,948	-	-	3,341	-	-	60.01 /msf	179,733
			Straw Mulch		90.42		3,112		150,948			3,341				179,733
			163-0242 Mulch	900.00 TN	90.42		3,112		150,948	/TN		3,341			199.70 /TN	179,733
	700-6910		Permanent Grassing													
		Perm Seeding														
			Seeding, mechanical seeding, 215 lb/acre	69.00 acre	276.00	4.000 mh/acre	12,236	525.00 /acre	36,225	-	-	8,998	-	-	1,031.33 /acre	71,162
			Perm Seeding		276.00		12,236		36,225			8,998				71,162
			700-6910 Permanent Grassing	69.00 AC	276.00		12,236		36,225	/AC		8,998			1,031.33 /AC	71,162
	713-3001		Wood Fiber Blanket													
		Wood Fiber Blanket														
			Wood Fiber Blanket	6.90 acre	69.00	10.000 ch/acre	3,059	6,050.00 /acre	41,745	-	-	2,249	-	-	7,941.17 /acre	54,794
			Wood Fiber Blanket		69.00		3,059		41,745			2,249				54,794
			713-3001 Wood Fiber Blanket	33,400.00 SY	69.00		3,059		41,745	/SY		2,249			1.64 /SY	54,794
			055 - Erosion Cntrl	**1.00 LS**	**435.42**		**18,407**		**228,918**	**/LS**		**14,588**			**305,688.84 /LS**	**305,689**
060 - Paving																
	400-3624		AC 12.5 PEM GP 2 BMHL													
		AC 12.5MM PEM														
			Plant-mix asphalt paving, for highways and large paved areas, base course, 3" thick	39,382.00 tn	4,725.84	100.000 tn/ch	173,037	75.50 /tn	2,973,341	-	-	140,170	-	-	96.67 /tn	3,806,891

Work Type	Bid Item	Activity	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Amount	Material Price	Material Amount	Sub Cost/Unit	Sub Amount	Equip Amount	Other Price	Other Amount	Grand Total Unit Price	Grand Total
			AC 12.5MM PEM		4,725.84		173,037		2,973,341			140,170				3,806,891
		Hauling														
			Hauling, truck per hour, no loading equipment	1,969.00 hr	1,969.00	1.000 mh/hr	72,354	-	-	-	-	181,936	-	-	164.57 /hr	324,032
			Hauling		1,969.00		72,354					181,936				324,032
			400-3624 AC 12.5 PEM GP 2 BMHL	39,382.00 TN	6,694.84		245,391		2,973,341	/TN		322,106			104.89 /TN	4,130,923
	402-3121		Recycle AC 25MM SP GP 1/2 BMHL													
		Hauling														
			Hauling, truck per hour, no loading equipment	12,369.00 hr	12,369.00	1.000 mh/hr	454,516	-	-	-	-	1,142,896	-	-	164.57 /hr	2,035,528
			Hauling		12,369.00		454,516					1,142,896				2,035,528
		Recycle AC 25mm, SP														
			Plant-mix asphalt paving, for highways and large paved areas, base course, 3" thick	247,387.00 tn	14,843.22	0.005 ch/tn	543,485	43.50 /tn	10,761,335	-	-	440,256	-	-	54.84 /tn	13,567,168
			Recycle AC 25mm, SP		14,843.22		543,485		10,761,335			440,256				13,567,168
			402-3121 Recycle AC 25MM SP GP 1/2 BMHL	247,387.00 TN	27,212.22		998,001		10,761,335	/TN		1,583,152			63.07 /TN	15,602,697
	402-3190		Recycle AC 19MM SP GP 1/2 BMHL													
		Hauling														
			Hauling, truck per hour, no loading equipment	3,106.00 hr	3,106.00	1.000 mh/hr	114,134	-	-	-	-	286,994	-	-	164.57 /hr	511,145
			Hauling		3,106.00		114,134					286,994				511,145
		Recycle AC 19mm SP														
			Plant-mix asphalt paving, for highways and large paved areas, base course, 3" thick	62,133.00 tn	3,727.98	200.000 tn/ch	136,500	47.50 /tn	2,951,318	-	-	110,573	-	-	59.37 /tn	3,688,829
			Recycle AC 19mm SP		3,727.98		136,500		2,951,318			110,573				3,688,829
			402-3190 Recycle AC 19MM SP GP 1/2 BMHL	62,133.00 TN	6,833.98		250,634		2,951,318	/TN		397,568			67.60 /TN	4,199,974
	402-3605		AC 12.5MM SMA BMHL													
		AC 12.5MM SMA														
			Plant-mix asphalt paving, for highways and large paved areas, base course, 3" thick	78,043.00 tn	9,365.16	100.000 tn/ch	342,906	78.00 /tn	6,087,354	-	-	277,775	-	-	99.50 /tn	7,764,948
			AC 12.5MM SMA		9,365.16		342,906		6,087,354			277,775				7,764,948
		Hauling														
			Hauling, truck per hour, no loading equipment	3,902.00 hr	3,902.00	1.000 mh/hr	143,384	-	-	-	-	360,545	-	-	164.57 /hr	642,140
			Hauling		3,902.00		143,384					360,545				642,140
			402-3605 AC 12.5MM SMA BMHL	78,043.00 TN	13,267.16		486,290		6,087,354	/TN		638,319			107.72 /TN	8,407,088
	413-1000		Bituminous Tack Coat													
		Bit Tack Coat														
			Plant-mix asphalt paving, for highways and large paved areas, base course, 3" thick	76,305.00 gl		mh/gl		/gl		2.32 /gl	177,028		-	-	2.63 /gl	200,395
			Bit Tack Coat								177,028					200,395
			413-1000 Bituminous Tack Coat	76,305.00 GL						2.32 /GL	177,028				2.63 /GL	200,395
	423-0208		Mill Asph Conc Pvmt, 2" Depth													
		Mill Bit 2"														
			Hauling, truck per hour, no loading equipment	1,145.00 hr	1,145.00	1.000 mh/hr	42,075	-	-	-	-	105,798	-	-	164.57 /hr	188,429
			Cold milling asphalt paving, 1" to 3" asphalt pavement, over 25,000 S.Y., cold planing & cleaning	257,325.00 sy	1,621.15	0.001 ch/sy	62,791	-	-	-	-	196,361	-	-	1.26 /sy	324,756
			Mill Bit 2"	257,325.00 SY	2,766.15		104,865			/SY		302,159			1.99 /SY	513,185
			423-0208 Mill Asph Conc Pvmt, 2" Depth	257,325.00 SY	2,766.15		104,865			/SY		302,159			1.99 /SY	513,185
	446-1100		Pavement Reinforcement Strips, 18" Wide													
		Pvmt Reinforce Strip														
			Pavement Reinforcement Strips	102,915.00 lf	4,116.60	100.000 lf/ch	104,051	2.60 /lf	267,579	-	-	-	-	-	4.59 /lf	472,710
			Pvmt Reinforce Strip		4,116.60		104,051		267,579							472,710
			446-1100 Pavement Reinforcement Strips, 18" Wide	102,915.00 LF	4,116.60		104,051		267,579	/LF					4.59 /LF	472,710
	456-2012		Indentation Rumble Strips - Ground In													
		Rumble Strip														
			Indentation Rumble Strips	31.10 glm		mh/glm		7.62 /glm	237	2,000.00 /glm	62,200	-	-	-	2,272.62 /glm	70,679
			Rumble Strip						237		62,200					70,679
			456-2012 Indentation Rumble Strips - Ground In	31.10 GLM					237	2,000.00 /GLM	62,200				2,272.62 /GLM	70,679
	609-1205		Sawcut Bituminous Pavement													
		Sawcut Bit Pvmnt														
			Sawcut control joints, slab on grade	123,742.00 lf	1,237.42	0.010 mh/lf	50,394	0.44 /lf	54,446	-	-	40,328	-	-	1.57 /lf	193,883
			Sawcut Bit Pvmnt		1,237.42		50,394		54,446			40,328				193,883
			609-1205 Sawcut Bituminous Pavement	123,742.00 LF	1,237.42		50,394		54,446	/LF		40,328			1.57 /LF	193,883
			060 - Paving	**1.00 LS**	**62,128.37**		**2,239,626**		**23,095,609**	**239,227.60 /LS**	**239,228**	**3,283,632**			**33,791,533.54 /LS**	**33,791,534**
061 - Temp X-over																
	205-0001		Unclassified Excavation													
		Strip Topsoil														
			Strip Topsoil for Crossovers	377.00 bcy	7.54	0.010 ch/bcy	319	-	-	-	-	628	-	-	3.27 /bcy	1,232
			Strip Topsoil		7.54		319			/cy		628			/cy	1,232
			205-0001 Unclassified Excavation		7.54		319			/CY		628			/CY	1,232
	206-0002															
		Compaction														
			Compaction, riding, vibrating roller, 2 passes, 12" lifts	2,800.00 lcy	33.52	0.008 ch/lcy	1,463	-	-	-	-	1,479	-	-	1.45 /lcy	4,062
			Compaction		33.52		1,463					1,479				4,062
		Material														
			Fill, granular fill	1,750.00 ton			-	17.55 /ton	30,713	-	-	-	-	-	19.87 /ton	34,767
			Hauling, truck per hour, no loading equipment	140.00 hr	140.00	1.000 mh/hr	5,145	-	-	-	-	12,936	-	-	164.57 /hr	23,039

Work Type	Bid Item	Activity	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Amount	Material Price	Material Amount	Sub Cost/Unit	Sub Amount	Equip Amount	Other Price	Other Amount	Grand Total Unit Price	Grand Total
			Material		140.00		5,145		30,713			12,936				57,806
		Place Fill														
			Fill, dumped material, spread, by dozer, excludes compaction	2,800.00 lcy	33.60	0.012 mh/lcy	1,467	-	-	-	-	3,732	-	-	2.36 /lcy	6,619
			Place Fill		33.60		1,467					3,732				6,619
			206-0002		207.12		8,075		30,713			18,147				68,487
	208-0100															
		Crossover Restore														
			Restore Topsoil for Crossovers	377.00 bcy	7.54	0.010 ch/bcy	319	-	-	-	-	628	-	-	3.27 /bcy	1,232
			Hauling, truck per hour, no loading equipment	5.00 hr	5.00	1.000 mh/hr	184	-	-	-	-	462	-	-	164.56 /hr	823
			Remove Crossover Fill	377.00 bcy	7.56	0.007 ch/bcy	360	-	-	-	-	986	-	-	4.52 /bcy	1,704
			Crossover Restore		20.10		863					2,076				3,759
		Excavation														
			Cross Over Excavation	4,535.00 bcy	105.87	0.007 ch/bcy	4,866	-	-	-	-	13,268	-	-	5.06 /bcy	22,961
			Excavation		105.87		4,866					13,268				22,961
			208-0100		125.97		5,729					15,345				26,720
	310-1101		GR Agg Base Course, Incl Matl													
		10" Aggregate Base														
			Aggregate Base for Crossovers	1,587.00 tn	28.11	0.005 ch/tn	1,292	17.55 /tn	27,852	-	-	2,799	-	-	23.19 /tn	36,805
			10" Aggregate Base		28.11		1,292		27,852			2,799				36,805
		Finish Grading														
			Fine grading, finish grading, small area, gravel parking lot	108.00 sy	4.32	0.040 mh/sy	180	-	-	-	-	192	-	-	4.73 /sy	511
			Finish Grading		4.32		180					192				511
		Hauling														
			Hauling, truck per hour, no loading equipment	60.00 hr	60.00	1.000 mh/hr	2,205	-	-	-	-	5,544	-	-	164.57 /hr	9,874
			Hauling		60.00		2,205					5,544				9,874
			310-1101 GR Agg Base Course, Incl Matl		92.43		3,676		27,852	/TN		8,536			/TN	47,190
	402-1812		Recycle AC 9.5MM SP, TPII, GP2													
		Asphalt Wear Course														
			9.5 MM SP TPII, GP2 Plant-mix asphalt paving, for highways and large paved areas, wearing course	68.00 sy	1.03	0.015 mh/sy	39	/sy		26.10 /sy	1,775	38	-	-	31.11 /sy	2,115
			Asphalt Wear Course		1.03		39				1,775	38				2,115
		Hauling														
			Hauling, truck per hour, no loading equipment	30.00 hr	30.00	1.000 mh/hr	1,102	-	-	-	-	2,772	-	-	164.57 /hr	4,937
			Hauling		30.00		1,102					2,772				4,937
		Material														
			9.5 MM SP TPII, GP2 Plant-mix asphalt, wearing course	850.00 ton			-	63.30 /ton	53,805	-	-	-	-	-	71.66 /ton	60,907
			Material						53,805							60,907
			402-1812 Recycle AC 9.5MM SP, TPII, GP2		31.03		1,141		53,805		1,775	2,810				67,960
	402-3121		Recycle AC 25MM SP GP 1/2 BMHL													
		Asphalt Wear Course														
			9.5 MM SP TPII, GP2 Plant-mix asphalt paving, for highways and large paved areas, wearing course	68.00 sy	1.03	0.015 mh/sy	39	/sy		26.10 /sy	1,775	38	-	-	31.11 /sy	2,115
			Asphalt Wear Course		1.03		39				1,775	38				2,115
		Hauling														
			Hauling, truck per hour, no loading equipment	30.00 hr	30.00	1.000 mh/hr	1,102	-	-	-	-	2,772	-	-	164.57 /hr	4,937
			Hauling		30.00		1,102					2,772				4,937
		Material														
			9.5 MM SP TPII, GP2 Plant-mix asphalt, wearing course	850.00 ton			-	63.30 /ton	53,805	-	-	-	-	-	71.66 /ton	60,907
			Material						53,805							60,907
			402-3121 Recycle AC 25MM SP GP 1/2 BMHL		31.03		1,141		53,805	/TN	1,775	2,810			/TN	67,960
	413-1000		Bituminous Tack Coat													
		Tack Coat														
			Asphalt surface treatment, tack coat, emulsion, 0.05 gallons per S.Y., 1000 S.Y.	3,399.00 sy	21.75	0.003 ch/sy	915	0.32 /sy	1,084	-	-	1,248	-	-	1.22 /sy	4,133
			Tack Coat		21.75		915		1,084			1,248				4,133
			413-1000 Bituminous Tack Coat		21.75		915		1,084	/GL		1,248			/GL	4,133
			061 - Temp X-over	**1.00 LS**	**516.86**		**20,996**		**167,259**	**3,549.60 /LS**	**3,550**	**49,524**			**283,680.50 /LS**	**283,681**
070 - MOT																
	150-1000		Traffic Control													
		Traff Cntrl Stage 1A														
			Remove Striping	213,190.00 LF				/LF		0.50 /LF	106,595		/LF		0.57 /LF	120,666
			Temporary Striping	213,190.00 LF				/LF		0.14 /LF	29,847		/LF		0.16 /LF	33,786
			Purchase Channelizing Drums	1,250.00 EA				39.80 /EA	49,750				/EA		48.24 /EA	60,297
			Place Drums	1,250.00 EA	62.50	60.000 EA/ch	2,223	/EA				431	/EA		3.29 /EA	4,117
			Purchase Type III Barricades	100.00 EA				212.00 /EA	21,200				/EA		256.94 /EA	25,694
			Place Type III Barricades	100.00 EA	30.00	10.000 EA/ch	1,067	/EA				207	/EA		19.76 /EA	1,976
			Drum/Barricade Maintenance	34.00 EA	1,020.00	0.100 EA/ch	36,283	/ch				7,038	/EA		1,975.92 /EA	67,181
			Construction Zone Signing	1.00 LS		LS/ea		/LS		25,000.00 /LS	25,000		/LS		28,300.00 /LS	28,300
			Traff Cntrl Stage 1A		1,112.50		39,574		70,950		161,442	7,676				342,017
		Traff Cntrl Stage 1B														
			Place Drums	1,000.00 EA	50.00	60.000 EA/ch	1,779	/EA				345	/EA		3.29 /EA	3,293
			Place Type III Barricades	100.00 EA	30.00	10.000 EA/ch	1,067	/EA				207	/EA		19.76 /EA	1,976
			Drum/Barricade Maintenance	34.00 EA	1,020.00	0.100 EA/ch	36,283	/ch				7,038	/EA		1,975.92 /EA	67,181
			Construction Zone Signing	1.00 LS		LS/ea		/LS		25,000.00 /LS	25,000		/LS		28,300.00 /LS	28,300

Work Type	Bid Item	Activity	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Amount	Material Price	Material Amount	Sub Cost/Unit	Sub Amount	Equip Amount	Other Price	Other Amount	Grand Total Unit Price	Grand Total
			Traff Cntrl Stage 1B		1,100.00		39,129				25,000	7,590				100,750
		Traff Cntrl Stage 2A														
			Remove Striping	146,658.00 LF				/LF		0.50 /LF	73,329		/LF		0.57 /LF	83,008
			Temporary Striping	146,658.00 LF				/LF		0.14 /LF	20,532		/LF		0.16 /LF	23,242
			Place Drums	1,250.00 EA	62.50	60.000 EA/ch	2,223	/EA				431	/EA		3.29 /EA	4,116
			Place Type III Barricades	100.00 EA	30.00	10.000 EA/ch	1,067	/EA				207	/EA		19.76 /EA	1,976
			Drum/Barricade Maintenance	34.00 EA	1,020.00	0.100 EA/ch	36,283	/ch				7,038	/EA		1,975.92 /EA	67,181
			Construction Zone Signing	1.00 LS		LS/ea		/LS		25,000.00 /LS	25,000		/LS		28,300.00 /LS	28,300
			Traff Cntrl Stage 2A		1,112.50		39,574				118,861	7,676				207,824
			150-1000 Traffic Control	1.00 LS	3,325.00		118,276		70,950	305,302.72 /LS	305,303	22,943			650,591.81 /LS	650,592
			070 - MOT	1.00 LS	3,325.00		118,276		70,950	305,302.72 /LS	305,303	22,943			650,591.81 /LS	650,592
080 - Structures																
	621-3020		Concrete Barrier, TP 20													
		Conc Barrier, TP 20														
			Place Class 5 Agg Base	1,493.00 tn	37.33	200.000 tn/ch	2,169	-	-	-	-	3,992	-	-	5.40 /tn	8,059
			Class 5 Material	1,493.00 tn		tn/ch		9.63 /tn	14,382	-	-		-	-	10.90 /tn	16,281
			Trucking	1,493.00 th	49.77	30.000 th/ch	2,222	-	-	-	-	3,161	-	-	4.83 /th	7,205
			Place Cast-in-Place Wall	4,410.00 cy	1,411.20	0.320 mh/cy	70,416	90.91 /cy	441,000	-	-	73,198	-	-	166.05 /cy	732,271
			Hoisting for Rebar Contractor	448,000.00 lbs	224.00	2,000.000 lbs/mh	12,325	-	-	-	-	23,589	-	-	0.10 /lbs	46,817
			Rebar F & I	448,000.00 lbs			-	/lbs		0.83 /lbs	371,840	-	-	-	0.94 /lbs	420,923
			Slip Form Paver Equipment Rental	14,700.00 lf		mh/lf		/lf		-	-	8,378	-	-	0.65 /lf	9,484
			Conc Barrier, TP 20		1,722.29		87,133		455,382		371,840	112,318				1,241,040
			621-3020 Concrete Barrier, TP 20	14,700.00 lf	1,722.29		87,133		455,382	25.30 /lf	371,840	112,318			84.42 /lf	1,241,040
	621-3022		Concrete Barrier, TP 22													
		Conc Barrier, TP 22														
			Place Class 5 Agg Base	30.45 tn	0.76	200.000 tn/ch	44	-	-	-	-	81	-	-	5.40 /tn	164
			Class 5 Material	30.45 tn		tn/ch		9.63 /tn	293	-	-		-	-	10.90 /tn	332
			Trucking	30.45 th	1.02	30.000 th/ch	45	-	-	-	-	64	-	-	4.83 /th	147
			Place Cast-in-Place Wall	195.00 cy	62.40	0.320 mh/cy	3,114	90.91 /cy	19,500	-	-	3,237	-	-	166.05 /cy	32,379
			Hoisting for Rebar Contractor	13,740.00 lbs	6.87	2,000.000 lbs/mh	378	-	-	-	-	723	-	-	0.10 /lbs	1,436
			Rebar F & I	13,740.00 lbs			-	/lbs		0.83 /lbs	11,404	-	-	-	0.94 /lbs	12,910
			Slip Form Paver Equipment Rental	300.00 lf		mh/lf		/lf		-	-	171	-	-	0.65 /lf	194
			Conc Barrier, TP 22		71.05		3,581		19,793		11,404	4,277				47,562
			621-3022 Concrete Barrier, TP 22	300.00 lf	71.05		3,581		19,793	38.01 /lf	11,404	4,277			158.54 /lf	47,562
	621-3027		Concrete Barrier, TP 22 Modified													
		Conc Barr, TP 22 MOD														
			Slip Form Paver Equipment Rental	10,400.00 lf			-	-	-	-	-	5,928	-	-	0.65 /lf	6,710
			Place Class 5 Agg Base	2,111.00 tn	52.78	200.000 tn/ch	3,067	-	-	-	-	5,644	-	-	5.40 /tn	11,395
			Class 5 Material	2,111.00 tn		tn/ch		9.63 /tn	20,335	-	-		-	-	10.90 /tn	23,020
			Trucking	2,111.00 th	70.37	30.000 th/ch	3,142	-	-	-	-	4,470	-	-	4.83 /th	10,188
			Place Cast-in-Place Wall	8,299.00 cy	2,655.68	0.320 mh/cy	132,513	96.00 /cy	876,374	-	-	137,747	-	-	172.83 /cy	1,434,357
			Hoisting for Rebar Contractor	493,917.00 lbs	246.96	2,000.000 lbs/mh	13,588	-	-	-	-	26,007	-	-	0.10 /lbs	51,615
			Rebar F & I	493,917.00 lbs			-	/lbs		0.83 /lbs	409,951	-	-	-	0.94 /lbs	464,065
			Fab & Purchase Forms C.I.P. Wall	20,800.00 sf	728.00	0.035 mh/sf	39,248	0.25 /sf	5,200	-	-	91,101	-	-	8.34 /sf	173,481
			Conc Barr, TP 22 MOD		3,753.78		191,558		901,910		409,951	270,897				2,174,831
			621-3027 Concrete Barrier, TP 22 Modified	10,400.00 lf	3,753.78		191,558		901,910	39.42 /lf	409,951	270,897			209.12 /lf	2,174,831
	621-6201		Side Barrier Type 2A													
		Side Barrier TP 2A	Type 2A Side Barrier Avg. 6.5' High													
			TP2A Structural Excavation	174.00 lvcy	17.40	60.000 lvcy/ch	669	-	-	-	-	1,498	-	-	16.02 /lvcy	2,787
			Place Structure Backfill at TP2A	111.00 cvcy	11.10	30.000 cvcy/ch	402	/cvcy		-	-	997	-	-	16.08 /cvcy	1,784
			Import Structure Backfill TP2A	178.00 ton			-	16.00 /ton	2,848	-	-	-	-	-	19.39 /ton	3,452
			Backfill to OG TP2A	51.00 cy	3.06	0.060 mh/cy	109	-	-	-	-	63	-	-	4.88 /cy	249
			PVC, pipe, 6" diameter, Install wall drain TP2A	150.00 lf	6.00	100.000 lf/ch	288	3.37 /lf	506	-	-	184	-	-	8.33 /lf	1,250
			ESM CIP Footing TP2A	350.00 sf	70.00	0.200 mh/sf	3,774	/sf		-	-	4,088	-	-	30.82 /sf	10,786
			Place Footing TP2A	30.00 cy	4.68	0.156 mh/cy	234	96.00 /cy	3,168	-	-	243	-	-	149.85 /cy	4,496
			ESM Cast-in-Place Wall	2,000.00 sf	360.00	0.180 mh/sf	19,408	/sf		-	-	21,023	-	-	27.74 /sf	55,473
			Place Cast-in-Place Wall	61.00 cy	9.46	0.155 mh/cy	472	96.00 /cy	6,442	-	-	490	-	-	149.71 /cy	9,132
			Hoisting for Rebar Contractor	8,000.00 lbs	4.00	2,000.000 lbs/mh	220	-	-	-	-	421	-	-	0.10 /lbs	836
			Rebar F & I	8,000.00 lbs			-	/lbs		0.83 /lbs	6,640	-	-	-	0.94 /lbs	7,516
			Fab & Purchase Forms C.I.P. Wall	500.00 sf	17.50	0.035 mh/sf	943	0.00 /sf	0	-	-	2,190	-	-	8.04 /sf	4,019
			Side Barrier TP 2A Type 2A Side Barrier Avg. 6.5' High		503.20		26,518		12,963		6,640	31,197				101,780
			621-6201 Side Barrier Type 2A	150.00 LF	503.20		26,518		12,963	44.27 /LF	6,640	31,197			678.54 /LF	101,780
	621-6203		Side Barrier Type 2C													
		Side Barrier TP 2C	Type 2C Side Barrier Avg. 14' High													
			Structural Excavation	3,889.00 lvcy	388.90	60.000 lvcy/ch	14,950	-	-	-	-	33,483	-	-	16.02 /lvcy	62,300
			Place Structure Backfill	4,659.00 cvcy	465.90	30.000 cvcy/ch	16,874	/cvcy		-	-	41,834	-	-	16.08 /cvcy	74,895
			Import Structure Backfill	7,455.00 ton			-	16.00 /ton	119,280	-	-	-	-	-	19.39 /ton	144,567
			Backfill to OG	204.00 cy	12.24	0.060 mh/cy	435	-	-	-	-	252	-	-	4.88 /cy	995
			PVC, pipe, 6" diameter, Install wall drain	600.00 lf	24.00	100.000 lf/ch	1,151	3.37 /lf	2,022	-	-	736	-	-	8.33 /lf	5,000
			ESM CIP Footing	1,250.00 sf	187.50	0.150 mh/sf	10,108	/sf		-	-	10,950	-	-	23.11 /sf	28,892
			Place Footing	202.00 cy	31.51	0.156 mh/cy	1,572	96.00 /cy	21,331	-	-	1,635	-	-	149.85 /cy	30,270
			ESM Cast-in-Place Wall	16,600.00 sf	1,826.00	0.110 mh/sf	98,443	/sf		-	-	106,635	-	-	16.95 /sf	281,369
			Place Cast-in-Place Wall	549.00 cy	85.10	0.155 mh/cy	4,246	96.00 /cy	57,974	-	-	4,414	-	-	149.71 /cy	82,191
			Hoisting for Rebar Contractor	57,100.00 lbs	28.55	2,000.000 lbs/mh	1,571	-	-	-	-	3,007	-	-	0.10 /lbs	5,967
			Rebar F & I	57,100.00 lbs			-	/lbs		0.83 /lbs	47,393	-	-	-	0.94 /lbs	53,649

Work Type	Bid Item	Activity	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Amount	Material Price	Material Amount	Sub Cost/Unit	Sub Amount	Equip Amount	Other Price	Other Amount	Grand Total Unit Price	Grand Total
			Side Barrier TP 2C Type 2C Side Barrier Avg. 14' High		3,049.70		149,350		200,608		47,393	202,944				770,095
			621-6203 Side Barrier Type 2C	8,400.00 sf	3,049.70		149,350		200,608	5.64 /sf	47,393	202,944			91.68 /sf	770,095
	627-1010		MSE Wall Face, 10'-20' Ht													
		MSE Wall														
			Fine grade Leveling Pad	108.00 sy	19.44	0.030 ch/sy	713	-	-	-	-	922	-	-	20.44 /sy	2,207
			Set & Strip Leveling Pad MSE Wall	972.00 sf	194.40	0.200 mh/sf	5,515	/sf		-	-	7,069	-	-	17.49 /sf	17,003
			Place Leveling Pad Concrete	36.00 cy	30.60	0.850 mh/cy	803	96.00 /cy	3,802	-	-	1,587	-	-	214.32 /cy	7,716
			Concrete Vibrator	9.00 hr	9.00			-	-	-	-	72	-	-	9.06 /hr	82
			Cure Concrete	36.00 cy	6.01	0.167 mh/cy	170	1.50 /cy	54	-	-	69	-	-	11.70 /cy	421
			MSE Wall Precast Concrete Panels & Straps Furnish	23,854.00 SF			-	31.22 /SF	744,722			-	-	-	35.34 /SF	843,025
			Set MSE Precast Wall Panels	23,854.00 SF	2,385.40	0.100 mh/SF	64,014	0.20 /SF	4,771	-	-	160,657	-	-	12.25 /SF	292,116
			MSE Wall		2,644.85		71,215		753,348			170,376				1,162,569
			627-1010 MSE Wall Face, 10'-20' Ht	23,854.00 SF	2,644.85		71,215		753,348	/SF		170,376			48.74 /SF	1,162,569
	824-0410		Sound Barrier Avg. 20' High													
		Clear & Grub														
			Dump charges, trees, brush, lumber, 30 cy, includes tipping fees only	44.00 load			-	250.00 /load	11,000	-	-	-	-	-	283.00 /load	12,452
			Clearing & grubbing, heavy trees, to 24" diameter, cut and chip	4.37 acre	393.30	90.000 mh/acre	9,736	-	-	-	-	4,353	-	-	4,763.39 /acre	20,816
			Hauling, truck per hour, no loading equipment	44.00 hr	44.00	1.000 mh/hr	1,617	-	-	-	-	4,066	-	-	164.57 /hr	7,241
			Clear & Grub		437.30		11,352		11,000			8,418				40,509
		Sound Barrier														
			Post footing, incl excav, backfill, tube form & concrete, 4' deep, 12" dia	243.00 ea	2,430.00	10.000 mh/ea	74,879	22.02 /ea	5,351	-	-	-	-	-	527.82 /ea	128,260
			Fine grading, grade subgrade for base course, roadways	10,800.00 sy	108.00	400.000 sy/ch	4,848	-	-	-	-	5,311	-	-	1.29 /sy	13,924
			Screening devices,traffic barriers,highway sound barriers,light weight composite panel,cementitious face,steel posts @ 12'oc,20'h,excludes footing	97,000.00 sf	776.00	500.000 sf/ch	25,509	18.89 /sf	1,832,330	-	-	9,909	-	-	21.93 /sf	2,127,045
			Sound Barrier	97,000.00 SF	3,314.00		105,236		1,837,681	/SF		15,219			23.39 /SF	2,269,228
			824-0410 Sound Barrier Avg. 20' High	151,000.00 SF	3,751.30		116,588		1,848,681	/SF		23,638			15.30 /SF	2,309,737
			080 - Structures	**1.00 LS**	**15,496.16**		**645,943**		**4,192,685**	**847,228.31 /LS**	**847,228**	**815,647**			**7,807,613.69 /LS**	**7,807,614**
081 - SR 20 Bridges																
	01-Str Ex		Structure Excavation													
		Col Footings	Structure Ex for Column Footings													
			Column Footing Excavation	432.00 lvcy	43.20	60.000 lvcy/ch	1,661	-	-	-	-	3,719	-	-	16.02 /lvcy	6,920
			Place Structure Backfill	310.00 cvcy	31.00	30.000 cvcy/ch	1,123	/cvcy		-	-	2,784	-	-	16.08 /cvcy	4,983
			Col Footings Structure Ex for Column Footings		74.20		2,783			/CY		6,503			/CY	11,904
		End Piers	Structure Ex for End Piers													
			End Pier Excavation	77.00 lvcy	7.70	60.000 lvcy/ch	296	-	-	-	-	663	-	-	16.02 /lvcy	1,234
			Place Structure Backfill	48.00 cvcy	4.80	30.000 cvcy/ch	174	/cvcy		-	-	431	-	-	16.08 /cvcy	772
			End Piers Structure Ex for End Piers		12.50		470			/CY		1,094			/CY	2,005
			01-Str Ex Structure Excavation		86.70		3,253			/LS		7,597			/LS	13,909
	02 - Sawcut		Sawcut Concrete													
		Sawcut Conc Pvmnt														
			Sawcut control joints, slab on grade	610.00 lf	12.20	0.020 mh/lf	497	0.88 /lf	537	-	-	398	-	-	3.13 /lf	1,912
			Sawcut Conc Pvmnt		12.20		497		537			398				1,912
			02 - Sawcut Sawcut Concrete		12.20		497		537	/LF		398			/LF	1,912
	03 - Demo		Existing Bridge Demo													
		Demo Conc Rail														
			Concrete Dump Fee	6.00 load			-	1,040.00 /load	6,240	-	-	-	-	-	1,177.28 /load	7,064
			Remove Rail	610.00 lf	488.00	5.000 lf/ch	12,454	-	-	-	-	16,703	-	-	64.32 /lf	39,233
			Hauling, truck per hour, no loading equipment	6.00 hr	6.00	1.000 mh/hr	220	-	-	-	-	554	-	-	164.57 /hr	987
			Demo Conc Rail		494.00		12,674		6,240	/ff		17,258			/ff	47,284
		Demo End Walls														
			Concrete Dump Fee	3.00 load			-	1,040.00 /load	3,120	-	-	-	-	-	1,177.28 /load	3,532
			Demo Structural Concrete	28.00 cy	22.40	5.000 cy/ch	572	-	-	-	-	767	-	-	64.32 /cy	1,801
			Hauling, truck per hour, no loading equipment	3.00 hr	3.00	1.000 mh/hr	110	-	-	-	-	277	-	-	164.57 /hr	494
			Demo End Walls		25.40		682		3,120			1,044				5,826
			03 - Demo Existing Bridge Demo	3,780.00 SF	519.40		13,356		9,360	/SF		18,302			14.05 /SF	53,111
	04 - App Slab															
		Brg Approach Slab														
			02 Place Structural Concrete Approaches	55.00 cy	46.75	0.850 mh/cy	1,228	96.00 /cy	5,808	-	-	2,425	-	-	214.32 /cy	11,788
			02 Concrete Vibrator Approaches	14.00 hr	14.00			-	-	-	-	112	-	-	9.06 /hr	127
			02 ESM Approaches	308.00 sf	24.64	0.080 mh/sf	699	1.00 /sf	308	-	-	1,439	-	-	10.20 /sf	3,143
			02 Cure Concrete Approaches	55.00 cy	9.19	0.167 mh/cy	260	1.50 /cy	83	-	-	106	-	-	11.70 /cy	644
			Brg Approach Slab		94.58		2,186		6,199	/cy		4,081			/cy	15,701
			04 - App Slab		94.58		2,186		6,199			4,081				15,701
	05 - Mob															
		Mob Pile Driver														
			Mobilization, 150 ton, set up and remove crane, with pile leads and pile hammer	1.00 ls	177.78	177.778 mh/ls	5,102	-	-	-	-	5,263	-	-	14,284.17 /ls	14,284
			Mob Pile Driver		177.78		5,102			/ls		5,263			/ls	14,284
			05 - Mob		177.78		5,102					5,263				14,284
	06 - Test Pile															
		Furn & Drv Test Pile														

Work Type	Bid Item	Activity	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Amount	Material Price	Material Amount	Sub Cost/Unit	Sub Amount	Equip Amount	Other Price	Other Amount	Grand Total Unit Price	Grand Total
		Furn & Drv Test Pile														
			F & I Test Pile - 14" x 73" Temporary Pile	200.00 lf	31.75	6.300 lf/mh	907	43.80 /lf	8,760			2,510	/lf		74.69 /lf	14,939
			Furn & Drv Test Pile		31.75		907		8,760	/lf		2,510			/lf	14,939
			06 - Test Pile		31.75		907		8,760			2,510				14,939
	07 - Pile Pts															
		Pile Points														
			Weld Shoes on Permanent Pile	96.00 EA	192.00	0.500 EA/mh	5,476	96.00 /EA	9,216			6,487	/EA		285.94 /EA	27,450
			Pile Points		192.00		5,476		9,216	/ea		6,487			/ea	27,450
			07 - Pile Pts		192.00		5,476		9,216			6,487				27,450
	08 - Pile Splice															
		Pile Splice														
			Splice H-Pile	96.00 EA	192.00	0.500 EA/mh	5,476	60.00 /EA	5,760			6,487	/EA		242.31 /EA	23,262
			Pile Splice		192.00		5,476		5,760	/ea		6,487			/ea	23,262
			08 - Pile Splice		192.00		5,476		5,760			6,487				23,262
	09 - Piling															
		Furn & Drv Piling														
			F & I Pile 12" x 74" - Permanent Pile for the column footings	3,240.00 lf	279.31	11.600 lf/mh	7,980	40.70 /lf	131,868			22,085	/lf		61.06 /lf	197,847
			Furn & Drv Piling		279.31		7,980		131,868	/lf		22,085			/lf	197,847
			09 - Piling		279.31		7,980		131,868			22,085				197,847
	10 - Pile Caps															
		Pile Caps														
			11.5 x 11.5 x 3 ESM Pile Cap	2,100.00 sf	348.60	0.166 mh/sf	9,890	3.50 /sf	7,350	-	-	20,358	-	-	22.90 /sf	48,093
			Rebar for Pile Caps F & I	45,600.00 lbs			-	-	-	0.78 /lbs	35,568	-	-	-	0.88 /lbs	40,263
			Hoisting for Rebar Contractor	45,600.00 lbs	18.24	0.000 mh/lbs	528	-	-	-	-	1,921	-	-	0.07 /lbs	3,036
			Place Structural Concrete	228.00 cy	193.80	0.850 mh/cy	5,089	96.00 /cy	24,077	-	-	10,052	-	-	214.32 /cy	48,865
			Finish Concrete	3,542.00 sf	78.28	0.022 mh/sf	2,163	0.07 /sf	248	-	-	2,321	-	-	1.82 /sf	6,459
			Concrete Vibrator	57.00 hr	57.00			-	-	-	-	456	-	-	9.06 /hr	516
			Cure Concrete	228.00 cy	38.08	0.167 mh/cy	1,077	1.50 /cy	342	-	-	438	-	-	11.70 /cy	2,668
			Pile Caps	228.00 cy	733.99		18,747		32,017	156.00 /cy	35,568	35,546			657.46 /cy	149,900
			10 - Pile Caps		733.99		18,747		32,017		35,568	35,546				149,900
	11 - Columns															
		Columns														
			Prep Construction Joint	192.00 sf	38.40	5.000 sf/mh	874	0.15 /sf	29	-	-	474	-	-	10.41 /sf	1,998
			ESM Column Forms	5,376.00 sf	967.68	0.180 mh/sf	27,453	2.00 /sf	10,752	-	-	28,255	-	-	16.71 /sf	89,820
			Rebar for 6' & 7' Dia Columns F & I	40,000.00 lbs			-	-	-	0.78 /lbs	31,200	-	-	-	0.88 /lbs	35,318
			Hoisting for Rebar Contractor	40,000.00 lbs	16.00	2,500.000 lbs/mh	463	-	-	-	-	1,685	-	-	0.07 /lbs	2,663
			Place Structural Concrete	200.00 cy	170.00	0.850 mh/cy	4,464	96.00 /cy	21,120	-	-	8,818	-	-	214.32 /cy	42,864
			Finish Concrete	5,376.00 sf	118.81	0.022 mh/sf	3,284	0.07 /sf	376	-	-	3,523	-	-	1.82 /sf	9,803
			Cure Concrete	200.00 cy	33.40	0.167 mh/cy	945	1.50 /cy	300	-	-	384	-	-	11.70 /cy	2,340
			Columns	200.00 cy	1,344.29		37,482		32,577	156.00 /cy	31,200	43,139			924.03 /cy	184,806
			11 - Columns		1,344.29		37,482		32,577		31,200	43,139				184,806
	12 - End Piers															
		05 - Abutments														
			Rebar F & I	4,640.00 lbs			-	-	-	0.78 /lbs	3,619	-	-	-	0.88 /lbs	4,097
			Hoisting for Rebar Contractor	4,640.00 lbs	1.86	0.000 mh/lbs	54	-	-	-	-	195	-	-	0.07 /lbs	309
			ESM Abutment	493.00 sf	103.53	0.210 mh/sf	2,937	7.00 /sf	3,451	-	-	6,046	-	-	32.09 /sf	15,820
			Place Structural Concrete	29.00 cy	24.65	0.850 mh/cy	647	117.00 /cy	3,732	-	-	1,279	-	-	242.32 /cy	7,027
			Finish Concrete	493.00 sf	10.90	0.022 mh/sf	301	0.07 /sf	35	-	-	323	-	-	1.82 /sf	899
			Concrete Vibrator	8.00 hr	8.00			-	-	-	-	64	-	-	9.06 /hr	72
			Cure Concrete	29.00 cy	4.84	0.167 mh/cy	137	1.50 /cy	44	-	-	56	-	-	11.70 /cy	339
			05 - Abutments	29.00 cy	153.77		4,076		7,261	124.80 /cy	3,619	7,963			984.96 /cy	28,564
			12 - End Piers		153.77		4,076		7,261		3,619	7,963				28,564
	13 - Superstructure															
		Superstructure														
			ESM End Diaphram Abutments 1 & 5	432.00 sf	123.34	0.286 mh/sf	3,085	/sf		-	-	5,784	-	-	26.81 /sf	11,583
			ESM Interior Diaphram All Spans	2,808.00 sf	505.44	0.180 mh/sf	12,644	/sf		-	-	15,803	-	-	13.72 /sf	38,523
			Rebar F & I	12,000.00 lbs			-	-	-	0.78 /lbs	9,360	-	-	-	0.88 /lbs	10,596
			Hoisting for Rebar Contractor	12,000.00 lbs	4.80	2,500.000 lbs/mh	139	-	-	-	-	505	-	-	0.07 /lbs	799
			Place Structural Concrete	60.00 cy	79.80	1.330 mh/cy	2,095	117.00 /cy	7,020	-	-	4,139	-	-	276.89 /cy	16,613
			Cure Concrete	60.00 cy	10.02	0.167 mh/cy	283	1.50 /cy	90	-	-	115	-	-	11.70 /cy	702
			Superstructure	60.00 cy	723.40		18,246		7,110	156.00 /cy	9,360	26,347			1,313.60 /cy	78,816
			13 - Superstructure		723.40		18,246		7,110		9,360	26,347				78,816
	14 - Crane Mob															
		Crane Mob														
			Crane Mats	1.00 ls			-	6,000.00 /ls	6,000	-	-	-	-	-	7,272.00 /ls	7,272
			Mobilization, set up and remove	1.00 ls			-	-	-	-	-	-	22,500.00 /ls	22,500	25,470.00 /ls	25,470
			Crane Mob						6,000	/ls				22,500	/ls	32,742
			14 - Crane Mob						6,000					22,500		32,742
	15 - F & I Girders															
		F & I AASHTO TIII														
			Erect Prestress Girders	12.00 ea	384.00	32.000 mh/ea	9,648	40.00 /ea	480	-	-	30,415	-	-	4,229.78 /ea	50,757
			Furnish Prestressed Concrete Girders	636.00 lf			-	128.00 /lf	81,408	0.00 /lf	0	-	-	-	144.90 /lf	92,154
			Set / Grout Elastomeric Bearing Pads	12.00 ea	24.00	2.000 mh/ea	702	79.00 /ea	948	-	-	652	-	-	252.73 /ea	3,033

Work Type	Bid Item	Activity	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Amount	Material Price	Material Amount	Sub Cost/Unit	Sub Amount	Equip Amount	Other Price	Other Amount	Grand Total Unit Price	Grand Total
		F & I AASHTO TIII														
			F & I Bearings	12.00 ea	12.00	1.000 mh/ea	322	1,430.00 /ea	17,160	-	-	808	-	-	1,853.20 /ea	22,238
			F & I Fall Protection	636.00 lf	25.44	0.040 mh/lf	744	6.90 /lf	4,388	-	-	691	-	-	11.50 /lf	7,316
			F & I AASHTO TIII	636.00 lf	445.44		11,416		104,384	/lf		32,566			275.94 /lf	175,498
		F & I BT - 63														
			Erect Prestress Girders	12.00 ea	384.00	32.000 mh/ea	9,648	60.00 /ea	720	-	-	30,415	-	-	4,254.02 /ea	51,048
			Furnish Prestressed Concrete Girders	1,152.00 lf			-	135.00 /lf	155,520	0.00 /lf	0	-	-	-	152.82 /lf	176,049
			F & I Bearings	24.00 ea	24.00	1.000 mh/ea	644	500.00 /ea	12,000	-	-	1,616	-	-	726.04 /ea	17,425
			F & I Fall Protection	1,152.00 lf	46.08	0.040 mh/lf	1,348	6.90 /lf	7,949	-	-	1,252	-	-	11.50 /lf	13,251
			F & I BT - 63	1,152.00 lf	454.08		11,640		176,189	/lf		33,283			223.76 /lf	257,773
			15 - F & I Girders		899.52		23,057		280,573			65,850				433,271
	16 - Brg Deck															
		Superstruc Deck														
			Stay-in-Place Forms	10,085.00 sf			-	-	-	5.20 /sf	52,442	-	-	-	5.89 /sf	59,364
			ESM Overhang Soffit	1,220.00 sf	442.86	0.363 mh/sf	11,078	/sf		-	-	20,769	-	-	34.09 /sf	41,590
			ESM Edge of Deck	610.00 sf	152.50	0.250 mh/sf	3,815	/sf		-	-	7,995	-	-	25.04 /sf	15,277
			ESM Safety Hand Rail @ Edge of Deck	610.00 lf	61.00	0.100 mh/lf	1,526	/lf		-	-	3,198	-	-	10.02 /lf	6,111
			Prep Construction Joint	409.00 sf	81.80	5.000 sf/mh	1,862	0.15 /sf	61	-	-	1,010	-	-	10.41 /sf	4,256
			Finish Concrete	11,285.00 sf	249.40	0.022 mh/sf	6,893	0.07 /sf	790	-	-	7,395	-	-	1.82 /sf	20,577
			Cure Concrete	285.00 cy	47.60	0.167 mh/cy	1,346	1.50 /cy	428	-	-	547	-	-	11.70 /cy	3,335
			Place Deck Concrete	285.00 cy	253.65	0.890 mh/cy	6,300	117.00 /cy	33,345	-	-	10,252	-	-	218.60 /cy	62,301
			Set & Grade Bidwell	2.00 ea	120.00	60.000 mh/ea	2,926	/ea		-	-	4,364	-	-	4,857.39 /ea	9,715
			Strip Seal Forms	185.00 lf	166.50	0.900 mh/lf	4,165	/lf		-	-	8,729	-	-	90.16 /lf	16,679
			F & I Strip Seal	185.00 lf	370.00	2.000 mh/lf	9,256	119.00 /lf	22,015	-	-	19,399	-	-	344.58 /lf	63,747
			Joint Seal Blockout Pourback	3.00 cy	30.00	10.000 mh/cy	750	117.00 /cy	351	-	-	1,573	-	-	1,143.55 /cy	3,431
			Rebar F & I	62,700.00 lbs			-	-	-	0.78 /lbs	48,906	-	-	-	0.88 /lbs	55,362
			Hoisting for Rebar Contractor	62,700.00 lbs	25.08	2,500.000 lbs/mh	726	-	-	-	-	2,641	-	-	0.07 /lbs	4,175
			Grind Deck	1,254.00 sy			-	-	-	4.80 /sy	6,019	-	-	-	5.43 /sy	6,814
			Superstruc Deck	10,085.00 sf	2,000.38		50,642		56,990	10.65 /sf	107,367	87,873			36.96 /sf	372,731
			16 - Brg Deck		2,000.38		50,642		56,990		107,367	87,873				372,731
	17 - Brg Barrier															
		Bridge Barrier Rail														
			ESM Concrete Barrier In-Place	610.00 lf	97.60	0.160 mh/lf	2,769	12.50 /lf	7,625	-	-	5,700	-	-	33.14 /lf	20,212
			Rebar F & I	8,800.00 lbs			-	-	-	0.78 /lbs	6,864	-	-	-	0.88 /lbs	7,770
			Hoisting for Rebar Contractor	8,800.00 lbs	3.52	2,500.000 lbs/mh	102	-	-	-	-	371	-	-	0.07 /lbs	586
			Finish Concrete	3,965.00 sf	43.02	0.011 mh/sf	1,189	0.07 /sf	278	-	-	1,276	-	-	0.94 /sf	3,721
			Cure Concrete	55.00 cy	9.19	0.167 mh/cy	260	1.50 /cy	83	-	-	106	-	-	11.70 /cy	644
			Place Structural Concrete	55.00 cy	46.75	0.850 mh/cy	1,228	117.00 /cy	7,079	-	-	2,425	-	-	242.32 /cy	13,327
			Bridge Barrier Rail	610.00 lf	200.08		5,547		15,064	11.25 /lf	6,864	9,876			75.84 /lf	46,260
			17 - Brg Barrier		200.08		5,547		15,064		6,864	9,876				46,260
			081 - SR 20 Bridges	1.00 LS	7,641.14		202,031		609,291	193,978.40 /LS	193,978	349,803		22,500	1,689,502.78 /LS	1,689,503
082 - I-85 SB Bridge																
	01-Str Ex		Structure Excavation													
		Col Footings	Structure Ex for Column Footings													
			Column Footing Excavation	910.00 lvcy	91.00	60.000 lvcy/ch	3,498	-	-	-	-	7,835	-	-	16.02 /lvcy	14,578
			Place Structure Backfill	836.00 cvcy	83.60	30.000 cvcy/ch	3,028	/cvcy		-	-	7,507	-	-	16.08 /cvcy	13,439
			Col Footings Structure Ex for Column Footings	910.00 CY	174.60		6,526			/CY		15,341			30.79 /CY	28,017
		End Piers	Structure Ex for End Piers													
			End Pier Excavation	236.00 lvcy	23.60	60.000 lvcy/ch	907	-	-	-	-	2,032	-	-	16.02 /lvcy	3,781
			Place Structure Backfill	181.00 cvcy	18.10	30.000 cvcy/ch	656	/cvcy		-	-	1,625	-	-	16.08 /cvcy	2,910
			End Piers Structure Ex for End Piers	236.00 CY	41.70		1,563			/CY		3,657			28.35 /CY	6,690
			01-Str Ex Structure Excavation	1.00 LS	216.30		8,089			/LS		18,998			34,707.03 /LS	34,707
	04 - App Slab															
		Brg Approach Slab														
			02 Place Structural Concrete Approaches	108.00 cy	91.80	0.850 mh/cy	2,410	96.00 /cy	11,405	-	-	4,762	-	-	214.32 /cy	23,147
			02 Concrete Vibrator Approaches	27.00 hr	27.00			-	-	-	-	216	-	-	9.06 /hr	245
			02 ESM Approaches	372.00 sf	29.76	0.080 mh/sf	844	1.00 /sf	372	-	-	1,738	-	-	10.20 /sf	3,796
			02 Cure Concrete Approaches	108.00 cy	18.04	0.167 mh/cy	510	1.50 /cy	162	-	-	207	-	-	11.70 /cy	1,264
			Brg Approach Slab	108.00 cy	166.60		3,765		11,939	/cy		6,923			263.43 /cy	28,451
			04 - App Slab		166.60		3,765		11,939			6,923				28,451
	05 - Mob															
		Mob Pile Driver														
			Mobilization, 150 ton, set up and remove crane, with pile leads and pile hammer	1.00 ea	177.78	177.778 mh/ea	5,102	-	-	-	-	5,263	-	-	14,284.16 /ea	14,284
			Mob Pile Driver	1.00 ls	177.78		5,102			/ls		5,263			14,284.16 /ls	14,284
			05 - Mob		177.78		5,102					5,263				14,284
	06 - Test Pile															
		Furn & Drv Test Pile														
			F & I Test Pile - 14" x 73" Temporary Pile	180.00 lf	28.57	6.300 lf/mh	816	43.80 /lf	7,884			2,259	/lf		74.69 /lf	13,445
			Furn & Drv Test Pile		28.57		816		7,884	/lf		2,259			/lf	13,445
			06 - Test Pile		28.57		816		7,884			2,259				13,445
	07 - Pile Pts															
		Pile Points														
			Weld Shoes on Permanent Pile	130.00 EA	393.94	0.330 EA/mh	11,235	96.00 /EA	12,480			13,310	/EA		373.30 /EA	48,529

Work Type	Bid Item	Activity	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Amount	Material Price	Material Amount	Sub Cost/Unit	Sub Amount	Equip Amount	Other Price	Other Amount	Grand Total Unit Price	Grand Total
			Pile Points		393.94		11,235		12,480	/ea		13,310			/ea	48,529
			07 - Pile Pts		393.94		11,235		12,480			13,310				48,529
	08 - Pile Splice															
		Pile Splice														
			Splice H-Pile	130.00 EA	260.00	0.500 EA/mh	7,415	60.00 /EA	7,800			8,785	/EA		242.31 /EA	31,500
			Pile Splice		260.00		7,415		7,800	/ea		8,785			/ea	31,500
			08 - Pile Splice		260.00		7,415		7,800			8,785				31,500
	09 - Piling															
		Furn & Drv Piling														
			F & I Pile 12" x 74" - Permanent Pile for the column footings	3,420.00 lf	294.83	11.600 lf/mh	8,423	40.70 /lf	139,194			23,312	/lf		61.06 /lf	208,838
			Furn & Drv Piling		294.83		8,423		139,194	/lf		23,312			/lf	208,838
			09 - Piling		294.83		8,423		139,194			23,312				208,838
	10 - Pile Caps															
		Pile Caps														
			11.5 x 11.5 x 3 ESM Pile Cap	1,536.00 sf	254.98	0.166 mh/sf	7,234	3.50 /sf	5,376	-	-	14,890	-	-	22.90 /sf	35,177
			Rebar for Pile Caps F & I	22,800.00 lbs			-	-	-	0.78 /lbs	17,784	-	-	-	0.88 /lbs	20,131
			Hoisting for Rebar Contractor	22,800.00 lbs	9.12	0.000 mh/lbs	264	-	-	-	-	960	-	-	0.07 /lbs	1,518
			Place Structural Concrete	114.00 cy	96.90	0.850 mh/cy	2,544	117.00 /cy	14,672	-	-	5,026	-	-	242.32 /cy	27,624
			Finish Concrete	2,416.00 sf	53.39	0.022 mh/sf	1,476	0.07 /sf	169	-	-	1,583	-	-	1.82 /sf	4,405
			Concrete Vibrator	29.00 hr	29.00			-	-	-	-	232	-	-	9.06 /hr	263
			Cure Concrete	114.00 cy	19.04	0.167 mh/cy	538	1.50 /cy	171	-	-	219	-	-	11.70 /cy	1,334
			Pile Caps		462.43		12,056		20,388	/cy	17,784	22,911			/cy	90,452
			10 - Pile Caps		462.43		12,056		20,388		17,784	22,911				90,452
	11 - Columns															
		Columns														
			Prep Construction Joint	144.00 sf	28.80	5.000 sf/mh	655	0.15 /sf	22	-	-	356	-	-	10.41 /sf	1,498
			ESM Column Forms	3,351.00 sf	670.20	5.000 sf/mh	19,014	6.68 /sf	22,385	-	-	39,138	-	-	30.58 /sf	102,465
			Rebar for 6' & 7' Dia Columns F & I	18,600.00 lbs			-	-	-	0.78 /lbs	14,508	-	-	-	0.88 /lbs	16,423
			Hoisting for Rebar Contractor	18,600.00 lbs	7.44	2,500.000 lbs/mh	215	-	-	-	-	783	-	-	0.07 /lbs	1,238
			Place Structural Concrete	93.00 cy	79.05	0.850 mh/cy	2,076	117.00 /cy	11,969	-	-	4,100	-	-	242.32 /cy	22,536
			Finish Concrete	3,351.00 sf	74.06	0.022 mh/sf	2,047	0.07 /sf	235	-	-	2,196	-	-	1.82 /sf	6,110
			Concrete Vibrator	23.00 hr	23.00			-	-	-	-	184	-	-	9.06 /hr	208
			Cure Concrete	93.00 cy	15.53	0.167 mh/cy	439	1.50 /cy	140	-	-	179	-	-	11.70 /cy	1,088
			Columns		898.08		24,446		34,749	/cy	14,508	46,936			/cy	151,567
			11 - Columns		898.08		24,446		34,749		14,508	46,936				151,567
	12 - End Piers															
		05 - Abutments														
			Mobilization, 150 ton, set up and remove crane, with pile leads and pile hammer	2.00 ea	355.56	177.778 mh/ea	10,204	-	-	-	-	10,527	-	-	14,284.18 /ea	28,568
			F & I Pile at Abutments	2,250.00 lf	535.71	4.200 lf/mh	15,305	44.50 /lf	100,125			42,358	/lf		86.35 /lf	194,279
			Rebar F & I	10,720.00 lbs			-	-	-	0.78 /lbs	8,362	-	-	-	0.88 /lbs	9,465
			Hoisting for Rebar Contractor	10,720.00 lbs	4.29	0.000 mh/lbs	124	-	-	-	-	452	-	-	0.07 /lbs	714
			ESM Abutment	1,678.00 sf	419.50	0.250 mh/sf	11,901	15.29 /sf	25,657	-	-	24,498	-	-	46.63 /sf	78,250
			Place Structural Concrete	67.00 cy	56.95	0.850 mh/cy	1,495	117.00 /cy	8,623	-	-	2,954	-	-	242.32 /cy	16,235
			Finish Concrete	1,678.00 sf	37.08	0.022 mh/sf	1,025	0.07 /sf	117	-	-	1,100	-	-	1.82 /sf	3,060
			Concrete Vibrator	17.00 hr	17.00			-	-	-	-	136	-	-	9.06 /hr	154
			Cure Concrete	67.00 cy	11.19	0.167 mh/cy	316	1.50 /cy	101	-	-	129	-	-	11.70 /cy	784
			05 - Abutments		1,437.28		40,370		134,622	/cy	8,362	82,153			/cy	331,509
			12 - End Piers		1,437.28		40,370		134,622		8,362	82,153				331,509
	13 - Superstructure															
		Superstructure														
			Fab Superstructure Form	1,856.00 sf	265.41	0.143 mh/sf	6,639	6.00 /sf	11,136	-	-	13,915	-	-	21.60 /sf	40,084
			ESM End Diaphram Abutments 1 & 4	576.00 sf	164.45	0.286 mh/sf	4,114	/sf		-	-	7,712	-	-	26.81 /sf	15,444
			ESM Interior Diaphram All Spans	2,592.00 sf	414.72	0.160 mh/sf	10,374	/sf		-	-	23,096	-	-	16.62 /sf	43,076
			Rebar F & I	11,800.00 lbs			-	-	-	0.78 /lbs	9,204	-	-	-	0.88 /lbs	10,419
			Hoisting for Rebar Contractor	11,800.00 lbs	4.72	2,500.000 lbs/mh	137	-	-	-	-	497	-	-	0.07 /lbs	786
			Place Structural Concrete	59.00 cy	78.47	1.330 mh/cy	2,060	117.00 /cy	6,903	-	-	4,070	-	-	276.89 /cy	16,337
			Cure Concrete	59.00 cy	9.85	0.167 mh/cy	279	1.50 /cy	89	-	-	113	-	-	11.70 /cy	690
			Superstructure	59.00 cy	937.62		23,603		18,128	156.00 /cy	9,204	49,404			2,149.74 /cy	126,835
			13 - Superstructure		937.62		23,603		18,128		9,204	49,404				126,835
	14 - Crane Mob															
		Crane Mob														
			Crane Mats	1.00 ls			-	6,000.00 /ls	6,000	-	-	-	-	-	7,272.00 /ls	7,272
			Mobilization, set up and remove	1.00 ls			-	-	-	-	-	-	22,500.00 /ls	22,500	25,470.00 /ls	25,470
			Crane Mob	1.00 ls					6,000	/ls				22,500	32,742.00 /ls	32,742
			14 - Crane Mob						6,000					22,500		32,742
	15 - F & I Girders															
		F & I BT - 63														
			Erect Prestress Girders	27.00 ea	864.00	32.000 mh/ea	21,708	83.33 /ea	2,250	-	-	68,434	-	-	4,282.30 /ea	115,622
			Furnish Prestressed Concrete Girders	2,736.00 lf			-	-	-	150.00 /lf	410,400	-	-	-	169.80 /lf	464,573
			Set / Grout Elastomeric Bearing Pads	54.00 ea	108.00	2.000 mh/ea	3,159	79.00 /ea	4,266	-	-	2,934	-	-	252.73 /ea	13,648
			F & I Bearings	54.00 ea	54.00	1.000 mh/ea	1,449	1,430.00 /ea	77,220	-	-	3,637	-	-	1,853.20 /ea	100,073
			F & I Fall Protection	2,736.00 lf	109.44	0.040 mh/lf	3,202	6.90 /lf	18,878	-	-	2,973	-	-	11.50 /lf	31,471

Work Type	Bid Item	Activity	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Amount	Material Price	Material Amount	Sub Cost/Unit	Sub Amount	Equip Amount	Other Price	Other Amount	Grand Total Unit Price	Grand Total
			F & I BT - 63	2,736.00 lf	1,135.44		29,518		102,614	150.00 /lf	410,400	77,977			265.13 /lf	725,386
			15 - F & I Girders		1,135.44		29,518		102,614		410,400	77,977				725,386
	16 - Brg Deck															
		Superstruc Deck														
			Stay-in-Place Forms	21,045.00 sf			-	-	-	5.20 /sf	109,434	-	-	-	5.89 /sf	123,879
			ESM Overhang Soffit	1,220.00 sf	442.86	0.363 mh/sf	11,078	/sf		-	-	20,769	-	-	34.09 /sf	41,590
			ESM Edge of Deck	610.00 sf	152.50	0.250 mh/sf	3,815	/sf		-	-	7,995	-	-	25.04 /sf	15,277
			ESM Safety Hand Rail @ Edge of Deck	610.00 lf	61.00	0.100 mh/lf	1,526	/lf		-	-	3,198	-	-	10.02 /lf	6,111
			Finish Concrete	22,265.00 sf	492.06	0.022 mh/sf	13,600	0.07 /sf	1,559	-	-	14,589	-	-	1.82 /sf	40,599
			Cure Concrete	553.00 cy	92.35	0.167 mh/cy	2,612	1.50 /cy	830	-	-	1,062	-	-	11.70 /cy	6,470
			Place Deck Concrete	553.00 cy	492.17	0.890 mh/cy	12,224	117.00 /cy	64,701	-	-	19,893	-	-	218.60 /cy	120,885
			Set & Grade Bidwell	2.00 ea	120.00	60.000 mh/ea	2,926	/ea		-	-	4,364	-	-	4,857.38 /ea	9,715
			Strip Seal Forms	456.00 lf	410.40	0.900 mh/lf	10,266	/lf		-	-	21,517	-	-	90.16 /lf	41,111
			F & I Strip Seal	456.00 lf	912.00	2.000 mh/lf	22,814	119.00 /lf	54,264	-	-	47,815	-	-	344.58 /lf	157,127
			Joint Seal Blockout Pourback	3.00 cy	30.00	10.000 mh/cy	750	117.00 /cy	351	-	-	1,573	-	-	1,143.54 /cy	3,431
			Rebar F & I	121,660.00 lbs			-	-	-	0.78 /lbs	94,895	-	-	-	0.88 /lbs	107,421
			Hoisting for Rebar Contractor	121,660.00 lbs	48.66	2,500.000 lbs/mh	1,409	-	-	-	-	5,125	-	-	0.07 /lbs	8,101
			Grind Deck	2,474.00 sy			-	-	-	5.58 /sy	13,805	-	-	-	6.32 /sy	15,627
			Superstruc Deck		3,254.00		83,019		121,704	/sf	218,134	147,900			/sf	697,343
			16 - Brg Deck		3,254.00		83,019		121,704		218,134	147,900				697,343
	17 - Brg Barrier															
		Bridge Barrier Rail														
			ESM Concrete Barrier In-Place	610.00 lf	97.60	0.160 mh/lf	2,769	6.00 /lf	3,660	-	-	5,700	-	-	25.26 /lf	15,407
			Rebar F & I	8,800.00 lbs			-	-	-	0.78 /lbs	6,864	-	-	-	0.88 /lbs	7,770
			Hoisting for Rebar Contractor	8,800.00 lbs	3.52	2,500.000 lbs/mh	102	-	-	-	-	371	-	-	0.07 /lbs	586
			Finish Concrete	3,965.00 sf	43.02	0.011 mh/sf	1,189	0.07 /sf	278	-	-	1,276	-	-	0.94 /sf	3,721
			Cure Concrete	55.00 cy	9.19	0.167 mh/cy	260	1.50 /cy	83	-	-	106	-	-	11.70 /cy	644
			Place Structural Concrete	55.00 cy	46.75	0.850 mh/cy	1,228	96.00 /cy	5,808	-	-	2,425	-	-	214.32 /cy	11,788
			Bridge Barrier Rail		200.08		5,547		9,828	/lf	6,864	9,876			/lf	39,915
			17 - Brg Barrier		200.08		5,547		9,828		6,864	9,876				39,915
			082 - I-85 SB Bridge	1.00 LS	9,862.93		263,405		627,331	685,255.32 /LS	685,255	516,009		22,500	2,575,503.14 /LS	2,575,503
083 - HOT Lane Bridg																
	01-Str Ex		Structure Excavation													
		Additional Shoring	Additional Shoring for Structure													
			Install Sheeting	3,000.00 sf	258.62	11.600 sf/mh	7,389	40.70 /sf	122,100			20,449	/sf		61.06 /sf	183,191
			Additional Shoring Additional Shoring for Structure		258.62		7,389		122,100			20,449				183,191
		Col Footings	Structure Ex for Column Footings													
			Place Structure Backfill	292.00 cvcy	29.20	30.000 cvcy/ch	1,058	/cvcy		-	-	2,622	-	-	16.08 /cvcy	4,694
			End Pier Excavation	341.00 lvcy	34.10	60.000 lvcy/ch	1,311	-	-	-	-	2,936	-	-	16.02 /lvcy	5,463
			Col Footings Structure Ex for Column Footings	633.00 CY	63.30		2,368			/CY		5,558			16.05 /CY	10,157
		End Piers	Structure Ex for End Piers													
			End Pier Excavation	104.00 lvcy	10.40	60.000 lvcy/ch	400	-	-	-	-	895	-	-	16.02 /lvcy	1,666
			Place Structure Backfill	79.00 cvcy	7.90	30.000 cvcy/ch	286	/cvcy		-	-	709	-	-	16.08 /cvcy	1,270
			End Piers Structure Ex for End Piers	183.00 CY	18.30		686			/CY		1,605			16.04 /CY	2,936
			01-Str Ex Structure Excavation	1.00 LS	340.22		10,443		122,100	/LS		27,611			196,284.07 /LS	196,284
	04 - App Slab															
		Brg Approach Slab														
			02 Place Structural Concrete Approaches	48.00 cy	40.80	0.850 mh/cy	1,071	125.00 /cy	6,600	-	-	2,116	-	-	252.98 /cy	12,143
			02 Concrete Vibrator Approaches	12.00 hr	12.00			-	-	-	-	96	-	-	9.06 /hr	109
			02 ESM Approaches	208.00 sf	16.64	0.080 mh/sf	472	1.00 /sf	208	-	-	972	-	-	10.20 /sf	2,123
			02 Cure Concrete Approaches	48.00 cy	8.02	0.167 mh/cy	227	1.50 /cy	72	-	-	92	-	-	11.70 /cy	562
			Brg Approach Slab	96.00 cy	77.46		1,770		6,880	/cy		3,276			155.58 /cy	14,936
			04 - App Slab		77.46		1,770		6,880			3,276				14,936
	05 - Mob															
		Mob Pile Driver														
			Mobilization, 150 ton, set up and remove crane, with pile leads and pile hammer	1.00 ea	177.78	177.778 mh/ea	5,102	-	-	-	-	5,263	-	-	14,284.17 /ea	14,284
			Mob Pile Driver	1.00 ls	177.78		5,102			/ls		5,263			14,284.17 /ls	14,284
			05 - Mob		177.78		5,102					5,263				14,284
	06 - Test Pile															
		Furn & Drv Test Pile														
			F & I Test Pile - 14" x 73" Temporary Pile	180.00 lf	28.57	6.300 lf/mh	816	43.80 /lf	7,884			2,259	/lf		74.69 /lf	13,445
			Furn & Drv Test Pile	180.00 lf	28.57		816		7,884	/lf		2,259			74.69 /lf	13,445
			06 - Test Pile		28.57		816		7,884			2,259				13,445
	07 - Pile Pts															
		Pile Points														
			Weld Shoes on Permanent Pile	54.00 EA	163.64	0.330 EA/mh	4,667	96.00 /EA	5,184			5,529	/EA		373.30 /EA	20,158
			Pile Points	54.00 ea	163.64		4,667		5,184	/ea		5,529			373.30 /ea	20,158
			07 - Pile Pts		163.64		4,667		5,184			5,529				20,158
	08 - Pile Splice															
		Pile Splice														
			Splice H-Pile	54.00 EA	108.00	0.500 EA/mh	3,080	60.00 /EA	3,240			3,649	/EA		242.31 /EA	13,085

Work Type	Bid Item	Activity	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Amount	Material Price	Material Amount	Sub Cost/Unit	Sub Amount	Equip Amount	Other Price	Other Amount	Grand Total Unit Price	Grand Total
			Pile Splice	54.00 ea	108.00		3,080		3,240	/ea		3,649			242.31 /ea	13,085
			08 - Pile Splice		108.00		3,080		3,240			3,649				13,085
	09 - Piling															
		Furn & Drv Piling														
			F & I Pile 12" x 74" - Permanent Pile for the column footings	1,170.00 lf	100.86	11.600 lf/mh	2,882	40.70 /lf	47,619			7,975	/lf		61.06 /lf	71,445
			Furn & Drv Piling	1,170.00 lf	100.86		2,882		47,619	/lf		7,975			61.06 /lf	71,445
			09 - Piling		100.86		2,882		47,619			7,975				71,445
	10 - Pile Caps															
		Pile Caps														
			11.5 x 11.5 x 3 ESM Pile Cap	576.00 sf	95.62	0.166 mh/sf	2,713	3.50 /sf	2,016	-	-	5,584	-	-	22.90 /sf	13,191
			Rebar for Pile Caps F & I	8,600.00 lbs			-	-	-	0.78 /lbs	6,708	-	-	-	0.88 /lbs	7,593
			Hoisting for Rebar Contractor	8,600.00 lbs	3.44	0.000 mh/lbs	100	-	-	-	-	362	-	-	0.07 /lbs	573
			Place Structural Concrete	43.00 cy	36.55	0.850 mh/cy	960	117.00 /cy	5,534	-	-	1,896	-	-	242.32 /cy	10,420
			Finish Concrete	906.00 sf	20.02	0.022 mh/sf	553	0.07 /sf	63	-	-	594	-	-	1.82 /sf	1,652
			Concrete Vibrator	11.00 hr	11.00			-	-	-	-	88	-	-	9.06 /hr	100
			Cure Concrete	43.00 cy	7.18	0.167 mh/cy	203	1.50 /cy	65	-	-	83	-	-	11.70 /cy	503
			Pile Caps	43.00 cy	173.81		4,528		7,678	156.00 /cy	6,708	8,606			791.44 /cy	34,032
			10 - Pile Caps		173.81		4,528		7,678		6,708	8,606				34,032
	11 - Columns															
		Columns														
			Prep Construction Joint	54.00 sf	10.80	5.000 sf/mh	246	0.15 /sf	8	-	-	133	-	-	10.41 /sf	562
			ESM Column Forms	1,257.00 sf	251.40	5.000 sf/mh	7,132	6.68 /sf	8,397	-	-	14,681	-	-	30.58 /sf	38,436
			Rebar for 6' & 7' Dia Columns F & I	7,000.00 lbs			-	-	-	0.78 /lbs	5,460	-	-	-	0.88 /lbs	6,181
			Hoisting for Rebar Contractor	7,000.00 lbs	2.80	2,500.000 lbs/mh	81	-	-	-	-	295	-	-	0.07 /lbs	466
			Place Structural Concrete	35.00 cy	29.75	0.850 mh/cy	781	117.00 /cy	4,505	-	-	1,543	-	-	242.32 /cy	8,481
			Finish Concrete	1,257.00 sf	27.78	0.022 mh/sf	768	0.07 /sf	88	-	-	824	-	-	1.82 /sf	2,292
			Cure Concrete	35.00 cy	5.85	0.167 mh/cy	165	1.50 /cy	53	-	-	67	-	-	11.70 /cy	410
			Columns	35.00 cy	328.37		9,173		13,050	156.00 /cy	5,460	17,543			1,623.63 /cy	56,827
			11 - Columns		328.37		9,173		13,050		5,460	17,543				56,827
	12 - End Piers															
		05 - Abutments														
			Mobilization, 150 ton, set up and remove crane, with pile leads and pile hammer	2.00 ea	355.56	177.778 mh/ea	10,204	-	-	-	-	10,527	-	-	14,284.17 /ea	28,568
			F & I Pile at Abutments	1,080.00 lf	257.14	4.200 lf/mh	7,346	44.50 /lf	48,060			20,332	/lf		86.35 /lf	93,254
			Rebar F & I	5,600.00 lbs			-	-	-	0.78 /lbs	4,368	-	-	-	0.88 /lbs	4,945
			Hoisting for Rebar Contractor	5,600.00 lbs	2.24	0.000 mh/lbs	65	-	-	-	-	236	-	-	0.07 /lbs	373
			ESM Abutment	1,114.00 sf	278.50	0.250 mh/sf	7,901	15.29 /sf	17,033	-	-	16,264	-	-	46.63 /sf	51,949
			Place Structural Concrete	35.00 cy	29.75	0.850 mh/cy	781	117.00 /cy	4,505	-	-	1,543	-	-	242.32 /cy	8,481
			Finish Concrete	1,114.00 sf	24.62	0.022 mh/sf	680	0.07 /sf	78	-	-	730	-	-	1.82 /sf	2,031
			Concrete Vibrator	9.00 hr	9.00			-	-	-	-	72	-	-	9.06 /hr	82
			Cure Concrete	35.00 cy	5.85	0.167 mh/cy	165	1.50 /cy	53	-	-	67	-	-	11.70 /cy	410
			05 - Abutments	35.00 cy	962.65		27,143		69,728	124.80 /cy	4,368	49,771			5,431.21 /cy	190,092
			12 - End Piers		962.65		27,143		69,728		4,368	49,771				190,092
	13 - Superstructure															
		Superstructure														
			Fab Superstructure Form	832.00 sf	118.98	0.143 mh/sf	2,976	14.00 /sf	11,648	-	-	6,238	-	-	31.29 /sf	26,036
			ESM End Diaphram Abutments 1 & 5	216.00 sf	61.67	0.286 mh/sf	1,543	/sf		-	-	2,892	-	-	26.81 /sf	5,791
			ESM Interior Diaphram All Spans	972.00 sf	277.51	0.286 mh/sf	6,942	/sf		-	-	13,014	-	-	26.81 /sf	26,061
			Rebar F & I	11,800.00 lbs			-	-	-	0.78 /lbs	9,204	-	-	-	0.88 /lbs	10,419
			Hoisting for Rebar Contractor	11,800.00 lbs	4.72	2,500.000 lbs/mh	137	-	-	-	-	497	-	-	0.07 /lbs	786
			Place Structural Concrete	22.00 cy	29.26	1.330 mh/cy	768	117.00 /cy	2,574	-	-	1,518	-	-	276.89 /cy	6,092
			Concrete Vibrator	6.00 hr	6.00			-	-	-	-	48	-	-	9.06 /hr	54
			Cure Concrete	22.00 cy	3.67	0.167 mh/cy	104	1.50 /cy	33	-	-	42	-	-	11.70 /cy	257
			Superstructure	22.00 cy	501.80		12,469		14,255	418.36 /cy	9,204	24,249			3,431.65 /cy	75,496
			13 - Superstructure		501.80		12,469		14,255		9,204	24,249				75,496
	14 - Crane Mob															
		Crane Mob														
			Mobilization, set up and remove	1.00 ls			-	-	-	-	-	-	22,500.00 /ls	22,500	25,470.00 /ls	25,470
			Crane Mob	1.00 ls						/ls				22,500	25,470.00 /ls	25,470
			14 - Crane Mob											22,500		25,470
	15 - F & I Girders															
		F & I BT - 63														
			Erect Prestress Girders	12.00 ea	384.00	32.000 mh/ea	9,648	83.33 /ea	1,000	-	-	30,415	-	-	4,282.30 /ea	51,388
			Furnish Prestressed Concrete Girders	912.00 lf			-	-	-	150.00 /lf	136,800	-	-	-	169.80 /lf	154,858
			Set / Grout Elastomeric Bearing Pads	24.00 ea	48.00	2.000 mh/ea	1,404	79.00 /ea	1,896	-	-	1,304	-	-	252.73 /ea	6,066
			F & I Bearings	24.00 ea	24.00	1.000 mh/ea	644	1,430.00 /ea	34,320	-	-	1,616	-	-	1,853.20 /ea	44,477
			F & I Fall Protection	912.00 lf	36.48	0.040 mh/lf	1,067	6.90 /lf	6,293	-	-	991	-	-	11.50 /lf	10,490
			F & I BT - 63	912.00 lf	492.48		12,764		43,509	150.00 /lf	136,800	34,326			293.07 /lf	267,278
			15 - F & I Girders		492.48		12,764		43,509		136,800	34,326				267,278
	16 - Brg Deck															
		Superstruc Deck														
			Stay-in-Place Forms	8,540.00 sf			-	-	-	5.20 /sf	44,408	-	-	-	5.89 /sf	50,270
			ESM Overhang Soffit	1,220.00 sf	442.86	0.363 mh/sf	11,078	/sf		-	-	20,769	-	-	34.09 /sf	41,590
			ESM Edge of Deck	610.00 sf	152.50	0.250 mh/sf	3,815	/sf		-	-	7,995	-	-	25.04 /sf	15,277

Work Type	Bid Item	Activity	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Amount	Material Price	Material Amount	Sub Cost/Unit	Sub Amount	Equip Amount	Other Price	Other Amount	Grand Total Unit Price	Grand Total
		Superstruc Deck														
			ESM Safety Hand Rail @ Edge of Deck	610.00 lf	61.00	0.100 mh/lf	1,526	/lf		-	-	3,198	-	-	10.02 /lf	6,111
			Finish Concrete	9,760.00 sf	215.70	0.022 mh/sf	5,961	0.07 /sf	683	-	-	6,395	-	-	1.82 /sf	17,797
			Cure Concrete	242.00 cy	40.41	0.167 mh/cy	1,143	1.50 /cy	363	-	-	465	-	-	11.70 /cy	2,831
			Place Deck Concrete	242.00 cy	215.38	0.890 mh/cy	5,349	117.00 /cy	28,314	-	-	8,705	-	-	218.60 /cy	52,901
			Set & Grade Bidwell	2.00 ea	120.00	60.000 mh/ea	2,926	/ea		-	-	4,364	-	-	4,857.37 /ea	9,715
			Strip Seal Forms	200.00 lf	180.00	0.900 mh/lf	4,503	/lf		-	-	9,437	-	-	90.16 /lf	18,031
			F & I Strip Seal	200.00 lf	400.00	2.000 mh/lf	10,006	119.00 /lf	23,800	-	-	20,972	-	-	344.58 /lf	68,915
			Joint Seal Blockout Pourback	3.00 cy	30.00	10.000 mh/cy	750	117.00 /cy	351	-	-	1,573	-	-	1,143.55 /cy	3,431
			Rebar F & I	53,240.00 lbs			-	-	-	0.78 /lbs	41,527	-	-	-	0.88 /lbs	47,009
			Hoisting for Rebar Contractor	53,240.00 lbs	21.30	2,500.000 lbs/mh	617	-	-	-	-	2,243	-	-	0.07 /lbs	3,545
			Grind Deck	1,084.00 sy			-	-	-	5.58 /sy	6,049	-	-	-	6.32 /sy	6,847
			Superstruc Deck	8,540.00 sf	1,879.15		47,674		53,511	10.77 /sf	91,984	86,116			40.31 /sf	344,269
			16 - Brg Deck		1,879.15		47,674		53,511		91,984	86,116				344,269
	17 - Brg Barrier															
		Bridge Barrier Rail														
			ESM Concrete Barrier In-Place	610.00 lf	97.60	0.160 mh/lf	2,769	0.00 /lf	0	-	-	5,700	-	-	17.99 /lf	10,971
			Rebar F & I	8,800.00 lbs			-	-	-	0.78 /lbs	6,864	-	-	-	0.88 /lbs	7,770
			Hoisting for Rebar Contractor	8,800.00 lbs	3.52	2,500.000 lbs/mh	102	-	-	-	-	371	-	-	0.07 /lbs	586
			Finish Concrete	3,965.00 sf	43.02	0.011 mh/sf	1,189	0.07 /sf	278	-	-	1,276	-	-	0.94 /sf	3,721
			Cure Concrete	55.00 cy	9.19	0.167 mh/cy	260	1.50 /cy	83	-	-	106	-	-	11.70 /cy	644
			Place Structural Concrete	55.00 cy	46.75	0.850 mh/cy	1,228	117.00 /cy	7,079	-	-	2,425	-	-	242.32 /cy	13,327
			Bridge Barrier Rail	610.00 lf	200.08		5,547		7,439	11.25 /lf	6,864	9,876			60.69 /lf	37,019
			17 - Brg Barrier		200.08		5,547		7,439		6,864	9,876				37,019
			083 - HOT Lane Bridg	1.00 LS	5,534.87		148,058		402,076	261,387.92 /LS	261,388	286,052		22,500	1,374,119.63 /LS	1,374,120
090 - Traf Marking																
	652-5451		White Stripe 5" Solid													
		Wht Stripe 5" Solid														
			Painted pavement markings, acrylic waterborne, white or yellow, parking striping, 8" wide	109,984.00 lf		mh/lf	0	0.00 /lf	0	0.14 /lf	15,398	0	-	-	0.16 /lf	17,430
			Wht Stripe 5" Solid								15,398					17,430
			652-5451 White Stripe 5" Solid	109,984.00 LF						0.14 /LF	15,398				0.16 /LF	17,430
	652-5452		Yellow Stripe 5" Solid													
		Yel Stripe 5" Solid														
			Painted pavement markings, acrylic waterborne, white or yellow, parking striping, 8" wide	113,151.00 lf	543.12	0.005 mh/lf	0	0.00 /lf	0	0.14 /lf	15,841	0	-	-	0.16 /lf	17,932
			Yel Stripe 5" Solid		543.12						15,841					17,932
			652-5452 Yellow Stripe 5" Solid	113,151.00 LF	543.12					0.14 /LF	15,841				0.16 /LF	17,932
	652-5801		White Stripe 8" Solid													
		Wht Stripe 8" Solid														
			Painted pavement markings, acrylic waterborne, white or yellow, parking striping, 8" wide	180,672.00 lf	867.23	0.005 mh/lf	0	0.00 /lf	0	0.72 /lf	130,084	0	-	-	0.82 /lf	147,255
			Wht Stripe 8" Solid		867.23						130,084					147,255
			652-5801 White Stripe 8" Solid	180,672.00 LF	867.23					0.72 /LF	130,084				0.82 /LF	147,255
	652-5802		White Stripe 8" Skip													
		Wht Stripe 8" Skip														
			Painted pavement markings, acrylic waterborne, white or yellow, parking striping, 8" wide	12,800.00 lf	61.44	0.005 mh/lf	0	0.00 /lf	0	0.72 /lf	9,216	0	-	-	0.82 /lf	10,433
			Wht Stripe 8" Skip		61.44						9,216					10,433
			652-5802 White Stripe 8" Skip	12,800.00 LF	61.44					0.72 /LF	9,216				0.82 /LF	10,433
	652-5803		White Stripe 10" Solid													
		Wht Stripe 10" Solid														
			Painted pavement markings, acrylic waterborne, white or yellow, parking striping, 8" wide	18,516.00 lf	88.88	0.005 mh/lf	0	0.00 /lf	0	0.92 /lf	17,035	0	-	-	1.04 /lf	19,283
			Wht Stripe 10" Solid		88.88						17,035					19,283
			652-5803 White Stripe 10" Solid	18,516.00 LF	88.88					0.92 /LF	17,035				1.04 /LF	19,283
	652-6501		White Stripe 5" Skip													
		Wht Stripe 5" Skip														
			Painted pavement markings, acrylic waterborne, white or yellow, parking striping, 8" wide	226,232.00 lf	1,085.91	0.005 mh/lf	0	0.00 /lf	0	0.10 /lf	22,623	0	-	-	0.11 /lf	25,609
			Wht Stripe 5" Skip		1,085.91						22,623					25,609
			652-6501 White Stripe 5" Skip	226,532.00 LF	1,085.91					0.10 /LF	22,623				0.11 /LF	25,609
	654-1003		Raised Pavement Markers, Type 3													
		Rais Pvmt Mrkrs TP3														
			Painted pavement markings, acrylic waterborne, white or yellow, parking striping, 8" wide	5,369.00 ea	25.77	0.005 mh/ea	0	0.00 /ea	0	5.00 /ea	26,845	0	-	-	5.66 /ea	30,389
			Rais Pvmt Mrkrs TP3		25.77						26,845					30,389
			654-1003 Raised Pavement Markers, Type 3	5,369.00 EA	25.77					5.00 /EA	26,845				5.66 /EA	30,389
			090 - Traf Marking	1.00 LS	2,672.35					237,041.66 /LS	237,042				268,331.16 /LS	268,331
100 - Signs																
	610-9401		Remove Str Overhead Sign, TP I													
		Overhead Str Removal														
			Str Support For Overhead Sign, TP I	18.00 ea		mh/ea		/ea		3,000.00 /ea	54,000	8,664	-	-	3,940.85 /ea	70,935
			MIsc Electrical Demo	18.00 ea	144.00	8.000 mh/ea	6,262	/ea		0.00 /ea	0	8,664	-	-	1,112.56 /ea	20,026

Work Type	Bid Item	Activity	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Amount	Material Price	Material Amount	Sub Cost/Unit	Sub Amount	Equip Amount	Other Price	Other Amount	Grand Total Unit Price	Grand Total
			Overhead Str Removal		144.00		6,262				54,000	17,327				90,961
			610-9401 Remove Str Overhead Sign, TP I		144.00		6,262				54,000	17,327				90,961
	610-9403		Remove Str Overhead Sign, TP III													
		Overhead Str Removal														
			Str Support For Overhead Sign, TP III	1.00 ea		mh/ea		/ea		3,000.00 /ea	3,000	481	-	-	3,940.85 /ea	3,941
			Overhead Str Removal								3,000	481				3,941
			610-9403 Remove Str Overhead Sign, TP III								3,000	481				3,941
	610-9405		Remove Overhead Sign, TP V													
		Overhead Str Removal														
			Remove Overhead Sign, TP V	2.00 ea		mh/ea		/ea		3,000.00 /ea	6,000	963	-	-	3,940.85 /ea	7,882
			Overhead Str Removal								6,000	963				7,882
			610-9405 Remove Overhead Sign, TP V								6,000	963				7,882
	611-5360		Reset Highway Sign													
		Reset Highway Sign														
			Reset Highway Sign	24.00 ea	192.00	2.000 ch/ea	8,609	-	-	-	-	9,442	-	-	1,030.77 /ea	24,738
			Reset Highway Sign		192.00		8,609					9,442				24,738
			611-5360 Reset Highway Sign	24.00 EA	192.00		8,609			/EA		9,442			1,030.77 /EA	24,738
	611-5551		Reset Sign													
		Reset Sign														
			Reset Sign	64.00 ea	256.00	1.000 ch/ea	11,479	-	-	-	-	12,589	-	-	515.38 /ea	32,985
			Reset Sign		256.00		11,479					12,589				32,985
			611-5551 Reset Sign	64.00 EA	256.00		11,479			/EA		12,589			515.38 /EA	32,985
	636-1070		Highway Signs, Alum Extruded Panels, Fefl Sheeting													
		Overhead Sign														
			Highway Signs, Alum Extruded Panels, Refl Sheeting, TP 2	19,755.00 sf		mh/sf		19.00 /sf	375,345	0.00 /sf	0		-	-	21.51 /sf	424,891
			Overhead Sign						375,345							424,891
			636-1070 Highway Signs, Alum Extruded Panels, Fefl Sheeting						375,345							424,891
	638-1001		Str Overhead Sign, TP 1													
		Str Overhead Sign														
			Str Support For Overhead Sign, TP I	42.00 ea		mh/ea		/ea		69,000.00 /ea	2,898,000	20,215	-	-	78,652.85 /ea	3,303,420
			Str Support For Overhead Sign, TP I (CMS) [Note **Material is Allowance for LED DMS Signage**]	4.00 ea		mh/ea		100,000.00 /ea	400,000	69,000.00 /ea	276,000	1,925	-	-	191,852.85 /ea	767,411
			Str Support For Overhead Sign, TP I (Toll Rate)	10.00 ea		mh/ea		/ea		69,000.00 /ea	690,000	4,813	-	-	78,652.85 /ea	786,528
			Str Overhead Sign						400,000		3,864,000	26,954				4,857,360
			638-1001 Str Overhead Sign, TP 1						400,000		3,864,000	26,954				4,857,360
	638-1003		Str Overhead Sign, TP III													
		Str Overhead Sign														
			Str Support For Overhead Sign, TP III (CL Gantry)	22.00 ea		mh/ea		/ea		3,000.00 /ea	66,000	10,589	-	-	3,940.85 /ea	86,699
			Str Overhead Sign								66,000	10,589				86,699
			638-1003 Str Overhead Sign, TP III								66,000	10,589				86,699
	641-1100		Guardrail, Type T													
		Guardrail Type T														
			Vehicle Guardrail, Type T	176.00 lf	9.88	0.014 ch/lf		/lf		42.00 /lf	7,392		-	-	47.54 /lf	8,368
			Guardrail Type T		9.88						7,392					8,368
			641-1100 Guardrail, Type T	176.00 LF	9.88					42.00 /LF	7,392				47.54 /LF	8,368
	641-1200		Guardrail, Type W													
		Guardrail Type W														
			Vehicle Guardrail, Type W	32,797.00 lf		ch/lf		/lf		13.00 /lf	426,361		-	-	14.72 /lf	482,641
			Guardrail Type W								426,361					482,641
			641-1200 Guardrail, Type W	32,797.00 LF						13.00 /LF	426,361				14.72 /LF	482,641
	641-5001		Guardrail Anchor, Type 1													
		Guardrail Anchor TP1														
			Guardrail Anchorage, Type 1	40.00 ea	20.00	0.167 ch/ea		/ea		550.00 /ea	22,000		-	-	622.60 /ea	24,904
			Guardrail Anchor TP1		20.00						22,000					24,904
			641-5001 Guardrail Anchor, Type 1	40.00 EA	20.00					550.00 /EA	22,000				622.60 /EA	24,904
	641-5012		Guardrail Anchor, Type 12													
		Guardrail Anchr TP12														
			Guardrail Anchorage, Type 12	41.00 ea	20.50	0.167 ch/ea		/ea		1,550.00 /ea	63,550		/ea		1,754.60 /ea	71,939
			Guardrail Anchr TP12		20.50						63,550					71,939
			641-5012 Guardrail Anchor, Type 12	41.00 EA	20.50					1,550.00 /EA	63,550				1,754.60 /EA	71,939
			100 - Signs	**1.00 LS**	**642.38**		**26,350**		**775,345**	**4,512,303.00 /LS**	**4,512,303**	**78,344**			**6,117,306.57 /LS**	**6,117,307**
100 - Traff Mgmt Stm			**Ramp Meters**													
	647-6090		Loop Detector													
		Loop Detector														
			Inductive Loop Detector w/ Sawcutting	8.00 ea	64.00	8.000 mh/ea	3,665	500.00 /ea	4,000	-	-	168	-	-	1,337.53 /ea	10,700
			Loop Detector Splice	8.00 ea	12.00	1.500 mh/ea	698	76.28 /ea	610	-	-	-	-	-	234.83 /ea	1,879
			Loop Detector		76.00		4,363		4,610			168				12,579
			647-6090 Loop Detector	8.00 EA	76.00		4,363		4,610	/EA		168			1,572.36 /EA	12,579
	682-1404		Cable, TP XHHW, #10													
		Cable, TP XHHW, #10														
			Wire, copper, solid, 600 volt, #10, type XHHW	2,000.00 lf	20.00	0.010 mh/lf	1,048	0.30 /lf	600	-	-	-	-	-	1.19 /lf	2,390

Work Type	Bid Item	Activity	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Amount	Material Price	Material Amount	Sub Cost/Unit	Sub Amount	Equip Amount	Other Price	Other Amount	Grand Total Unit Price	Grand Total
			Cable, TP XHHW, #10		20.00		1,048		600							2,390
			682-1404 Cable, TP XHHW, #10	2,000.00 LF	20.00		1,048		600	/LF					1.19 /LF	2,390
	682-6222		Cond, NM, TP 2, 2"													
		Cond, NM, TP 2, 2"														
			Conduit, NM, TP 2, 2"	2,800.00 lf	168.00	0.060 mh/lf	6,244	1.00 /lf	2,806	2.50 /lf	7,000	3,457	-	-	9.08 /lf	25,428
			Cond, NM, TP 2, 2"		168.00		6,244		2,806		7,000	3,457				25,428
			682-6222 Cond, NM, TP 2, 2"		168.00		6,244		2,806	/LF	7,000	3,457			/LF	25,428
	935-1512		Out PInt Fib Op, 12F													
		Out PInt Fib Op, 12F														
			Out PInt Fib Op Cbl 12 Fbr	1,000.00 lf	18.00	0.018 mh/lf	699	0.57 /lf	571	-	-	-	-	-	1.83 /lf	1,833
			Out PInt Fib Op, 12F		18.00		699		571							1,833
			935-1512 Out PInt Fib Op, 12F		18.00		699		571	/LF					/LF	1,833
	935-3102		Fib Op Clos U/G 12F													
		Fib Op Clos U/G 12F														
			Fib Op Closure, 12 Fbr	4.00 ea	16.00	4.000 mh/ea	621	125.25 /ea	501	-	-		-	-	405.27 /ea	1,621
			Fib Op Clos U/G 12F		16.00		621		501							1,621
			935-3102 Fib Op Clos U/G 12F		16.00		621		501	/EA					/EA	1,621
			100 - Traff Mgmt Stm Ramp Meters	**8.00 EA**	**298.00**		**12,976**		**9,088**	**875.00 /EA**	**7,000**	**3,625**			**5,481.30 /EA**	**43,850**
105 - ITS Ductbank			**ITS Ductbank**													
	682-7062		Conduit Ductbank, Type 3													
		Duct Bank														
			Conduit, NM, TP 2, 2"	610,000.00 lf	39,650.00	0.065 mh/lf	1,539,546	1.25 /lf	762,500	-	-		-	-	5.63 /lf	3,436,689
			Conduit, NM, Chairs/Spacers	19,520.00 ea	1,659.20	0.085 mh/ea	64,424	1.50 /ea	29,280	-	-		-	-	7.20 /ea	140,627
			Fabric Innerduct (Maxcell)	244,000.00 lf	2,928.00	0.012 mh/lf	113,690	2.50 /lf	610,000	-	-		-	-	3.79 /lf	924,861
			Boring	6,100.00 lf		mh/lf		/lf		30.00 /lf	183,000		-	-	33.96 /lf	207,156
			Utility Locate/Coordination	122,000.00 lf		mh/lf		/lf		1.00 /lf	122,000		-	-	1.13 /lf	138,104
			#10 THHN (Detection Wire)	122,000.00 lf	1,098.00	0.009 mh/lf	42,634	0.20 /lf	24,400	-	-		-	-	0.81 /lf	99,151
			Trench Excavaion (12"x30")	122,000.00 lf		mh/lf		/lf		8.00 /lf	976,000		-	-	9.06 /lf	1,104,832
			3000 PSI Concrete	8,540.00 cy	3,416.00	0.400 mh/cy	132,638	125.00 /cy	1,067,500	-	-		-	-	176.85 /cy	1,510,275
			Duct Bank		48,751.20		1,892,931		2,493,680		1,281,000					7,561,696
			682-7062 Conduit Ductbank, Type 3	122,000.00 LF	48,751.20		1,892,931		2,493,680	10.50 /LF	1,281,000				61.98 /LF	7,561,696
	682-9028		Pull Box													
		Pull Box														
			Electrcl undrgrnd hand holes excludes excavation,backfill	125.00 ea	750.00	6.000 mh/ea	39,300	2,000.00 /ea	250,000	300.00 /ea	37,500		-	-	3,116.70 /ea	389,588
			Duct Plugs	305.00 ea	15.25	0.050 mh/ea	799	5.00 /ea	1,525	-	-		-	-	9.94 /ea	3,030
			Pull Box		765.25		40,099		251,525		37,500					392,618
			682-9028 Pull Box	125.00 EA	765.25		40,099		251,525	300.00 /EA	37,500				3,140.94 /EA	392,618
	935-1118		Out PInt Fib Op, 144smf													
		Out PInt Fib Op, 144														
			Out PInt Fib Op Cbl 144 smf	244,000.00 lf	4,392.00	0.018 hr/lf	255,456	1.49 /lf	363,560	-	-	-	-	-	3.51 /lf	857,539
			Out PInt Fib Op, 144		4,392.00		255,456		363,560							857,539
			935-1118 Out PInt Fib Op, 144smf	244,000.00 LF	4,392.00		255,456		363,560	/LF					3.51 /LF	857,539
	935-3106		Fib Op Clos U/G 144smf													
		Fib Op Clos U/G 144F														
			Fib Op Closure, 144 Fbr	122.00 ea	732.00	6.000 mh/ea	28,422	300.60 /ea	36,673	-	-	-	-	-	744.53 /ea	90,833
			Fib Op Clos U/G 144F		732.00		28,422		36,673							90,833
			935-3106 Fib Op Clos U/G 144smf	122.00 EA	732.00		28,422		36,673	/EA					744.53 /EA	90,833
			105 - ITS Ductbank ITS Ductbank	**122,000.00 LF**	**54,640.45**		**2,216,909**		**3,145,438**	**10.81 /LF**	**1,318,500**				**72.97 /LF**	**8,902,686**
110 - ITS																
	647-6090		Loop Detector													
		MDS Loop Detector														
			Inductive Loop Detector w/ Sawcutting	275.00 ea	2,200.00	8.000 mh/ea	126,001	500.00 /ea	137,500	-	-	5,775	-	-	1,337.53 /ea	367,821
			Loop Detector Splice	275.00 ea	412.50	1.500 mh/ea	23,993	76.28 /ea	20,976	-	-	-	-	-	234.83 /ea	64,578
			MDS Loop Detector		2,612.50		149,994		158,476			5,775				432,399
			647-6090 Loop Detector	275.00 EA	2,612.50		149,994		158,476	/EA		5,775			1,572.36 /EA	432,399
	682-1407		Cable, TP XHHW, #4													
		Cable, TP XHHW, #4														
			Wire, copper, solid, 600 volt, #4, type XHHW	164,000.00 lf	2,952.00	0.018 mh/lf	154,685	0.80 /lf	131,200	-	-	-	-	-	2.44 /lf	400,964
			Cable, TP XHHW, #4		2,952.00		154,685		131,200							400,964
			682-1407 Cable, TP XHHW, #4	164,000.00 LF	2,952.00		154,685		131,200	/LF					2.44 /LF	400,964
	682-6222		Cond, NM, TP 2, 2"													
		Cond, NM, TP 2, 2"														
			Conduit, NM, TP 2, 2"	49,200.00 lf	2,952.00	0.060 mh/lf	109,722	1.00 /lf	49,298	2.50 /lf	123,000	60,738	-	-	9.08 /lf	446,807
			Cond, NM, TP 2, 2"		2,952.00		109,722		49,298		123,000	60,738				446,807
			682-6222 Cond, NM, TP 2, 2"	49,200.00 LF	2,952.00		109,722		49,298	2.50 /LF	123,000	60,738			9.08 /LF	446,807
	682-9028		Pull Box													
		Pull Box														
			Excavation for minor structures, bank measure, heavy soil or clay, pits to 6' deep, by hand	50.00 bcy	100.00	2.000 mh/bcy	3,545	-	-	-	-	-	-	-	115.71 /bcy	5,785
			Electrcl undrgrnd hand holes excludes excavation,backfill	41.00 ea	246.00	6.000 mh/ea	12,890	3,500.00 /ea	143,500	-	-		-	-	4,475.10 /ea	183,479
			Pull Box		346.00		16,435		143,500							189,265
			682-9028 Pull Box	41.00 EA	346.00		16,435		143,500	/EA					4,616.21 /EA	189,265
	682-9950		Dir Bore 2"													

Work Type	Bid Item	Activity	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Amount	Material Price	Material Amount	Sub Cost/Unit	Sub Amount	Equip Amount	Other Price	Other Amount	Grand Total Unit Price	Grand Total
		Dir Bore 2"														
			Directional Boring 2" To Overhead Structures out of Project Area	3,200.00 lf		mh/lf	0	0.00 /lf	0	12.00 /lf	38,400	0	-	-	13.58 /lf	43,469
			Directional Boring 2"	8,200.00 lf		mh/lf		/lf		12.00 /lf	98,400		-	-	13.58 /lf	111,389
			Dir Bore 2"								136,800					154,858
			682-9950 Dir Bore 2"	8,200.00 LF						16.68 /LF	136,800				18.89 /LF	154,858
	935-1512		Out PInt Fib Op, 12F													
		Out PInt Fib Op, 12F														
			Out PInt Fib Op Cbl 12 Fbr	30,750.00 lf	553.50	0.018 mh/lf	21,492	0.41 /lf	12,608	-	-	-	-	-	1.64 /lf	50,354
			Out PInt Fib Op, 12F		553.50		21,492		12,608							50,354
			935-1512 Out PInt Fib Op, 12F	30,750.00 LF	553.50		21,492		12,608	/LF					1.64 /LF	50,354
	935-3102		Fib Op Clos U/G 12F													
		Fib Op Clos U/G 12F														
			Fib Op Closure, 12 Fbr	41.00 ea	164.00	4.000 mh/ea	6,368	125.25 /ea	5,135	-	-		-	-	405.27 /ea	16,616
			Fib Op Clos U/G 12F		164.00		6,368		5,135							16,616
			935-3102 Fib Op Clos U/G 12F	41.00 EA	164.00		6,368		5,135	/EA					405.27 /EA	16,616
	999-4085		CCTV/VDS/Pole Asmbly													
		CCTV/VDS/Pole Asmbly														
			Grounding rod, copper clad, 8' long, 5/8" diameter	41.00 ea	41.00	1.000 mh/ea	2,385	30.00 /ea	1,230	-	-	-	-	-	128.88 /ea	5,284
			Pole Top Lightning Protection	41.00 ea		mh/ea		/ea		500.00 /ea	20,500	-	-	-	566.00 /ea	23,206
			Ground wire, copper wire, bare stranded, #6	100.00 lf	1.50	0.015 mh/lf	87	0.51 /lf	51	-	-	-	-	-	2.00 /lf	200
			80 Ft Strain Pole w/modified Braces	41.00 ea	410.00	10.000 mh/ea	23,374	7,000.00 /ea	287,000	400.00 /ea	16,400	2,747	-	-	9,943.04 /ea	407,665
			Cast In Place Foundation Base	41.00 ea		mh/ea		/ea		1,500.00 /ea	61,500	1,942	-	-	1,751.61 /ea	71,816
			Misc 3R Gutter/Conduit For Cabinet	41.00 ea	164.00	4.000 mh/ea	9,350	350.00 /ea	14,350	1,500.00 /ea	61,500	1,942	-	-	2,547.97 /ea	104,467
			Nema 3R Electrcl Pull Box At Base	82.00 ea	205.00	2.500 mh/ea	10,742	400.00 /ea	32,800	-	-		-	-	666.59 /ea	54,661
			Equipment Cabinet	41.00 ea	328.00	8.000 mh/ea	17,187	5,000.00 /ea	205,000	-	-		-	-	6,344.13 /ea	260,110
			CCTV Cameras	41.00 ea		mh/ea		6,000.00 /ea	246,000	-	-		-	-	6,792.00 /ea	278,472
			VDS Camera	41.00 ea		mh/ea		5,000.00 /ea	205,000	-	-		-	-	5,660.00 /ea	232,060
			IVDS Camera	41.00 ea		mh/ea		5,000.00 /ea	205,000	-	-		-	-	5,660.00 /ea	232,060
			CCTV/VDS/Pole Asmbly		1,149.50		63,125		1,196,431		159,900	6,631				1,670,000
			999-4085 CCTV/VDS/Pole Asmbly	41.00 EA	1,149.50		63,125		1,196,431	3,900.00 /EA	159,900	6,631			40,731.71 /EA	1,670,000
	999-4086		ITS HUB Bldg													
		ITS HUB Bldg	24' x 30' Toll Equipment Bldg													
			Generator (allowance)	1.00 ea		mh/ea		150,000.00 /ea	150,000	-	-		-	-	169,800.00 /ea	169,800
			Distribution Panels	3.00 ea	36.00	12.000 mh/ea	1,886	3,000.00 /ea	9,000	-	-		-	-	4,422.20 /ea	13,267
			UPS	1.00 ea	25.00	25.000 mh/ea	1,310	10,000.00 /ea	10,000	-	-		-	-	13,457.92 /ea	13,458
			Surge Protection Devices (SPD's)	3.00 ea	12.00	4.000 mh/ea	629	4,500.00 /ea	13,500	-	-		-	-	5,436.07 /ea	16,308
			ATS	1.00 ea	10.00	10.000 mh/ea	524	18,000.00 /ea	18,000	-	-		-	-	21,231.17 /ea	21,231
			Feeders, EPO, & Grounding	1.00 ea	80.00	80.000 mh/ea	4,192	15,000.00 /ea	15,000	-	-		-	-	23,821.35 /ea	23,821
			Building Envelope 20x34	600.00 sf		mh/sf		/sf		135.00 /sf	81,000		-	-	152.82 /sf	91,692
			Mechancial/HVAC	600.00 sf		mh/sf		/sf		20.00 /sf	12,000		-	-	22.64 /sf	13,584
			ITS HUB Bldg 24' x 30' Toll Equipment Bldg	600.00 sf	163.00		8,541		215,500	155.00 /sf	93,000				605.27 /sf	363,161
			999-4086 ITS HUB Bldg	1.00 EA	163.00		8,541		215,500	93,000.00 /EA	93,000				363,161.25 /EA	363,161
			110 - ITS	**1.00 LS**	**10,892.50**		**530,361**		**1,912,148**	**512,700.00 /LS**	**512,700**	**73,144**			**3,724,424.71 /LS**	**3,724,425**
115 - Gant																
	682-1408		Cable, TP XHHW, #2													
		Cable, TP XHHW, #2														
			Wire, copper, solid, 600 volt, #2, type XHHW	17,220.00 lf	361.62	0.021 mh/lf	18,949	1.20 /lf	20,664	-	-	-	-	-	3.15 /lf	54,316
			Cable, TP XHHW, #2		361.62		18,949		20,664							54,316
			682-1408 Cable, TP XHHW, #2	17,220.00 LF	361.62		18,949		20,664	/LF					3.15 /LF	54,316
	682-6120		Cond, RIGID, 2 IN													
		Cond, RIGID, 2 IN														
			RMS Conduit 2"	9,200.00 lf	1,012.00	0.110 mh/lf	39,294	4.20 /lf	38,640				-	-	12.06 /lf	110,960
			Cond, RIGID, 2 IN		1,012.00		39,294		38,640							110,960
			682-6120 Cond, RIGID, 2 IN	9,200.00 LF	1,012.00		39,294		38,640	/LF					12.06 /LF	110,960
	682-6121		Cond, RIGID, 3 IN													
		Cond, RIGID, 3 IN														
			RMS Conduit 3"	820.00 lf	164.00	0.200 mh/lf	6,368	9.00 /lf	7,380				-	-	23.58 /lf	19,337
			Cond, RIGID, 3 IN		164.00		6,368		7,380							19,337
			682-6121 Cond, RIGID, 3 IN	820.00 LF	164.00		6,368		7,380	/LF					23.58 /LF	19,337
	682-6222		Cond, NM, TP 2, 2"													
		Cond, NM, TP 2, 2"														
			Conduit, NM, TP 2, 2"	10,250.00 lf	615.00	0.060 mh/lf	22,859	1.00 /lf	10,271	2.50 /lf	25,625	12,654	-	-	9.08 /lf	93,085
			Cond, NM, TP 2, 2"		615.00		22,859		10,271		25,625	12,654				93,085
			682-6222 Cond, NM, TP 2, 2"	10,250.00 LF	615.00		22,859		10,271	2.50 /LF	25,625	12,654			9.08 /LF	93,085
	682-9028		Pull Box													
		Pull Box														
			Excavation for minor structures, bank measure, heavy soil or clay, pits to 6' deep, by hand	61.50 bcy	123.00	2.000 mh/bcy	4,360	-	-	-	-	-	-	-	115.71 /bcy	7,116
			Electrcl undrgrnd hand holes excludes excavation,backfill	41.00 ea	246.00	6.000 mh/ea	12,890	3,500.00 /ea	143,500	-	-		-	-	4,475.10 /ea	183,479
			Pull Box		369.00		17,251		143,500							190,595
			682-9028 Pull Box	41.00 EA	369.00		17,251		143,500	/EA					4,648.66 /EA	190,595
	682-9950		Dir Bore 2"													
		Dir Bore 2"														

Work Type	Bid Item	Activity	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Amount	Material Price	Material Amount	Sub Cost/Unit	Sub Amount	Equip Amount	Other Price	Other Amount	Grand Total Unit Price	Grand Total
		Dir Bore 2"														
			Directional Boring 2"	7,500.00 lf		mh/lf		/lf		12.00 /lf	90,000		-	-	13.58 /lf	101,880
			Dir Bore 2"								90,000					101,880
			682-9950 Dir Bore 2"	7,500.00 LF						12.00 /LF	90,000				13.58 /LF	101,880
	935-1512		Out Plnt Fib Op, 12F													
		Out Plnt Fib Op, 12F														
			Out Plnt Fib Op Cbl 12 Fbr	32,000.00 lf	576.00	0.018 mh/lf	22,365	0.41 /lf	13,120	-	-	-	-	-	1.64 /lf	52,401
			Out Plnt Fib Op, 12F		576.00		22,365		13,120							52,401
			935-1512 Out Plnt Fib Op, 12F	32,000.00 LF	576.00		22,365		13,120	/LF					1.64 /LF	52,401
	935-3102		Fib Op Clos U/G 12F													
		Fib Op Clos U/G 12F														
			Fib Op Closure, 12 Fbr	82.00 ea	328.00	4.000 mh/ea	12,736	125.25 /ea	10,271	-	-		-	-	405.28 /ea	33,233
			Fib Op Clos U/G 12F		328.00		12,736		10,271							33,233
			935-3102 Fib Op Clos U/G 12F	82.00 EA	328.00		12,736		10,271	/EA					405.28 /EA	33,233
	999-9000		Gantry Systems													
		Gantry Assembly														
			Grounding rod, copper clad, 15' long, 5/8" diameter	41.00 ea	41.00	1.000 mh/ea	2,385	38.00 /ea	1,558	-	-	-	-	-	137.94 /ea	5,656
			Structure Lightning Protection	41.00 ea		mh/ea		/ea		1,500.00 /ea	61,500	-	-	-	1,698.00 /ea	69,618
			Ground wire, copper wire, bare stranded, #6	820.00 lf	12.30	0.015 mh/lf	715	0.51 /lf	417	-	-	-	-	-	2.00 /lf	1,640
			1" Liquid Tight To Devices	8,610.00 lf	172.20	0.020 mh/lf	10,016	2.50 /lf	21,525	-	-	-	-	-	4.73 /lf	40,712
			2" RMS Stantion For CCTV	41.00 ea	123.00	3.000 mh/ea	7,012	350.00 /ea	14,350	400.00 /ea	16,400	2,747	-	-	1,231.96 /ea	50,510
			Nema 3R Electrcl Pull Box At Base	123.00 ea	184.50	1.500 mh/ea	9,668	125.00 /ea	15,375	-	-		-	-	269.78 /ea	33,182
			Electrical Service	82.00 ea		mh/ea		2,000.00 /ea	164,000	-	-		-	-	2,264.00 /ea	185,648
			Type C Base Ground Cabinet	41.00 ea	492.00	12.000 mh/ea	25,781	8,500.00 /ea	348,500	-	-		-	-	10,648.20 /ea	436,576
			Housekeeping Pad For Base Cabinet	41.00 ea	164.00	4.000 mh/ea	8,594	2,000.00 /ea	82,000	-	-		-	-	2,606.07 /ea	106,849
			Type 336 Pole Mnt Cabinet for Network Switch	41.00 ea	328.00	8.000 mh/ea	17,187	7,000.00 /ea	287,000	-	-		-	-	8,608.13 /ea	352,934
			Type 336 Pole Mnt Cabinet (? noted as future ?)	41.00 ea	328.00	8.000 mh/ea	17,187	7,000.00 /ea	287,000	-	-		-	-	8,608.13 /ea	352,934
			HOT CCTV Camera [toll rate mgmt, toll rate monitoring, incident mgmt]	123.00 ea	1,968.00	16.000 mh/ea	103,123	6,000.00 /ea	738,000	-	-		-	-	8,160.27 /ea	1,003,713
			VES - Licensce Plate Reader Camera	41.00 ea	656.00	16.000 mh/ea	34,374	17,000.00 /ea	697,000	-	-		-	-	20,612.27 /ea	845,103
			Gantry Assembly		4,469.00		236,042		2,656,725		77,900	2,747				3,485,074
			999-9000 Gantry Systems	41.00 EA	4,469.00		236,042		2,656,725	1,900.00 /EA	77,900	2,747			85,001.81 /EA	3,485,074
			115 - Gant	**41.00 LS**	**7,894.62**		**375,864**		**2,900,570**	**4,720.12 /LS**	**193,525**	**15,401**			**100,997.11 /LS**	**4,140,881**

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Basis	Cost per Unit	Percent of Total	
Labor	20,416,715		309,784.130 hrs				18.84%	
Material	48,580,309						44.83%	
Subcontract	11,146,441						10.29%	
Equipment	12,081,815		270,174.458 hrs				11.15%	
Design	5,329,109			7.000 %	C		4.92%	
Escalation - Mid Point Const.	10,075,823			13.235 %	C		9.30%	
Other	728,262						0.67%	
	108,358,474	108,358,474					100.00	100.00%
Total		***108,358,474***						

HNTB

I-85 Managed Lanes
Design Build Estimate & Proposal Schedule

Total Summary Report

Description	Amount	Totals	Hours	Rate	Cost Basis	Cost per Unit	Percent of Total	
Labor	12,510,242		309,784.130 hrs				11.55%	
Material	42,456,887						39.18%	
Subcontract	9,846,680						9.09%	
Equipment	10,672,981		270,174.458 hrs				9.85%	
OH & P	9,135,616			12.000 %	C		8.43%	
Design	5,329,109			7.000 %	C		4.92%	
Small Tools	913,562			1.200 %	C		0.84%	
Labor Burden	3,753,073			30.000 %	C		3.46%	
Overtime Adjustment	2,502,048			20.000 %	C		2.31%	
Escalation - Mid Point Const.	10,075,823			13.235 %	C		9.30%	
Other	643,341						0.59%	
	107,839,362	**107,839,362**					**99.52**	**99.52%**
Sales Tax	519,113			8.000 %	C		0.48%	
Total		***108,358,475***						

I-85 Managed Lanes
Design Build Estimate & Proposal Schedule

Roadway Takeoff

HNTB

I-85 Earthwork and Paving Quantities

	South Bound		North Bound		HOT Lane		Total	
	Quantity	Unit	Quantity	Unit	Quantity	Unit	Quantity	Unit
Remove Bituminous Pavement	60983	SY	64577	SY	0	SY	125559	SY
Topsoil Stripping (EV)	53324	CY	36238	CY	6422	CY	95984	CY
Common Excavation (EV)	124881	CY	122631	CY	15922	CY	263433	CY
Embankment Fill (CV)	135901	CY	47950	CY	106343	CY	290193	CY
Topsoil Placement (CV)	22107	CY	15043	CY	4892	CY	42042	CY
Graded Aggregate Base 6"	12393	TON	12742	TON	0	TON	25135	TON
Graded Aggregate Base 12"	125169	TON	109128	TON	3376	TON	237673	TON
Recycled AC SP 25MM 660 Lbs/SY	23217	TON	16861	TON	1851	TON	41929	TON
Recycled AC SP 25MM 1320 Lbs/SY	103048	TON	99634	TON	2776	TON	205458	TON
Recycled AC SP 19MM 275 Lbs/SY	31096	TON	29687	TON	1350	TON	62133	TON
AC SMA 12.5MM 220 Lbs/SY	37485	TON	39478	TON	1080	TON	78043	TON
AC PEM 12.5MM 135 Lbs/SY	18780	TON	20271	TON	331	TON	39382	TON
2" Bituminous Milling	114525	SY	142800	SY	0	SY	257325	SY

HNTB

I-85 South Bound

Station Left	Distance	Rem Pvmt	Stripping	Cut	Fill	Topsoil	6" Base	12" Base	6" 25MM	12" 25MM	2.5" 19MM	2" 12.5MM	1.25" 12.5MM	2" Bit Milling
		LF	SF	SF	SF	SF	LF	LF	LF	LF	LF	LF	LF	LF
1000+00		0	0	0	0	0		0	0	0	0	0	0	
1001+00	100	0	0	0	0	0		0	0	0	0	0	0	
1004+00	300	0	0	0	0	0		0	0	0	0	0	0	
1005+00	100	2	11	55	0	5		34	13	21	33	33	22	
1014+00	900	2	24	20	12	11		28	13	15	28	28	16	
1023+00	900	2	50	46	70	38		28	13	15	28	28	16	
1047+00	2400	11	25	28	10	5		26	13	13	26	26	14	
1064+00	1700	13	13	20	8	6		26	13	13	26	26	14	
1079+00	1500	22	15	116	14	5		66	13	56	66	66	53	
1086+00	700	60	9	116	0	7		59	26	33	59	59	35	
1086+00	0	43	6	42	0	5		26	13	13	26	26	14	
1092+00	600	12	6	42	0	5		26	13	13	26	29	14	
1092+00	0	45	9	116	0	7		59	26	33	59	59	35	
1116+00	2400	14	21	37	36	10		37	13	24	37	37	25	
1117+00	100	14	37	18	103	20		37	13	24	37	37	25	
1121+00	400	17	72	38	300	22		40	17	24	40	40	25	
1134+00	1300	36	62	33	336	51		49	25	24	49	49	27	
1141+00	700	20	49	42	110	24		49	24	25	49	49	27	
1151+48	1048	16	74	1164	20	56		47	24	23	47	47	25	
1151+48	0	16	74	1164	20	56		47	24	23	47	47	25	
1154+00	252	16	26	36	38	9		48	22	24	46	46	26	
1154+50	50	13	42	37	40	2		46	22	24	46	46	26	
1158+00	350	45	55	106	82	9		86	22	64	86	86	68	
1159+00	100	44	58	108	208	36		90	22	70	90	90	74	
1163+29	429	25	49	135	880	123		104	68	36	104	104	55	
1163+29	0	25	12	41	16	11		104	68	36	104	104	55	
1168+00	471	25	26	88	22	14		50	22	28	50	50	30	
Bridge														
1172+00		25	54	0	724	40		51	18	35	51	51	30	
1174+00	200	29	79	53	804	56		51	22	35	51	51	30	
1186+00	1200	16	48	187	18	22		50	22	28	50	50	30	
1186+00	0	16	48	187	18	22		50	22	28	50	50	30	
1192+00	600	16	50	98	67	22		50	22	28	50	50	30	
1193+00	100	16	49	48	116	17		50	22	28	50	50	30	
1201+00	800	13	49	58	349	30		50	22	28	50	50	30	
1204+00	300	13	42	66	13	14		50	22	28	50	50	30	
1209+00	500	13	61	43	531	43		50	22	28	50	50	30	
1211+00	200	13	41	43	444	33		50	22	28	50	50	30	
1224+00	1300	12	49	50	308	28		50	22	28	50	50	30	
1226+00	200	12	41	54	147	22		50	22	28	50	50	30	
1238+00	1200	10	43	129	68	25		50	22	28	50	50	30	
1248+00	1000	13	32	60	65	14		50	22	28	50	50	30	
1257+00	900	13	45	265	9	29		50	22	28	50	50	30	
1258+00	100	13	49	363	9	33		50	22	28	50	50	30	
1260+00	200	13	56	506	11	41		50	22	28	50	50	30	
1260+47	47	13	56	506	11	41		50	22	28	50	50	30	
1260+47	0	2	15	25	11	5		25	8	17	25	25	18	
1281+00	2053	16	8	40	0	4	0	25	8	17	25	25	18	
1287+00	600	2	17	29	8	0	7	25	4	28	32	32	29	
Bridge														
1291+00		2	17	29	8	0	6	26	4	28	32	32	29	
1300+00	900	2	17	29	8	0	5	27	4	28	32	32	29	
1350+00	5000	2	17	29	8	0	5	27	4	28	32	32	29	
1400+00	5000	2	18	30	9	0	7	26	4	29	34	34	30	
1450+00	5000	2	17	29	8	0	6	26	4	28	32	32	29	
1500+00	5000	2	17	29	8	0	7	25	4	28	32	32	29	
1531+00	3100	2	18	30	9	0	29	4	4	29	34	34	30	
985 Ramp														
4011+00		38	64	96	784	43		47	22	25	47	47	27	
4013+00	200	38	66	136	574	50		47	22	25	47	47	27	
4016+00	300	38	52	82	300	40		47	22	25	47	47	27	
4017+00	100	38	24	87	32	20		47	22	25	47	47	27	
4021+74	474	38	36	72	60	36		47	22	25	47	47	27	
Overlay														
1004+41												48	48	48
1037+92	3351											48	48	48
1077+75	3983											48	48	48
1097+00	1925											48	48	48
1155+00	5800											48	48	48
1155+00	0											24	24	24
1168+00	1300											24	24	24
1172+00												24	24	24
1193+00	2100											24	24	24
1251+00	5800											24	24	24
1287+29	3629											24	24	24

I-85 North Bound

Station Right	Distance	Rem Pvmt	Stripping	Cut	Fill	Topsoil	6" Base	12" Base	25MM	12" 25MM	2.5" 19MM	2" 12.5MM	1.25" 12.5MM	2" Bit Milling
		LF	SF	SF	SF	SF	LF	LF	LF	LF	LF	LF	LF	LF
1000+00		0	0	0	0	0		0	0	0	0	0	0	
1001+00	100	14	15	41	0	9		27	14	14	26.5	26.5	15	
1004+00	300	14	8	47	0	2		27	14	14	26.5	26.5	15	
1005+00	100	14	2	43	0	2		27	14	14	26.5	26.5	15	
1014+00	900	14	15	36	29	18		27	14	14	26.5	26.5	15	
1023+00	900	14	18	32	46	22		27	14	14	25.5	26.5	15	
1047+00	2400	13	17	268	26	20		39	13	26	39	39	27	
1064+00	1700	14	16	61	10	10		40	13	27	40	40	28	
1079+00	1500	35	59	294	8	29		49	13	36	48	48	36	
1086+00	700	52	9	100	0	7		60	26	34	60	60	37	
1086+00	0	12	5	44	0	5		27	13	14	27	27	16	
1092+00	600	12	9	44	160	5		27	13	14	27	27	16	
1092+00	0	52	9	100	160	7		92	26	79	207	207	83	
1116+00	2400	14	17	34	8	11		27	13	14	27	27	14	
1117+00	100	27	17	54	8	11		41	27	14	41	41	15	
1121+00	400	38	6	70	0	6		40	26	14	40	40	17	
1134+00	1300	30	42	134	0	20		54	40	14	54	54	16	
1141+00	700	24	28	82	13	20		72	16	56	72	72	56	
1151+48	1048	13	78	186	28	47		68	42	25	68	68	30	
1151+48	0	13	45	50	24	34		40	26	13	40	40	16	
1154+00	252	14	36	42	48	25		40	26	14	40	40	15	
1154+50	50	12	0	24	0	0		12	0	12	12	12	12	
1158+00	350	12	0	24	0	0		12	0	12	12	12	12	
1159+00	100	12	0	24	0	0		12	0	12	12	12	12	
1163+29	429	12	0	24	0	0		12	0	12	12	12	12	
1163+29	0	21	0	24	0	0		12	0	12	12	12	12	
1168+00	471	10	0	24	0	0		12	0	12	12	12	12	
1169+00	100	10	36	108	0	36		10	10	0	10	10	1	
1172+00	300	10	36	108	0	36		10	10	0	10	10	1	
1174+00	200	10	0	14	0	0		10	10	0	10	10	1	
1186+00	1200	10	0	14	0	0		10	10	0	10	10	1	
1186+00	0	10	42	400	0	27		38	16	12	38	38	15	
1192+00	600	0	52	564	0	38		28	16	12	28	28	14	
1193+00	100	0	9	14	0	6		10	10	0	10	10	1	
1201+00	800	16	35	40	275	25		32	5	27	32	32	28	
1204+00	300	16	14	78	0	12		32	5	27	32	32	28	
1209+00	500	16	43	45	394	36		32	5	27	32	32	28	
1211+00	200	16	12	21	0	2		32	5	27	32	32	28	
1224+00	1300	18	35	46	316	30		32	5	27	32	32	28	
1226+00	200	18	16	55	40	22		32	5	27	32	32	28	
1238+00	1200	18	20	46	59	13		32	5	27	32	32	28	
1248+00	1000	18	17	76	0	9		32	5	27	32	32	28	
1257+00	900	18	20	136	1	15		32	5	27	32	32	28	
1258+00	100	18	5	58	0	5		32	5	27	32	32	28	
1260+00	200	16	17	60	0	5		32	5	27	32	32	28	
1260+47	47	16	17	60	0	5		32	5	27	32	32	28	
1260+47	0	16	17	60	0	5		32	5	27	32	32	28	
1281+00	2053	16	10	30	5	5	0	32	5	27	32	32	28	
1287+00	600	16	10	30	5	5	4	28	5	27	32	32	28	
Bridge														
1291+00		2	17	29	8	0	4	28	4	28	32	32	29	
1300+00	900	2	17	29	8	0	4	28	4	28	32	32	29	
1350+00	5000	2	17	29	8	0	4	28	4	28	32	32	29	
1400+00	5000	2	18	30	9	0	4	28	4	29	34	34	30	
1450+00	5000	2	17	29	8	0	4	28	4	28	32	32	29	
1500+00	5000	2	17	29	8	0	18	14	4	28	32	32	29	
1531+00	3100	2	18	30	9	0	26	7	4	29	34	34	30	
1001+00												76	76	76
1004+00	300											76	76	76
1004+00	0											60	60	60
1023+95	1995											60	60	60
1037+96	1401											60	60	60
1079+00	4104											60	60	60
1079+00	0											48	48	48
1097+00	1800											48	48	48
1135+00	3800											48	48	48
1135+00	0											36	36	36
1190+00	5500											36	36	36
1286+00	9600											36	36	36

I-85 South Bound Quantities

Station No.	Rem Pvmt	Stripping	Cut	Fill	Topsoil	Total Cut	Req Fill	Delta	6" Base	12" Base	6" 25MM	12" 25MM	2.5" 19MM	2" 12.5MM	1.25" 12.5MM	2" Bit Milling
	SY	CY	CY	CY	CY				Ton	Ton	Ton	Ton	Ton	Ton	Ton	SY
1000+00																
1001+00	0	0	0	0	0	0	0	0		0	0	0	0	0	0	
1004+00	0	0	0	0	0	0	0	0		0	0	0	0	0	0	
1005+00	11	20	102	0	9	122	11	111		115	24	77	25	20	8	
1014+00	200	583	1250	200	267	1833	560	1273		1891	429	1188	419	336	128	
1023+00	200	1233	1100	1367	817	2333	2620	(287)		1708	429	990	385	308	108	
1047+00	1733	3333	3289	3556	1911	6622	6560	62		4392	1144	2464	990	792	270	
1064+00	2267	1196	1511	567	346	2707	1096	1612		2996	810	1621	675	540	179	
1079+00	2917	778	3778	611	306	4556	1100	3456		4677	715	3795	1054	843	377	
1086+00	3189	311	3007	181	156	3319	404	2914		2965	501	2284	668	535	231	
1086+00	0	0	0	0	0	0	0	0		0	0	0	0	0	0	
1092+00	1833	133	933	0	111	1067	133	933		1057	286	572	238	202	63	
1092+00	0	0	0	0	0	0	0	0		0	0	0	0	0	0	
1116+00	7867	1333	6800	1600	756	8133	2827	5307		7808	1716	5016	1760	1408	540	
1117+00	156	107	102	257	56	209	376	(166)		251	48	176	57	45	19	
1121+00	689	807	415	2985	311	1222	3956	(2733)		1044	220	704	235	188	75	
1134+00	3828	3226	1709	15311	1757	4935	20482	(15547)		3921	1001	2288	884	707	254	
1141+00	2178	1439	972	5781	972	2411	8104	(5693)		2325	629	1258	524	419	142	
1151+48	2096	2387	23405	2523	1553	25792	4891	20902		3409	922	1844	769	615	204	
1151+48	0	0	0	0	0	0	0	0		0	0	0	0	0	0	
1154+00	448	467	5600	271	303	6067	689	5378		811	213	434	179	143	48	
1154+50	81	63	68	72	10	131	99	32		159	40	88	35	28	10	
1158+00	1128	629	927	791	71	1556	1034	521		1566	282	1129	353	282	123	
1159+00	494	209	396	537	83	606	744	(139)		596	81	491	134	108	53	
1163+29	1645	850	1931	8644	1263	2781	11888	(9108)		2820	708	1667	636	509	208	
1163+29	0	0	0	0	0	0	0	0		0	0	0	0	0	0	
1168+00	1308	331	1125	331	218	1457	659	797		2458	777	1105	554	443	150	
Bridge																
1172+00																
1174+00	600	493	196	5659	356	689	7218	(6529)		691	147	513	156	125	45	
1186+00	3000	2822	5333	18267	1733	8156	24000	(15844)		4107	968	2772	926	741	270	
1186+00	0	0	0	0	0	0	0	0		0	0	0	0	0	0	
1192+00	1067	1089	3167	944	489	4256	1720	2536		2033	484	1232	458	367	135	
1193+00	178	183	270	339	72	454	493	(40)		339	81	205	76	61	23	
1201+00	1289	1452	1570	6889	696	3022	9102	(6080)		2711	645	1643	611	489	180	
1204+00	433	506	689	2011	244	1194	2707	(1512)		1017	242	616	229	183	68	
1209+00	722	954	1009	5037	528	1963	6678	(4715)		1694	403	1027	382	306	113	
1211+00	289	378	319	3611	281	696	4671	(3975)		678	161	411	153	122	45	
1224+00	1806	2167	2239	18104	1469	4406	23487	(19081)		4406	1049	2669	993	794	293	
1226+00	267	333	385	1685	185	719	2244	(1526)		678	161	411	153	122	45	
1238+00	1467	1867	4067	4778	1044	5933	6987	(1053)		4067	968	2464	917	733	270	
1248+00	1278	1389	3500	2463	722	4889	3822	1067		3389	807	2053	764	611	225	
1257+00	1300	1283	5417	1233	717	6700	2340	4360		3050	726	1848	688	550	203	
1258+00	144	174	1163	33	115	1337	178	1159		339	81	205	76	61	23	
1260+00	289	389	3219	74	274	3607	418	3190		678	161	411	153	122	45	
1260+47	68	97	881	19	71	978	109	870		159	38	97	36	29	11	
1260+47	0	0	0	0	0	0	0	0		0	0	0	0	0	0	
1281+00	2053	874	2471	418	342	3346	912	2433	0	3479	602	2559	784	627	277	
1287+00	600	278	767	89	44	1044	160	884	142	1017	132	990	261	209	106	
Bridge																
1291+00																
1300+00	200	567	967	267	0	1533	320	1213	336	1617	132	1848	440	352	196	
1350+00	1111	3148	5370	1481	0	8519	1778	6741	1694	9150	733	10267	2444	1956	1088	
1400+00	1111	3241	5463	1574	0	8704	1889	6815	2033	8981	733	10450	2521	2017	1106	
1450+00	1111	3241	5463	1574	0	8704	1889	6815	2203	8811	733	10450	2521	2017	1106	
1500+00	1111	3148	5370	1481	0	8519	1778	6741	2203	8642	733	10267	2444	1956	1088	
1531+00	689	2009	3387	976	0	5396	1171	4225	3782	3047	455	6479	1563	1250	686	
985 Ramp																
4011+00																
4013+00	844	481	859	5030	344	1341	6449	(5108)		637	161	367	144	115	41	
4016+00	1267	656	1211	4856	500	1867	6427	(4560)		956	242	550	215	172	61	
4017+00	422	141	313	615	111	454	871	(417)		319	81	183	72	57	20	
4021+74	2001	527	1396	808	492	1922	1559	363		1510	382	869	340	272	96	
Overlay																
1004+41																
1037+92														1966	1206	17872
1077+75														2337	1434	21243
1097+00														1129	693	10267
1155+00														3403	2088	30933
1155+00														0	0	0
1168+00														381	234	3467
1172+00														0	0	0
1193+00														616	378	5600
1251+00														1701	1044	15467
1287+29														1065	653	9677

I-85 North Bound Quantities

Rem Pvmt	Stripping	Cut	Fill	Topsoil	6" Base	12" Base	6" 25MM	12" 25MM	2.5" 19MM	2" 12.5MM	1.25" 12.5MM	2" Bit Milling
SY	CY	CY	CY	CY	Ton	Ton	Ton	Ton	Ton	Ton	Ton	SY
78	28	76	0	17		92	26	51	20	16	6	
467	128	489	0	61		549	154	308	121	97	34	
156	19	167	0	7		183	51	103	40	32	11	
1400	283	1317	483	333		1647	462	924	364	292	101	
1400	550	1133	1250	667		1647	462	924	358	292	101	
3600	1556	13333	3200	1867		5368	1188	3520	1183	961	378	
2550	1039	10357	1133	944		4551	810	3304	1026	821	351	
4083	2083	9861	500	1083		4524	715	3465	1008	807	360	
3383	881	5107	104	467		2586	501	1797	578	462	192	
0	0	0	0	0		0	0	0	0	0	0	
800	156	978	1778	111		1098	286	616	248	198	72	
0	0	0	0	0		0	0	0	0	0	0	
8800	1156	5956	7467	800		9679	1716	8184	4290	3432	873	
228	63	163	30	41		230	73	103	52	42	11	
1444	170	919	59	126		1098	389	411	248	198	48	
4911	1156	4911	0	626		4141	1573	1335	933	747	161	
2100	907	2800	169	519		2989	719	1797	674	539	189	
2154	2057	5201	796	1300		4972	1114	3113	1121	897	338	
0	0	0	0	0		0	0	0	0	0	0	
378	378	429	336	275		683	240	249	154	123	29	
72	33	61	44	23		88	24	48	20	16	5	
467	0	311	0	0		285	0	308	64	51	32	
133	0	89	0	0		81	0	88	18	15	9	
572	0	381	0	0		349	0	378	79	63	39	
0	0	0	0	0		0	0	0	0	0	0	
811	0	419	0	0		383	0	414	86	69	42	
111	67	244	0	67		75	18	44	17	13	5	
333	400	1200	0	400		203	110	0	46	37	2	
222	133	452	0	133		136	73	0	31	24	2	
1333	0	622	0	0		813	440	0	183	147	9	
0	0	0	0	0		0	0	0	0	0	0	
333	1044	10711	0	722		1342	352	528	303	242	65	
0	113	1070	0	81		129	48	44	29	23	6	
711	652	800	4074	459		1139	220	792	257	205	87	
533	272	656	1528	206		651	55	594	147	117	63	
889	528	1139	3648	444		1084	92	990	244	196	105	
356	204	244	1459	141		434	37	396	98	78	42	
2456	1131	1613	7607	770		2820	238	2574	636	508	273	
400	189	374	1319	193		434	37	396	98	78	42	
2400	800	2244	2200	778		2603	220	2376	587	469	252	
2000	685	2259	1093	407		2169	183	1980	489	391	210	
1800	617	3533	17	400		1952	165	1782	440	352	189	
200	46	359	2	37		217	18	198	49	39	21	
378	81	437	0	37		434	37	396	98	78	42	
84	30	104	0	9		102	9	93	23	18	10	
0	0	0	0	0		0	0	0	0	0	0	
3650	1027	3422	190	380	0	4453	376	4065	1004	803	431	
1067	222	667	111	111	81	1220	110	1188	293	235	126	
200	567	967	267	0	244	1708	132	1848	440	352	196	
1111	3148	5370	1481	0	1356	9489	733	10267	2444	1956	1088	
1111	3241	5463	1574	0	1356	9489	733	10450	2521	2017	1106	
1111	3241	5463	1574	0	1356	9489	733	10450	2521	2017	1106	
1111	3148	5370	1481	0	3728	7117	733	10267	2444	1956	1088	
689	2009	3387	976	0	4622	2206	455	6479	1563	1250	686	
										279	171	2533
										0	0	0
										1463	898	13300
										1027	630	9340
										3010	1847	27360
										0		
										0	0	0
										1056	648	9600
										2229	1368	20267
										0	0	0
										2420	1485	22000
										4224	2592	38400

I-85 South Bound Quantities

	60983	53324	124881	135901	22107				12393	125169	23217	103048	31096	37485	18780	114525
	Rem Pvmt	Stripping	Cut	Fill	Topsoil				6" Base	12" Base	6" 25MM	12" 25MM	2.5" 19MM	2" 12.5MM	1.25" 12.5MM	2" Bit Milling
	SY	CY	CY	CY	CY				Ton	Ton	Ton	Ton	Ton	Ton	Ton	SY
											660 lbs/sy	1320 lbs/sy	275 lbs/sy	200 lbs/sy	132 lbs/sy	

I-85 North Bound Quantities

64577	36238	122631	47950	15043	12742	109128	16861	99634	29687	39478	20271	142800
Rem Pvmt	Stripping	Cut	Fill	Topsoil	6" Base	12" Base	6" 25MM	12" 25MM	2.5" 19MM	2" 12.5MM	1.25" 12.5MM	2" Bit Milling
SY	CY	CY	CY	CY	Ton	Ton	Ton	Ton	Ton	Ton	Ton	SY
							660 lbs/sy	1320 lbs/sy	275 lbs/sy	200 lbs/sy	132 lbs/sy	

HNTB

HOT Lane Sta 3015+00 - 4049+55 Earthwork & Paving Quantity Take-Off Breakout

STATION	Dist	Stripping	Cut	Fill	Topsoil	Granular Base @ 12"	STRIPPING	Cut	Fill	TOPSOIL	Granular Base @ 12"	6" 25MM	12" 25MM	2.5" 19MM	2" 12.5MM	1.25" 12.5MM	6" 25MM	12" 25MM	2.5" 19MM	2" 12.5MM	1.25" 12.5MM
STATION	LF	SF	SF	**SF**	**SF**	**SF**	**CY**	**CY**	**CY**	**CY**	**CY**	LF	LF	LF	LF	LF	Ton	Ton	Ton	Ton	Ton
2151+47 I-85 Sta=		-	-	-	-	-															
3015+00		32	-	195	18	28	-	-	-	-	-	16	12	28	28	14					
3016+00	100	46	-	602	34	28	144	-	1,476	96	104	16	12	28	28	14	59	88	43	34	11
3017+00	100	44	-	230	30	28	167	-	1,541	119	104	16	12	28	28	14	59	88	43	34	11
3018+00	100	45	-	440	32	28	165	-	1,241	115	104	16	12	28	28	14	59	88	43	34	11
3019+00	100	37	12	100	23	28	152	22	1,000	102	104	16	12	28	28	14	59	88	43	34	11
3020+00	100	50	296	52	31	28	161	570	281	100	104	16	12	28	28	14	59	88	43	34	11
3021+00	100	52	722	56	42	28	189	1,885	200	135	104	16	12	28	28	14	59	88	43	34	11
3022+00	100	56	710	112	43	28	200	2,652	311	157	104	16	12	28	28	14	59	88	43	34	11
3023+00	100	42	114	174	30	28	181	1,526	530	135	104	16	12	28	28	14	59	88	43	34	11
3024+00	100	37	-	506	26	28	146	211	1,259	104	104	16	12	28	28	14	59	88	43	34	11
3025+00	100	46	-	930	35	28	154	-	2,659	113	104	16	12	28	28	14	59	88	43	34	11
3026+00	100	53	-	1,030	42	28	183	-	3,630	143	104	16	12	28	28	14	59	88	43	34	11
3027+00	100	40	-	564	27	28	172	-	2,952	128	104	16	12	28	28	14	59	88	43	34	11
3028+00	100	43	-	560	58	28	154	-	2,081	157	104	16	12	28	28	14	59	88	43	34	11
3029+00	100	41	15	166	27	28	156	28	1,344	157	104	16	12	28	28	14	59	88	43	34	11
3030+00	100	40	68	108	26	28	150	154	507	98	104	16	12	28	28	14	59	88	43	34	11
3031+00	100	38	-	100	25	28	144	126	385	94	104	16	12	28	28	14	59	88	43	34	11
3032+00	100	50	-	714	34	28	163	-	1,507	109	104	16	12	28	28	14	59	88	43	34	11
Bridge																					
3034+00		95	-	3,082	92	28	-	-	-	-	-										
3035+00	100	81	-	2,048	65	28	326	-	9,500	291	104	16	12	28	28	14					
3036+00	100	82	-	2,378	65	28	302	-	8,196	241	104	16	12	28	28	14	59	88	43	34	11
3037+00	100	80	-	2,167	64	28	300	-	8,417	239	104	16	12	28	28	14	59	88	43	34	11
3038+00	100	77	-	2,136	63	28	291	-	7,969	235	104	16	12	28	28	14	59	88	43	34	11
3039+00	100	75	-	2,107	62	28	281	-	7,857	231	104	16	12	28	28	14	59	88	43	34	11
3040+00	100	77	-	2,285	60	28	281	-	8,133	226	104	16	12	28	28	14	59	88	43	34	11
3041+00	100	70	-	2,078	54	28	272	-	8,080	211	104	16	12	28	28	14	59	88	43	34	11
3042+00	100	63	-	1,852	49	28	246	-	7,278	191	104	16	12	28	28	14	59	88	43	34	11
3043+00	100	59	-	1,752	46	28	226	-	6,674	176	104	16	12	28	28	14	59	88	43	34	11
3044+00	100	51	-	1,332	40	28	204	-	5,711	159	104	16	12	28	28	14	59	88	43	34	11
3045+00	100	47	-	722	33	28	181	-	3,804	135	104	16	12	28	28	14	59	88	43	34	11
3046+00	100	27	-	130	14	28	137	-	1,578	87	104	16	12	28	28	14	59	88	43	34	11
3047+00	100	49	688	-	36	28	141	1,274	241	93	104	16	12	28	28	14	59	88	43	34	11
3048+00	100	49	838	-	35	28	181	2,826	-	131	104	16	12	28	28	14	59	88	43	34	11
3049+00	100	47	828	-	29	28	178	3,085	-	119	104	16	12	28	28	14	59	88	43	34	11
3049+55	55	42	696	-	28	28	93	1,562	-	64	57	16	12	28	28	14	32	48	24	19	6
1186+00 I-85 Sta																					

STRIPPING	CUT	FILL	TOPSOIL	GRANULAR BASE
				-
CY	**CY**	**CY**	**CY**	**CY**
6,422	**15,922**	**106,343**	**4,892**	**3,376**

HOT Lane Sta 3015+00 - 4049+55 Bituminous Quantities

6" 25MM	12" 25MM	2.5" 19MM	2" 12.5MM	1.25" 12.5MM
Ton	**Ton**	**Ton**	**Ton**	**Ton**
1,851	**2,776**	**1,350**	**1,080**	**331**

HNTB

HOT Lane Sta 3015+00 - 4049+55 Earthwork Quantity Take-Off Breakout

STATION	Dist	Stripping	Cut	Fill	Topsoil	Granular Base @ 12"	STRIPPING	Cut	Fill	TOPSOIL	Granular Base @ 12"
STATION	LF	SF	SF	SF	SF	SF	CY	CY	CY	CY	CY
2151+47 I-85 Sta=		-	-	-	-	-					
3015+00		32	-	195	18	28	-	-	-	-	-
3016+00	100	46	-	602	34	28	144	-	1,476	96	104
3017+00	100	44	-	230	30	28	167	-	1,541	119	104
3018+00	100	45	-	440	32	28	165	-	1,241	115	104
3019+00	100	37	12	100	23	28	152	22	1,000	102	104
3020+00	100	50	296	52	31	28	161	570	281	100	104
3021+00	100	52	722	56	42	28	189	1,885	200	135	104
3022+00	100	56	710	112	43	28	200	2,652	311	157	104
3023+00	100	42	114	174	30	28	181	1,526	530	135	104
3024+00	100	37	-	506	26	28	146	211	1,259	104	104
3025+00	100	46	-	930	35	28	154	-	2,659	113	104
3026+00	100	53	-	1,030	42	28	183	-	3,630	143	104
3027+00	100	40	-	564	27	28	172	-	2,952	128	104
3028+00	100	43	-	560	58	28	154	-	2,081	157	104
3029+00	100	41	15	166	27	28	156	28	1,344	157	104
3030+00	100	40	68	108	26	28	150	154	507	98	104
3031+00	100	38	-	100	25	28	144	126	385	94	104
3032+00	100	50	-	714	34	28	163	-	1,507	109	104
Bridge											
3034+00		95	-	3,082	92	28	-	-	-	-	-
3035+00	100	81	-	2,048	65	28	326	-	9,500	291	104
3036+00	100	82	-	2,378	65	28	302	-	8,196	241	104
3037+00	100	80	-	2,167	64	28	300	-	8,417	239	104
3038+00	100	77	-	2,136	63	28	291	-	7,969	235	104
3039+00	100	75	-	2,107	62	28	281	-	7,857	231	104
3040+00	100	77	-	2,285	60	28	281	-	8,133	226	104
3041+00	100	70	-	2,078	54	28	272	-	8,080	211	104
3042+00	100	63	-	1,852	49	28	246	-	7,278	191	104
3043+00	100	59	-	1,752	46	28	226	-	6,674	176	104
3044+00	100	51	-	1,332	40	28	204	-	5,711	159	104
3045+00	100	47	-	722	33	28	181	-	3,804	135	104
3046+00	100	27	-	130	14	28	137	-	1,578	87	104
3047+00	100	49	688	-	36	28	141	1,274	241	93	104
3048+00	100	49	838	-	35	28	181	2,826	-	131	104
3049+00	100	47	828	-	29	28	178	3,085	-	119	104
3049+55	55	42	696	-	28	28	93	1,562	-	64	57
1186+00 I-85 Sta											

HOT Lane Sta 3015+00 - 4049+55 Earthwork Quantity Take-Off Breakout				
STRIPPING	CUT	FILL	TOPSOIL	GRANULAR BASE
CY	CY	CY	CY	CY
6,422	15,922	106,343	4,892	3,376

Takeoff Tab

I-85 Managed Lanes DRAINAGE

Bid No. 23

No.	Name	Height	Area	Quantity1	UOM1	Quantity2	UOM2	Quantity3	UOM3
77	15" RC Drop Inlet Structure - Shoulder Catchbasin	0"	(unassigned)	4	EA	0		0	
60	15" RC Pipe Apron / New or Reinstall w/riprap	0"	(unassigned)	12	EA	0		0	
59	15" RCP - Extend	0"	(unassigned)	499	LF	0		0	
74	18" RC Inlet Structure - Shoulder Catchbasin	0"	(unassigned)	3	EA	0		0	
63	18" RC Pipe Apron / New or Reinstall w/riprap	0"	(unassigned)	4	EA	0		0	
62	18" RCP - Extend	0"	(unassigned)	185	LF	0		0	
66	24" RC Inlet Structure - Shoulder Catchbasin	0"	(unassigned)	28	EA	0		0	
29	24" RC Inlet Structure (replaces 18" Cross Drain)	0"	(unassigned)	6	EA	0		0	
54	24" RC Inlet Structure w/5ft of 24" RCP	0"	(unassigned)	81	EA	0		0	
65	24" RC Pipe Apron - Flange Outlet	0"	(unassigned)	11	EA	0		0	
14	24" RC Pipe Apron - Flange Outlet (replaces 18" Cross Drain)	0"	(unassigned)	1	EA	0		0	
53	24" RCP	0"	(unassigned)	17,906	LF	0		0	
33	24" RCP (replaces 18" CM)	0"	(unassigned)	541	LF	0		0	
64	24" RCP - Extend	0"	(unassigned)	5,652	LF	0		0	
68	30" MH Drop Inlet Structure - shoulder	0"	(unassigned)	3	EA	0		0	
70	30" RC Pipe Apron - Flange Outlet	0"	(unassigned)	2	EA	0		0	
69	30" RCP - Extend	0"	(unassigned)	131	LF	0		0	
52	30/36" MH Drop Inlet Structure	0"	(unassigned)	9	EA	0		0	
51	36" RC Pipe Apron - Flange Outlet	0"	(unassigned)	9	EA	0		0	
83	36" RC Pipe Apron - Flange Outlet	0"	(unassigned)	2	EA	0		0	
82	36" RCP - Extend	0"	(unassigned)	42	LF	0		0	
50	36" RCP / Jacked In	0"	(unassigned)	1,126	LF	10	EA	0	
80	42" RC Pipe Apron - Flange Outlet	0"	(unassigned)	5	EA	0		0	
79	42" RCP - Extend	0"	(unassigned)	157	LF	0		0	
93	48" RC Pipe Apron - Flange Outlet	0"	(unassigned)	1	EA	0		0	
92	48" RCP - Extend	0"	(unassigned)	12	LF	0		0	
88	5Wx5H Culvert Apron - Flange Outlet	0"	(unassigned)	2	EA	0		0	
87	5Wx5H Culvert- Extend	0"	(unassigned)	66	LF	0		0	
85	5Wx6H Culvert Apron - Flange Outlet	0"	(unassigned)	7	EA	0		0	

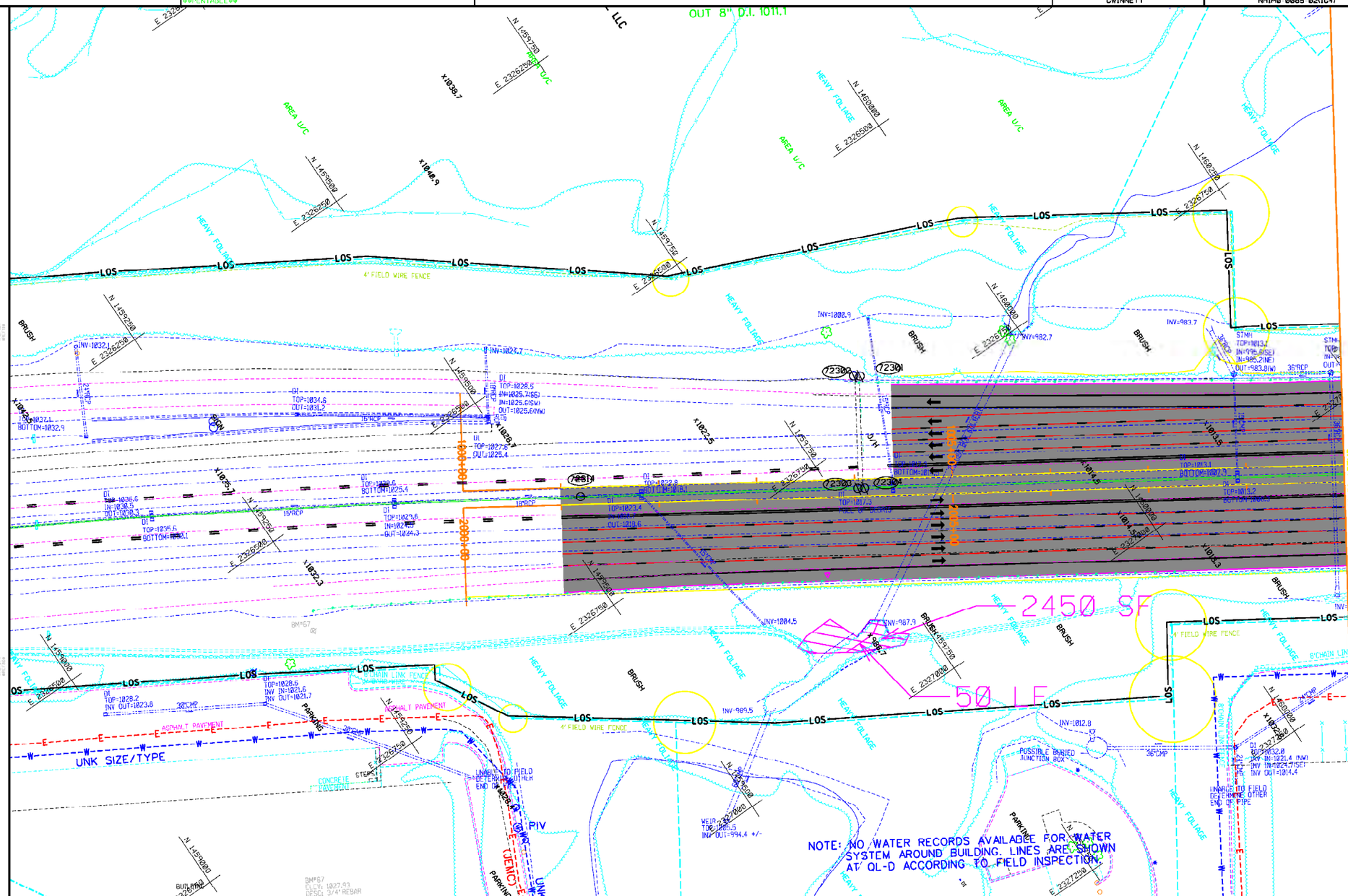
Takeoff Tab

I-85 Managed Lanes DRAINAGE

Bid No. 23

No.	Name	Height	Area	Quantity1	UOM1	Quantity2	UOM2	Quantity3	UOM3
84	5Wx6H Culvert- Extend	0"	(unassigned)	228	LF	0		0	
4	CROSS OVERS	1' 0"	(unassigned)	213	LF	6,379	SF	236	CY
95	CROSS OVERS SF	0"	(unassigned)	24,220	SF	897	CY	0	
94	Pipe Jacking 24"	0"	(unassigned)	354	LF	0		0	
96	Pipe Jacking 30"	0"	(unassigned)	53	LF	0		0	
56	Remove Existing 15" CM Inlet	0"	(unassigned)	30	EA	0		0	
75	Remove Existing 15" DI Structure	0"	(unassigned)	6	EA	0		0	
55	Remove Existing 15" RC Pipe Apron	0"	(unassigned)	29	EA	0		0	
58	Remove Existing 15" RC Pipe Apron	0"	(unassigned)	13	EA	0		0	
57	Remove Existing 15" RCP	0"	(unassigned)	3,079	LF	0		0	
76	Remove Existing 15" RCP	0"	(unassigned)	563	LF	0		0	
72	Remove Existing 18" DI Structure	0"	(unassigned)	6	EA	0		0	
61	Remove Existing 18" RC Pipe Apron	0"	(unassigned)	5	EA	0		0	
73	Remove Existing 18" RCP	0"	(unassigned)	661	LF	0		0	
67	Remove Existing 24" RC Pipe Apron	0"	(unassigned)	7	EA	0		0	
90	Remove Existing 30" DI Structure	0"	(unassigned)	1	EA	0		0	
71	Remove Existing 30" RC Pipe Apron	0"	(unassigned)	1	EA	0		0	
81	Remove Existing 36" RC Pipe Apron	0"	(unassigned)	2	EA	0		0	
78	Remove Existing 42" RC Pipe Apron	0"	(unassigned)	5	EA	0		0	
91	Remove Existing 48" RC Pipe Apron	0"	(unassigned)	1	EA	0		0	
89	Remove Existing 5'Wx5'H Culvert Apron	0"	(unassigned)	3	EA	0		0	
86	Remove Existing 5'Wx6'H Culvert Apron	0"	(unassigned)	6	EA	0		0	

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$PENTABLE$		GWINNETT	NHIM0 0085 02(IG4)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA
CONSTRUCTION LIMITS	LIMIT OF ACCESS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

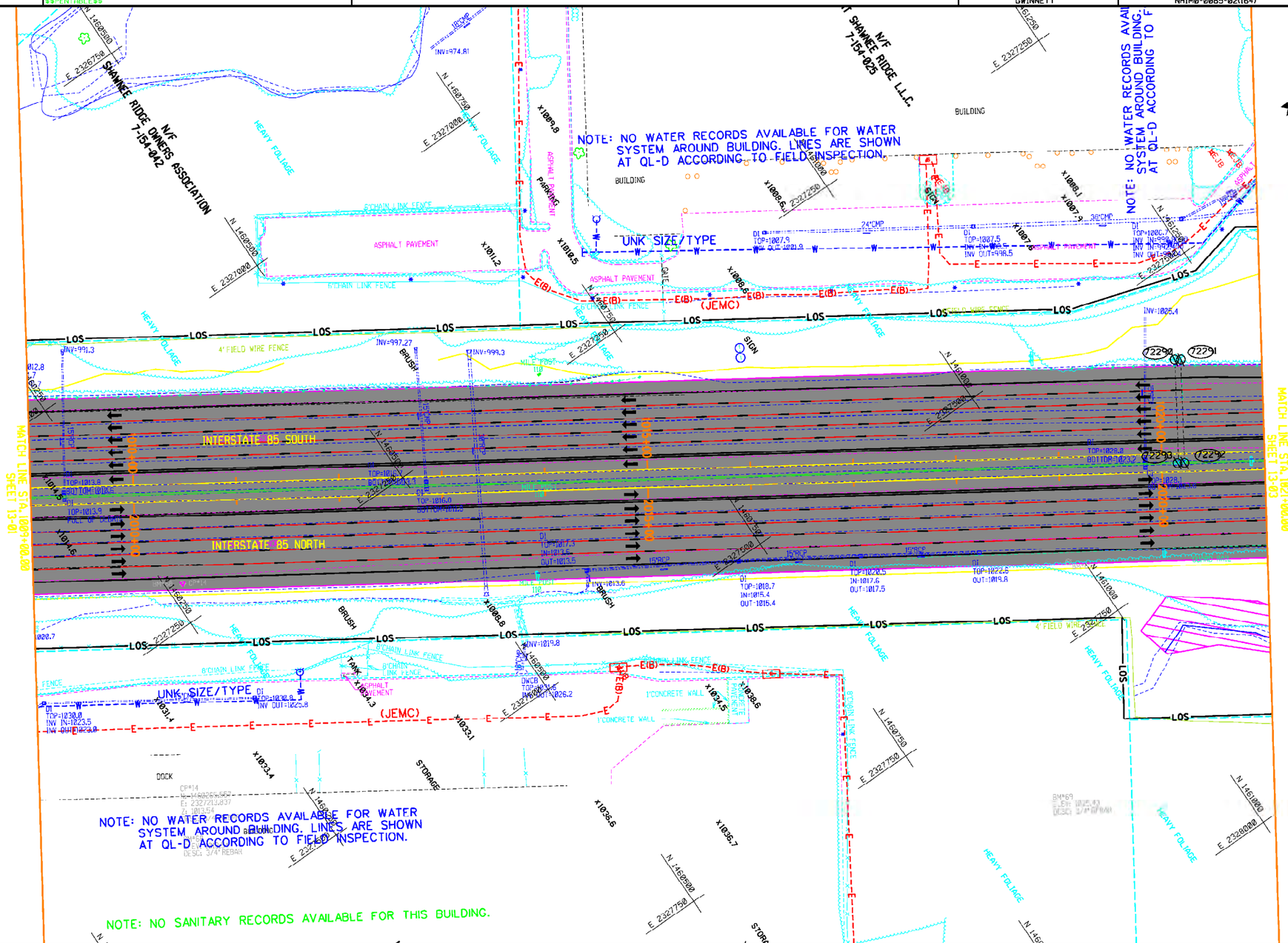
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-01

DATETIME$$$ TIME$$$ PRF DGN

$USER$ $$PENTABLE$$

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

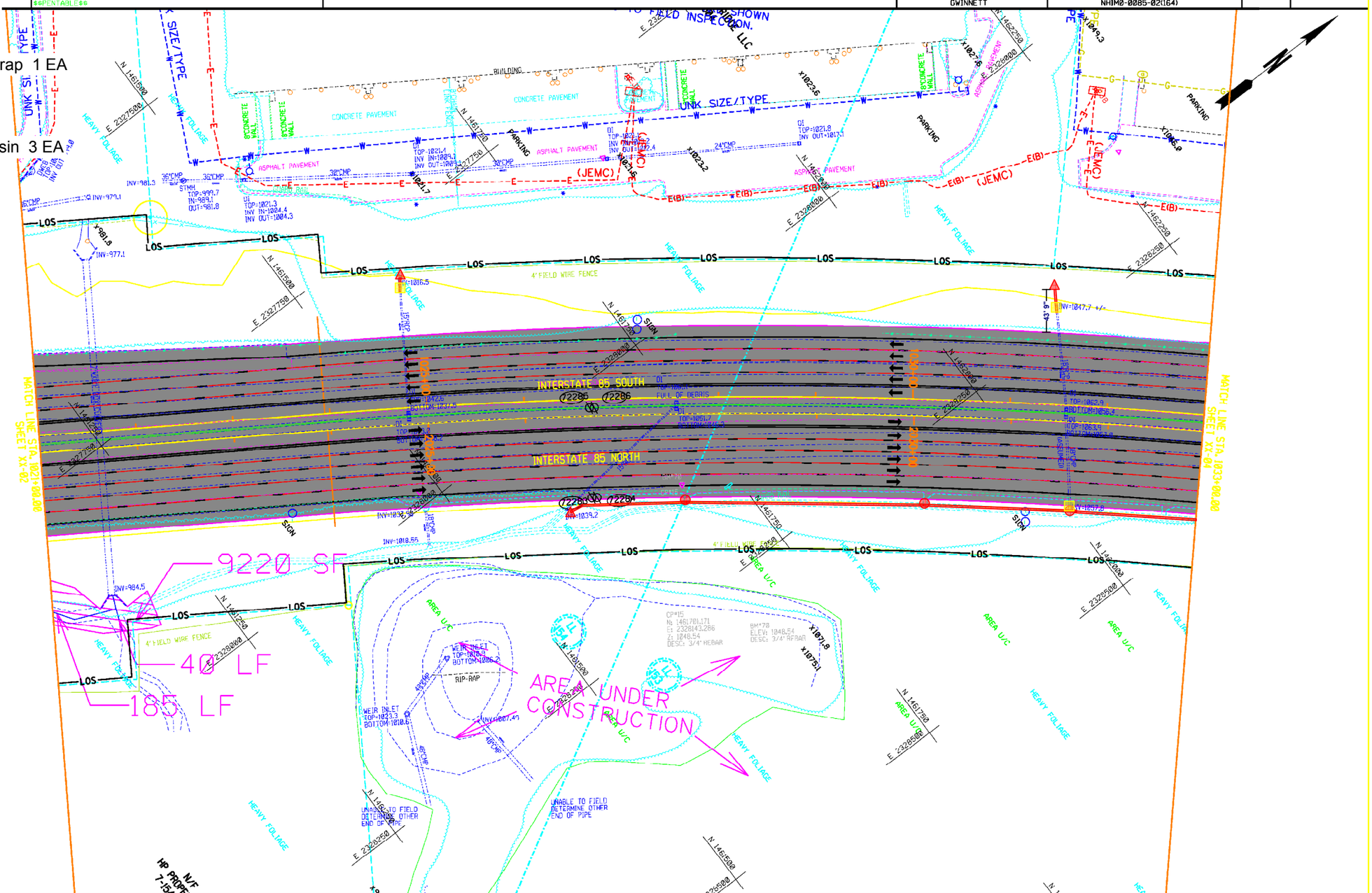
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. -02

Remove Existing 15" RC Pipe Apron 1 EA
15" RCP - Extend 15 LF
15" RC Pipe Apron / New or Reinstall w/riprap 1 EA
Remove Existing 18" RC Pipe Apron 2 EA
18" RCP - Extend 24 LF
18" RC Pipe Apron / New or Reinstall w/riprap 1 EA
24" RCP - Extend 648 LF
24" RC Pipe Apron - Flange Outlet 1 EA
24" RC Inlet Structure - Shoulder Catchbasin 3 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

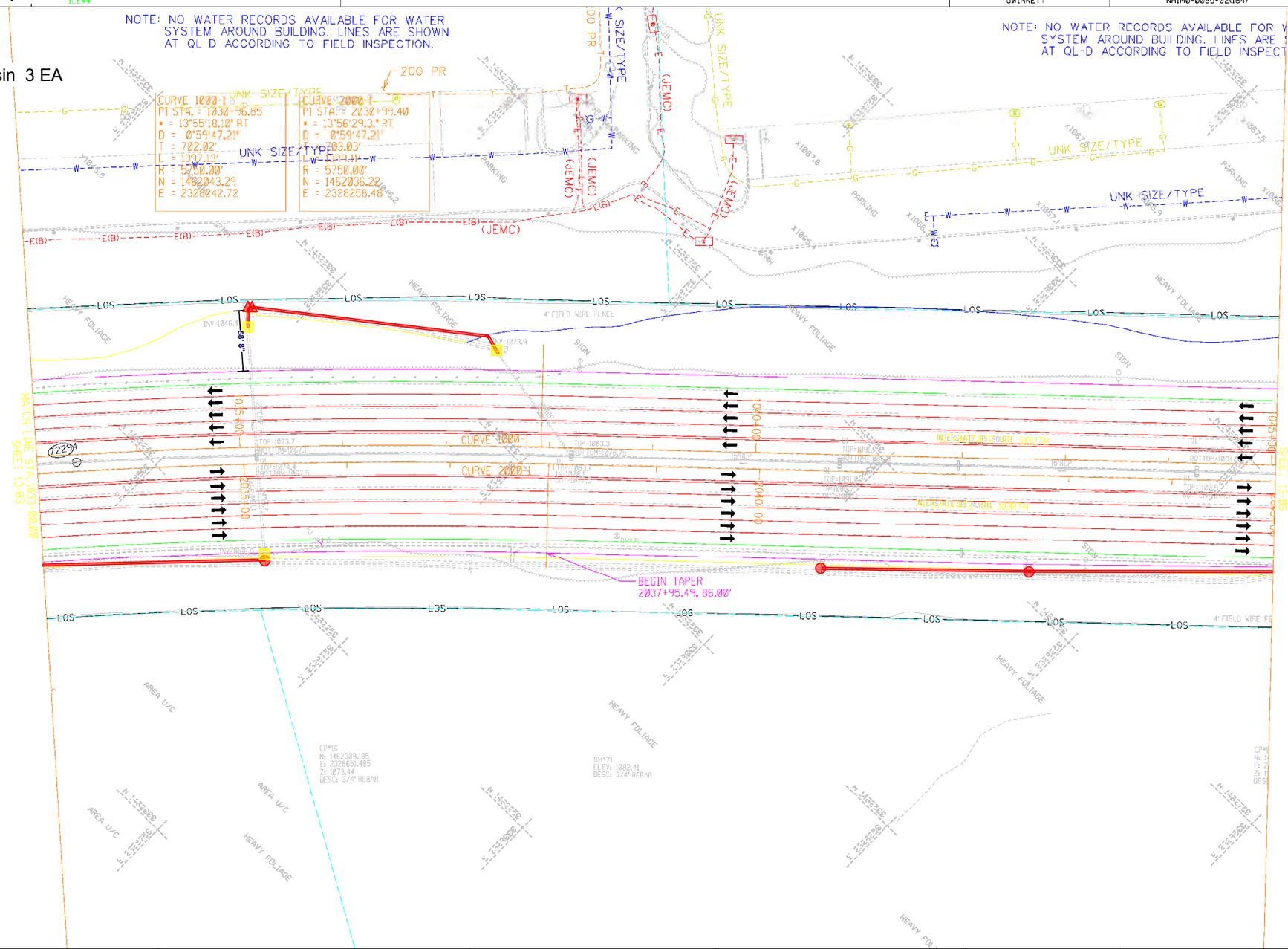
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-03

- Remove Existing 15" RC Pipe Apron 1 EA
- 15" RCP - Extend 251 LF
- 15" RC Pipe Apron / New or Reinstall w/riprap 1 EA
- 24" RCP - Extend 672 LF
- 24" RC Pipe Apron - Flange Outlet 1 EA
- 24" RC Inlet Structure - Shoulder Catchbasin 3 EA
- Remove Existing 24" RC Pipe Apron 2 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA
CONSTRUCTION LIMITS	LIMIT OF ACCESS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET 0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

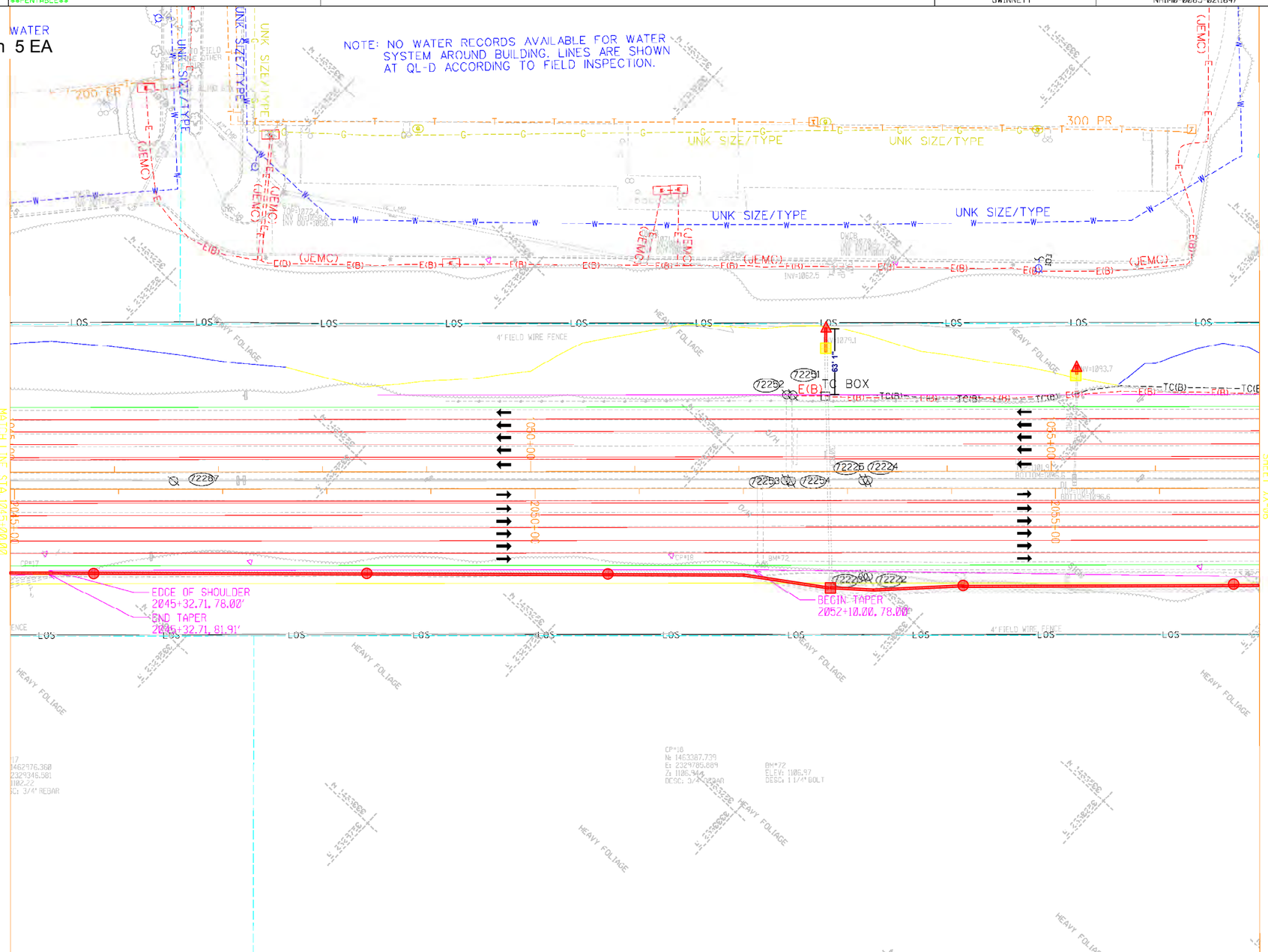
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO. 13-04

- Remove Existing 15" RC Pipe Apron 1 EA
- 15" RCP - Extend 9 LF
- 15" RC Pipe Apron / New or Reinstall w/riprap 1 EA
- 24" RCP - Extend 1,202 LF
- 24" RC Inlet Structure - Shoulder Catchbasin 5 EA
- 30" MH Drop Inlet Structure - shoulder 1 EA
- 30" RCP - Extend 23 LF
- 30" RC Pipe Apron - Flange Outlet 1 EA
- Remove Existing 30" RC Pipe Apron 1 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA
CONSTRUCTION LIMITS	LIMIT OF ACCESS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

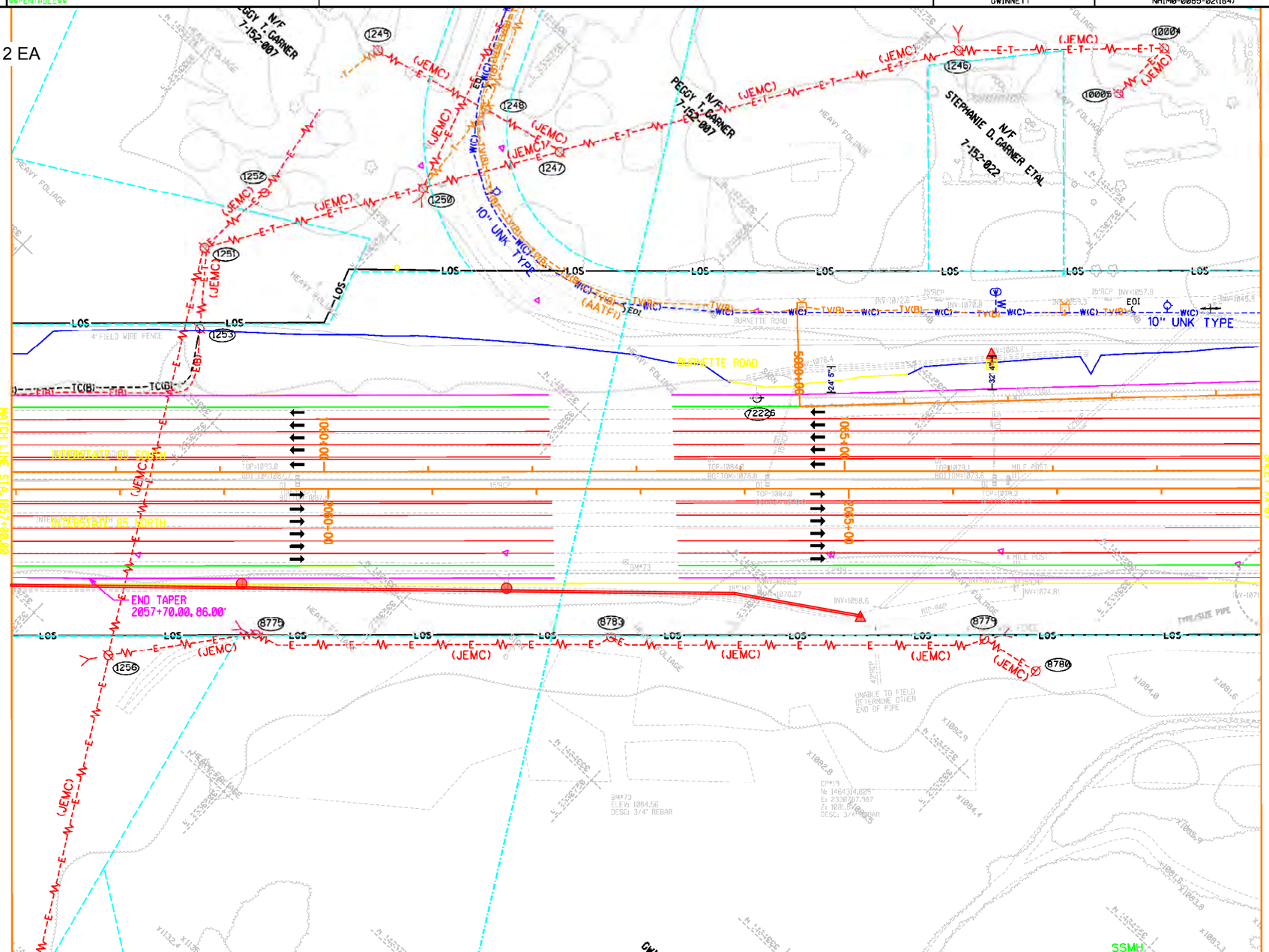
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-05

Remove Existing 15" RC Pipe Apron 1 EA
15" RCP - Extend 9 LF
15" RC Pipe Apron / New or Reinstall w/riprap 1 EA
24" RCP - Extend 820 LF
24" RC Pipe Apron - Flange Outlet 1 EA
24" RC Inlet Structure - Shoulder Catchbasin 2 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO. 13-06

Remove Existing 15" RC Pipe Apron 4 EA

15" RCP - Extend 49 LF

15" RC Pipe Apron / New or Reinstall w/riprap 3 EA

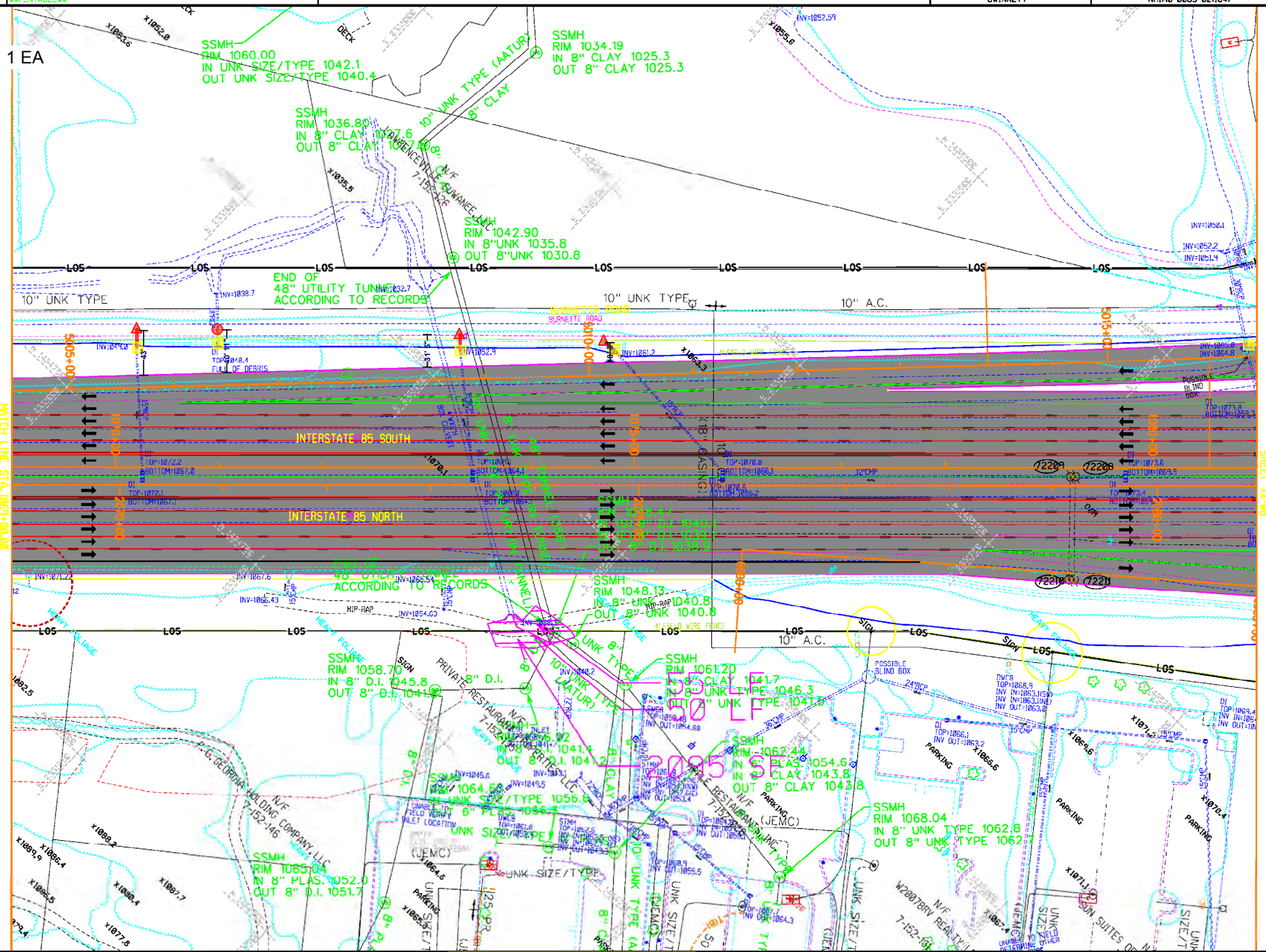
Remove Existing 18" DI Structure 1 EA

Remove Existing 18" RCP 14 LF

18" RC Inlet Structure - Shoulder Catchbasin 1 EA

Remove Existing 15" RCP 8 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

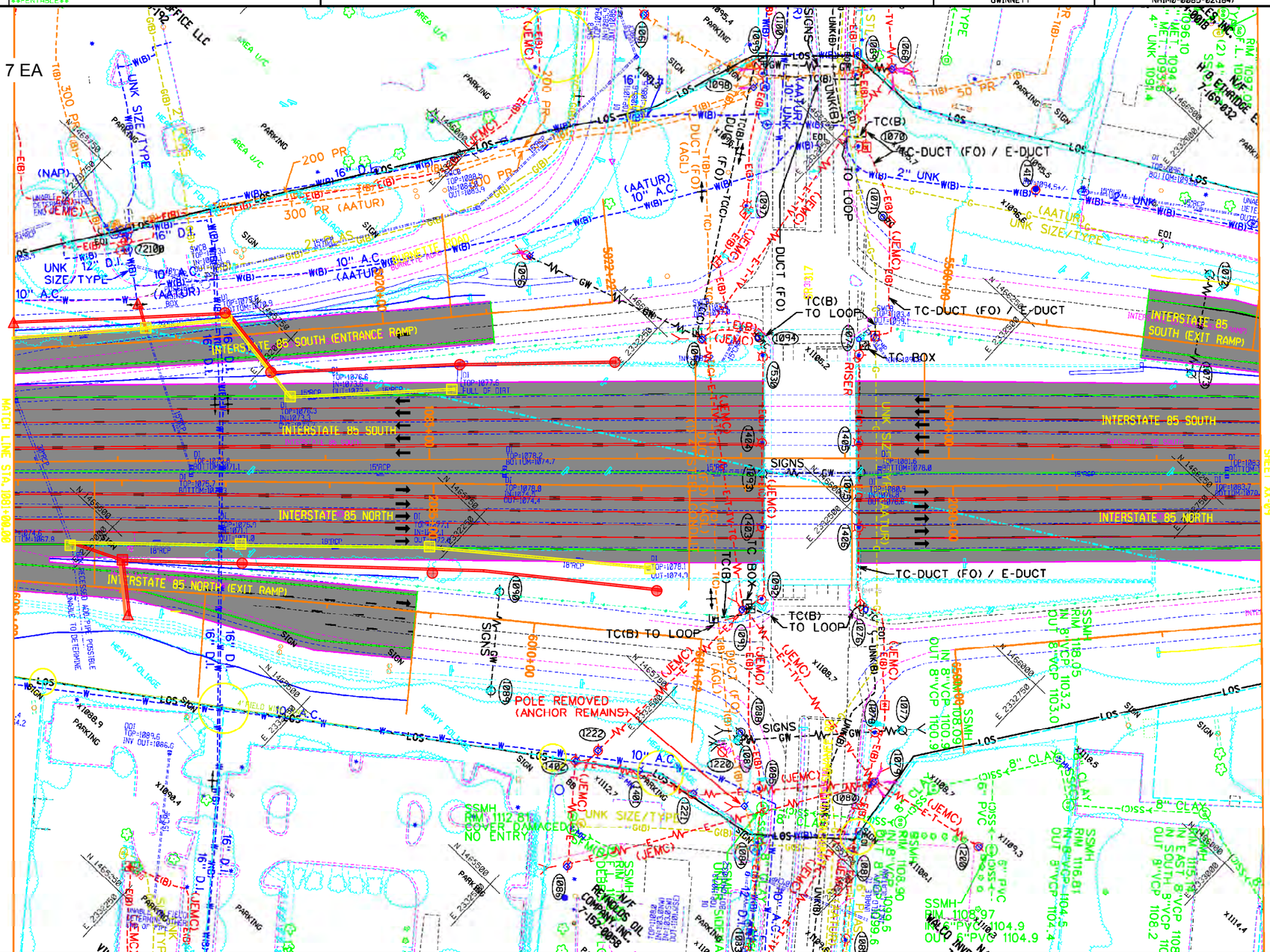
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
15-07

Remove Existing 15" RC Pipe Apron 1 EA
15" RCP - Extend 25 LF
15" RC Pipe Apron / New or Reinstall w/riprap 1 EA
24" RCP - Extend 1,129 LF
24" RC Pipe Apron - Flange Outlet 1 EA
24" RC Inlet Structure - Shoulder Catchbasin 7 EA
30" MH Drop Inlet Structure - shoulder 1 EA
30" RCP - Extend 108 LF
30" RC Pipe Apron - Flange Outlet 1 EA
Remove Existing 18" DI Structure 4 EA
Remove Existing 18" RCP 561 LF
Remove Existing 15" DI Structure 2 EA
Remove Existing 15" RCP 467 LF
Remove Existing 30" DI Structure 1 EA
Pipe Jacking 24" 73 LF
Pipe Jacking 30" 53 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. -08

Remove Existing 18" RC Pipe Apron 1 EA

18" RCP - Extend 22 LF

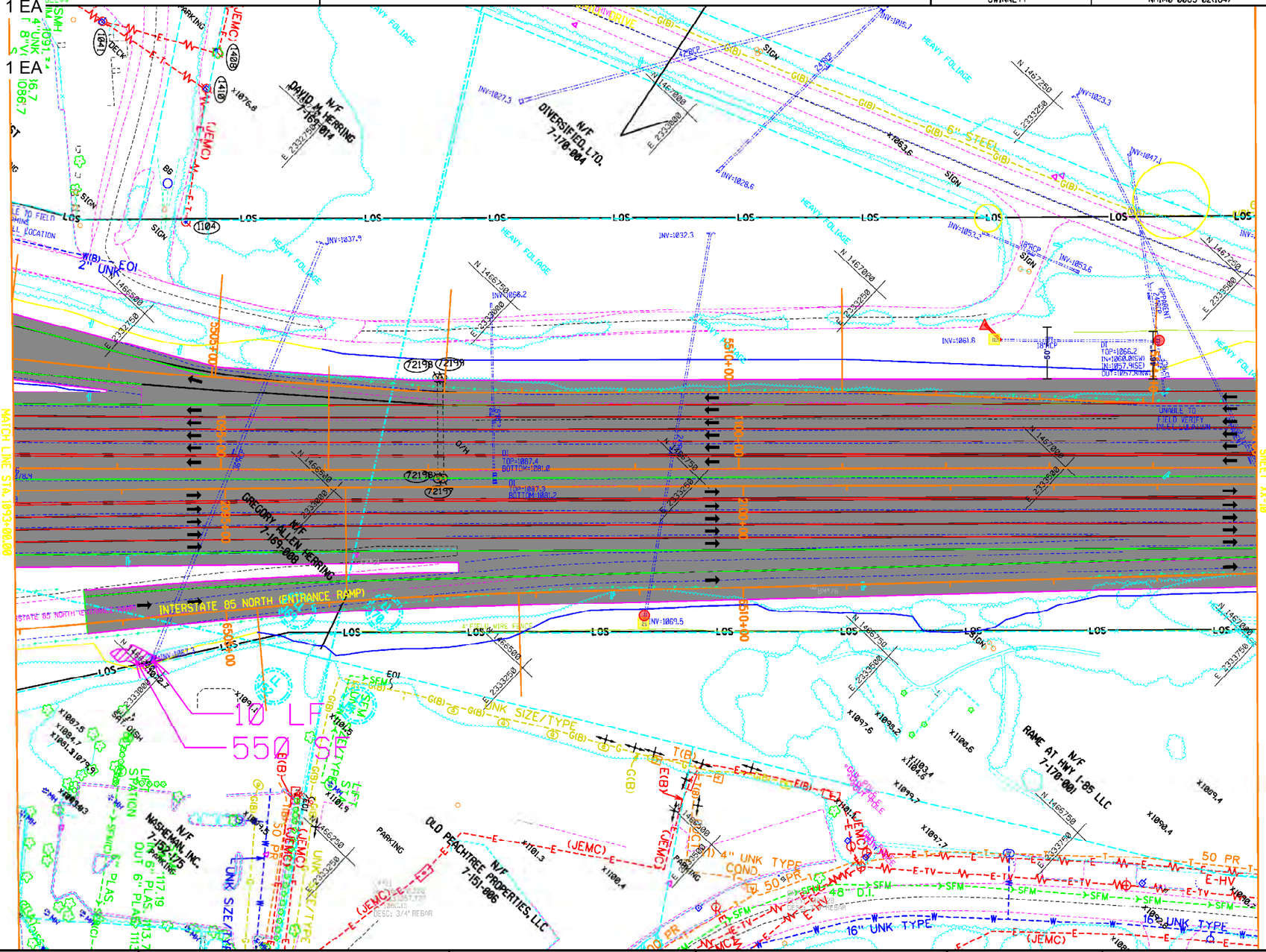
18" RC Pipe Apron / New or Reinstall w/riprap 1 EA

24" RC Inlet Structure - Shoulder Catchbasin 1 EA

Remove Existing 24" RC Pipe Apron 1 EA

18" RC Inlet Structure - Shoulder Catchbasin 1 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	C F
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET 0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 3-09

Remove Existing 15" RC Pipe Apron 1 EA

15" RCP - Extend 25 LF

15" RC Pipe Apron / New or Reinstall w/riprap 1 EA

24" RCP - Extend 998 LF

24" RC Pipe Apron - Flange Outlet 2 EA

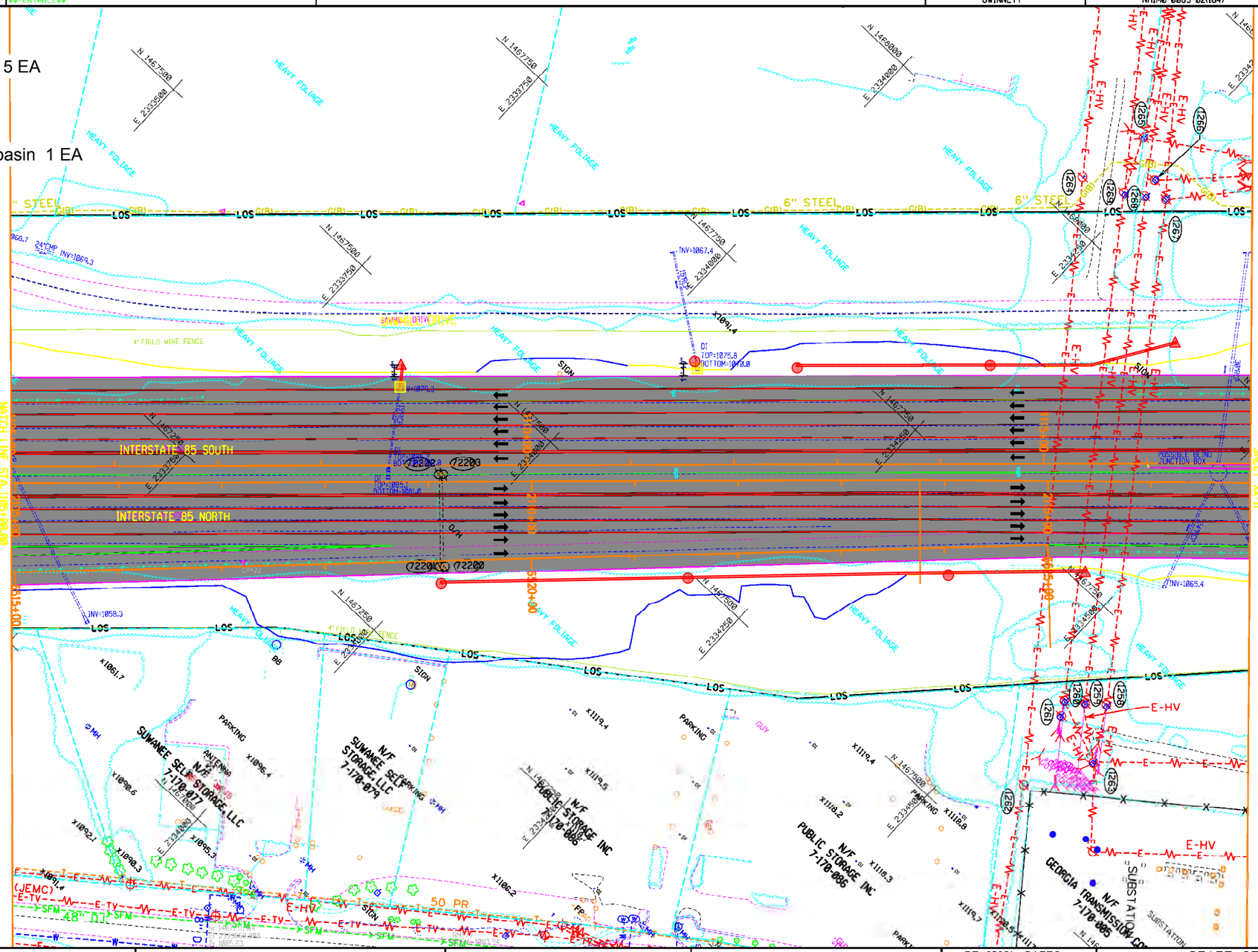
24" RC Inlet Structure - Shoulder Catchbasin 5 EA

Remove Existing 15" DI Structure 1 EA

Remove Existing 15" RCP 5 LF

15" RC Drop Inlet Structure - Shoulder Catchbasin 1 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET 0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO. 13-10

Remove Existing 15" RC Pipe Apron 2 EA

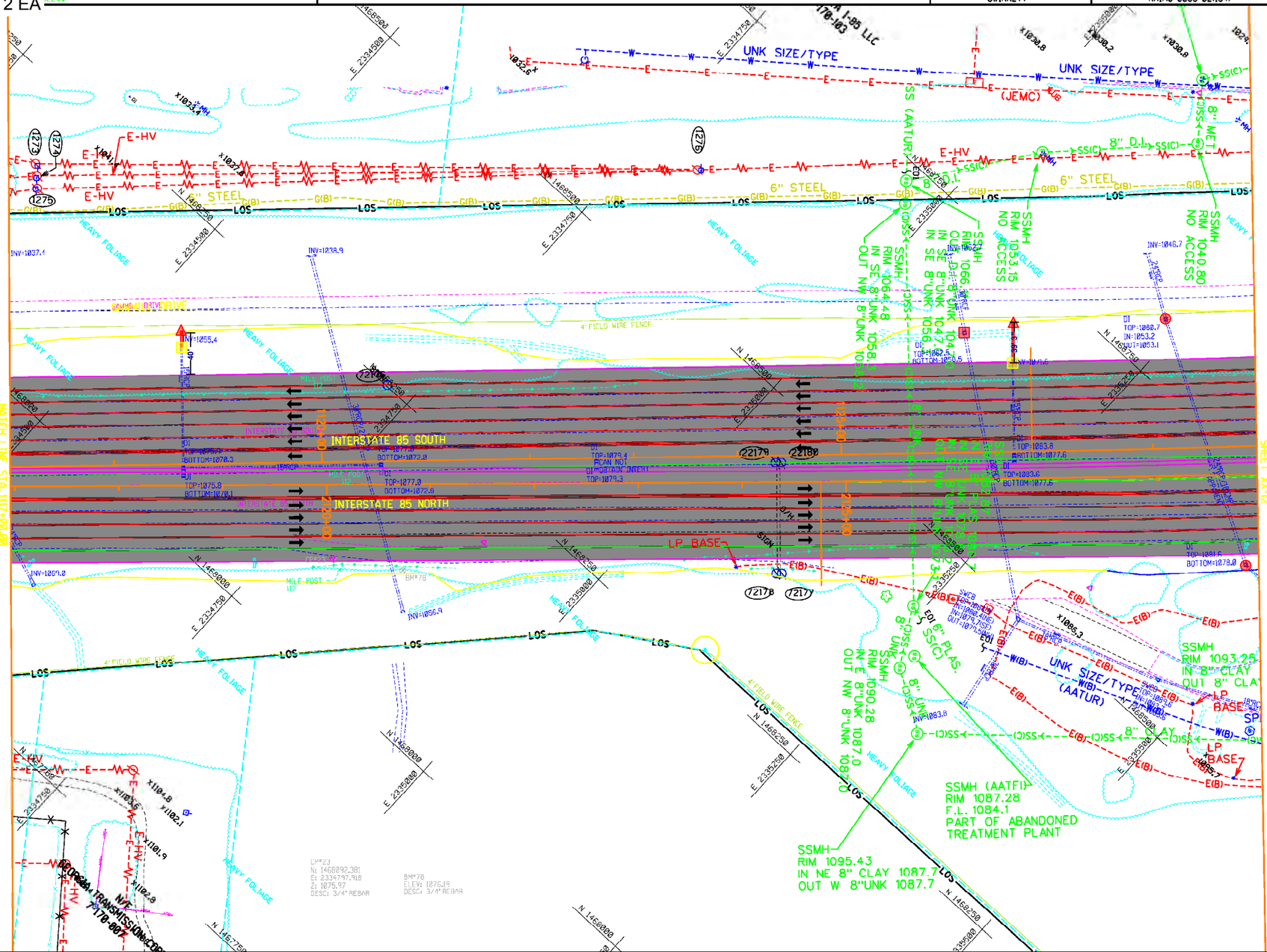
15" RCP - Extend 56 LF

15" RC Pipe Apron / New or Reinstall w/riprap 2 EA

24" RC Inlet Structure - Shoulder Catchbasin 2 EA

30" MH Drop Inlet Structure - shoulder 1 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA
CONSTRUCTION LIMITS	LIMIT OF ACCESS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-11

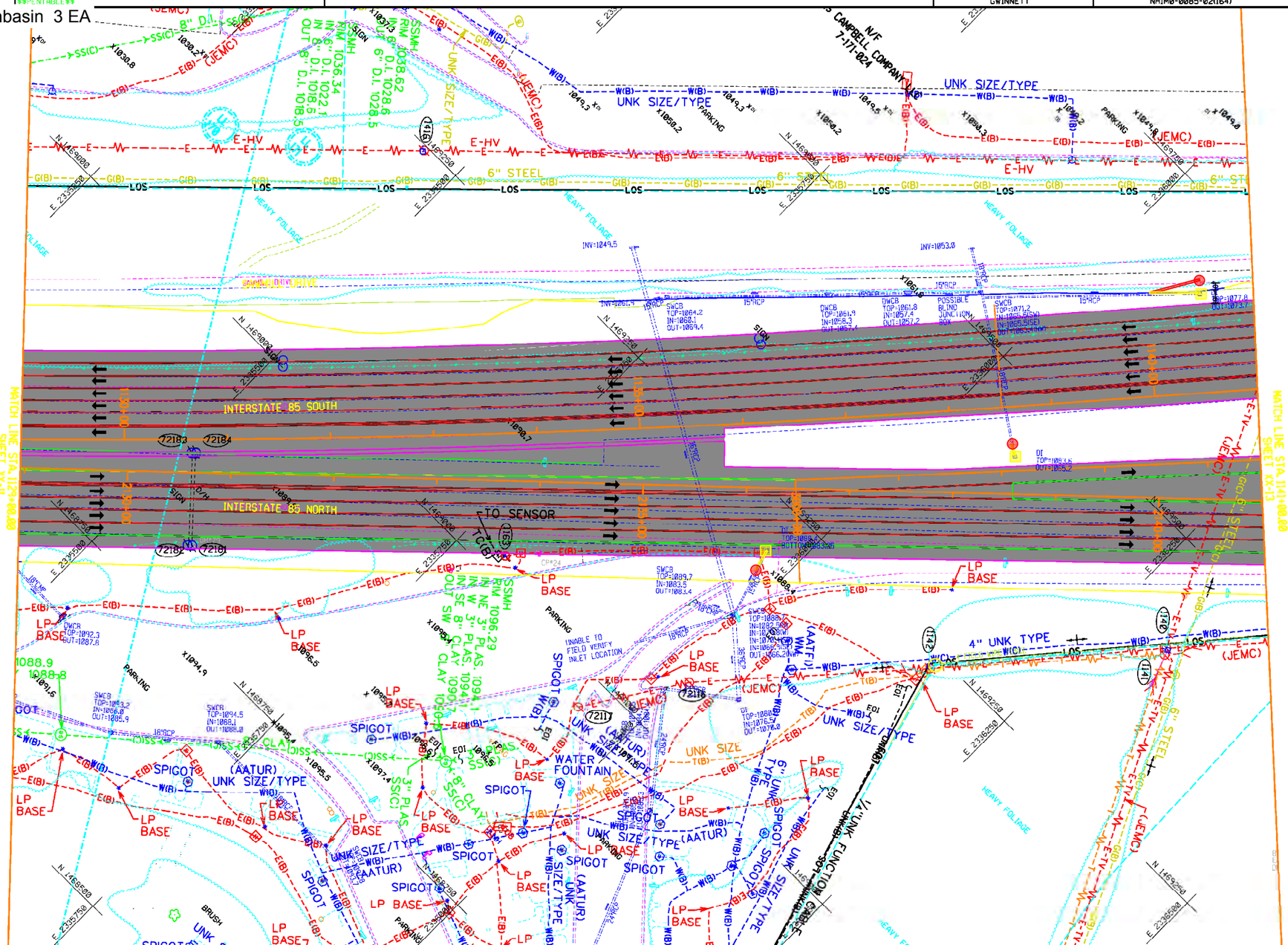
15" RCP - Extend 50 LF

Remove Existing 15" DI Structure 3 EA

Remove Existing 15" RCP 83 LF

15" RC Drop Inlet Structure - Shoulder Catchbasin 3 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA
CONSTRUCTION LIMITS	LIMIT OF ACCESS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET 0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

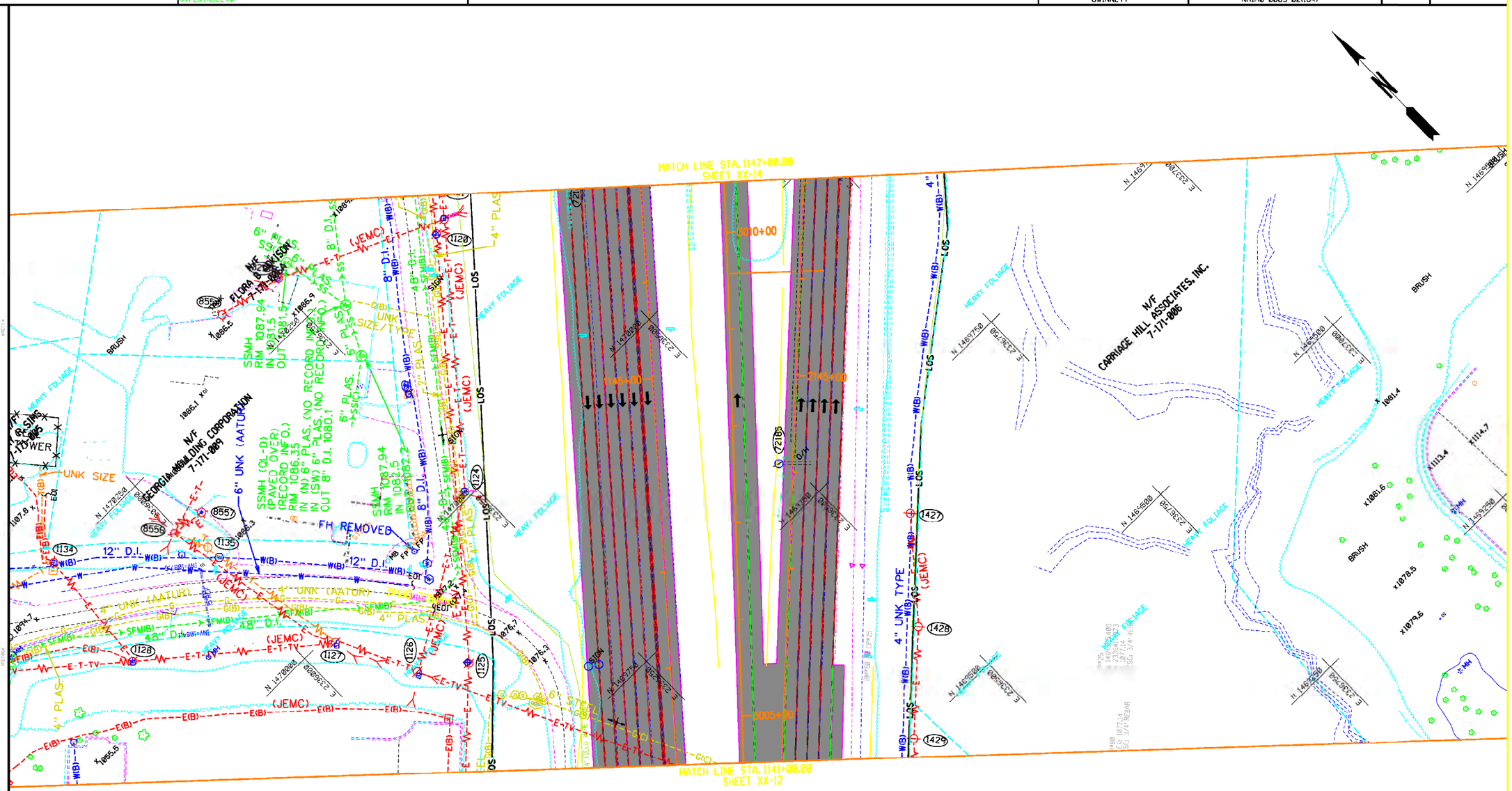
OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO. 13-12

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA
CONSTRUCTION LIMITS	LIMIT OF ACCESS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

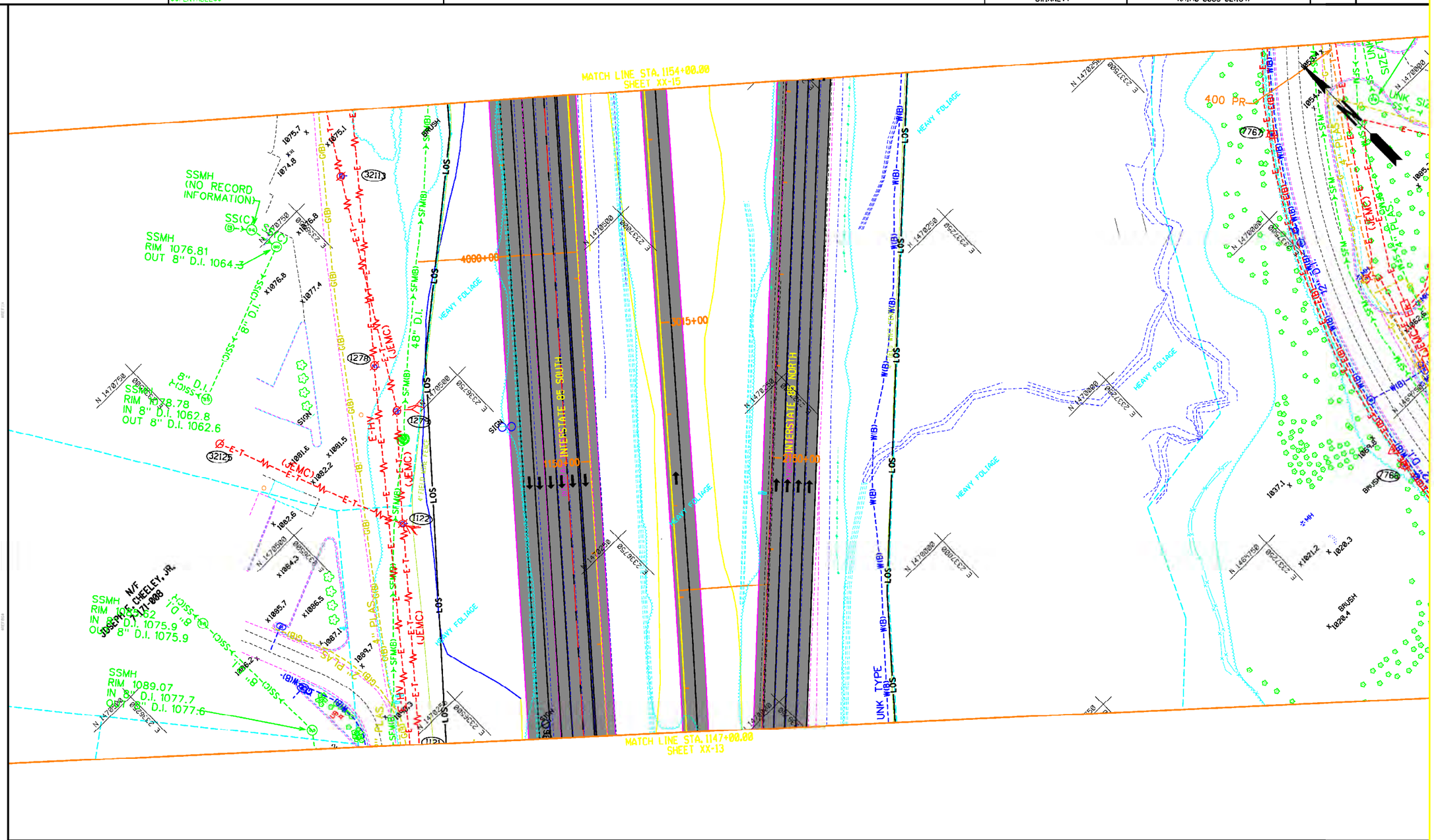
OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-13

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA
CONSTRUCTION LIMITS	LIMIT OF ACCESS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

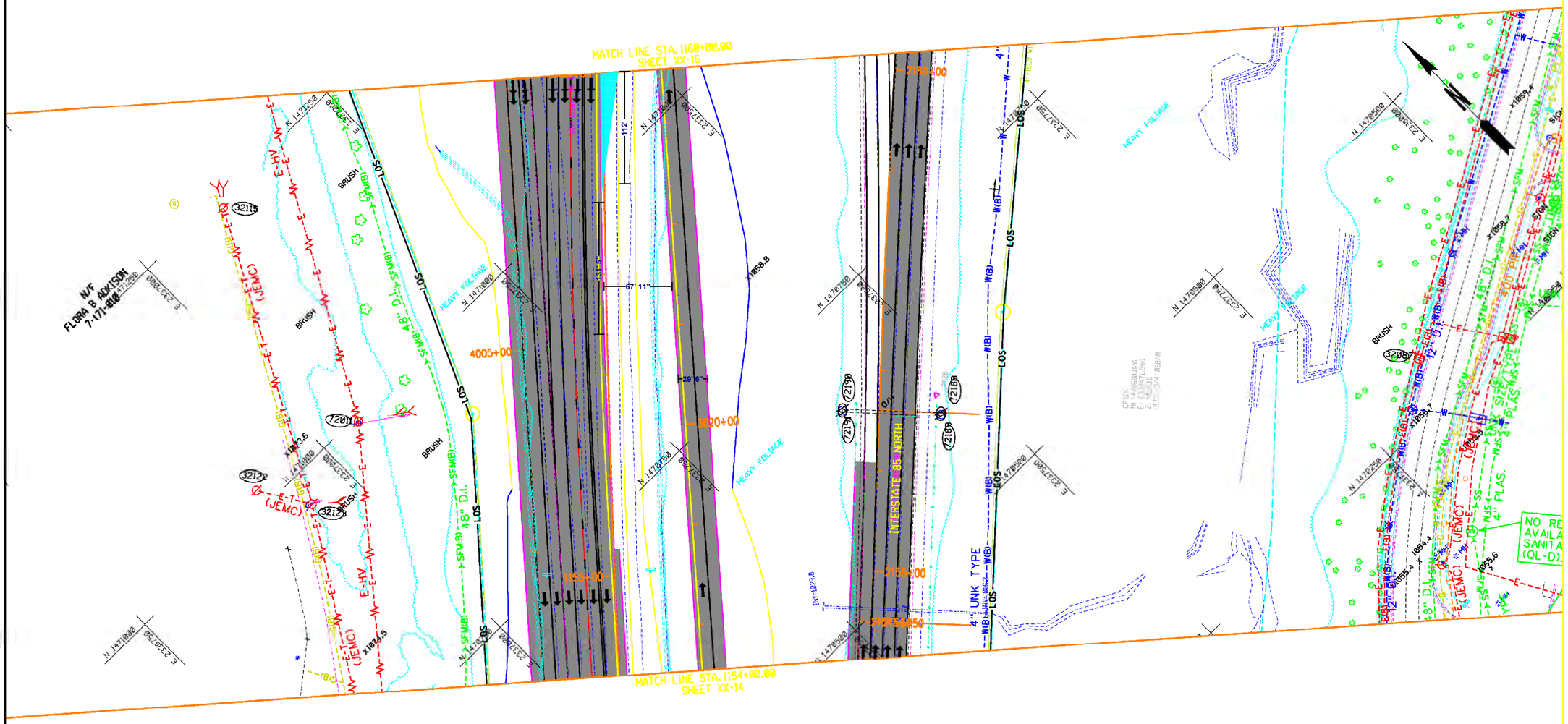
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO. 13-14

CROSS OVERS SF 988 SF

DATETIME$$$ TIME$$$ PRF DGN
$USER$ $$PENTABLE$$

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

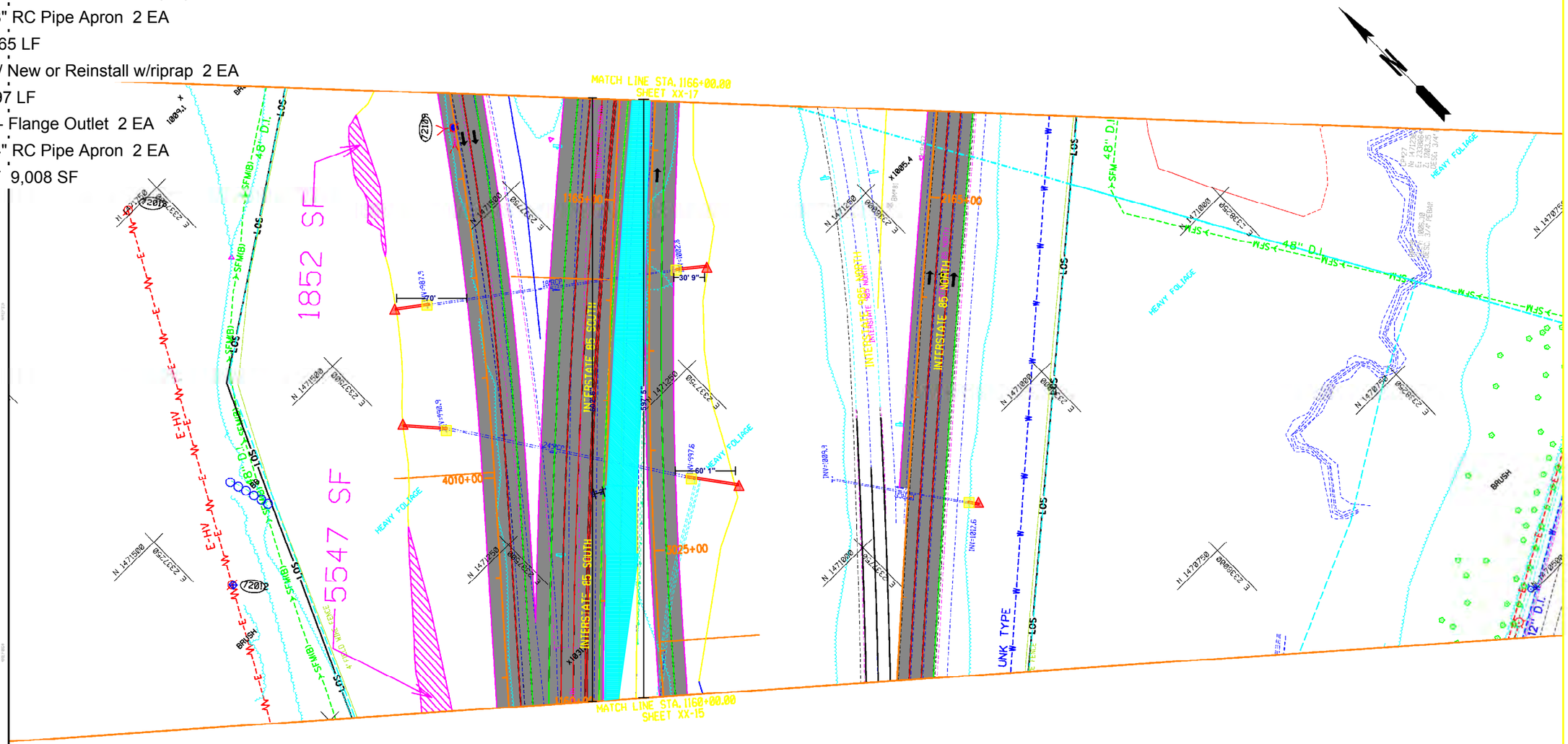
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-15

CROSS OVERS 213 LF
Remove Existing 15" RC Pipe Apron 1 EA
15" RCP - Extend 11 LF
15" RC Pipe Apron / New or Reinstall w/riprap 1 EA
Remove Existing 18" RC Pipe Apron 2 EA
18" RCP - Extend 65 LF
18" RC Pipe Apron / New or Reinstall w/riprap 2 EA
24" RCP - Extend 97 LF
24" RC Pipe Apron - Flange Outlet 2 EA
Remove Existing 24" RC Pipe Apron 2 EA
CROSS OVERS SF 9,008 SF

TIME$$$ PRF $$PENTABLE$$	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

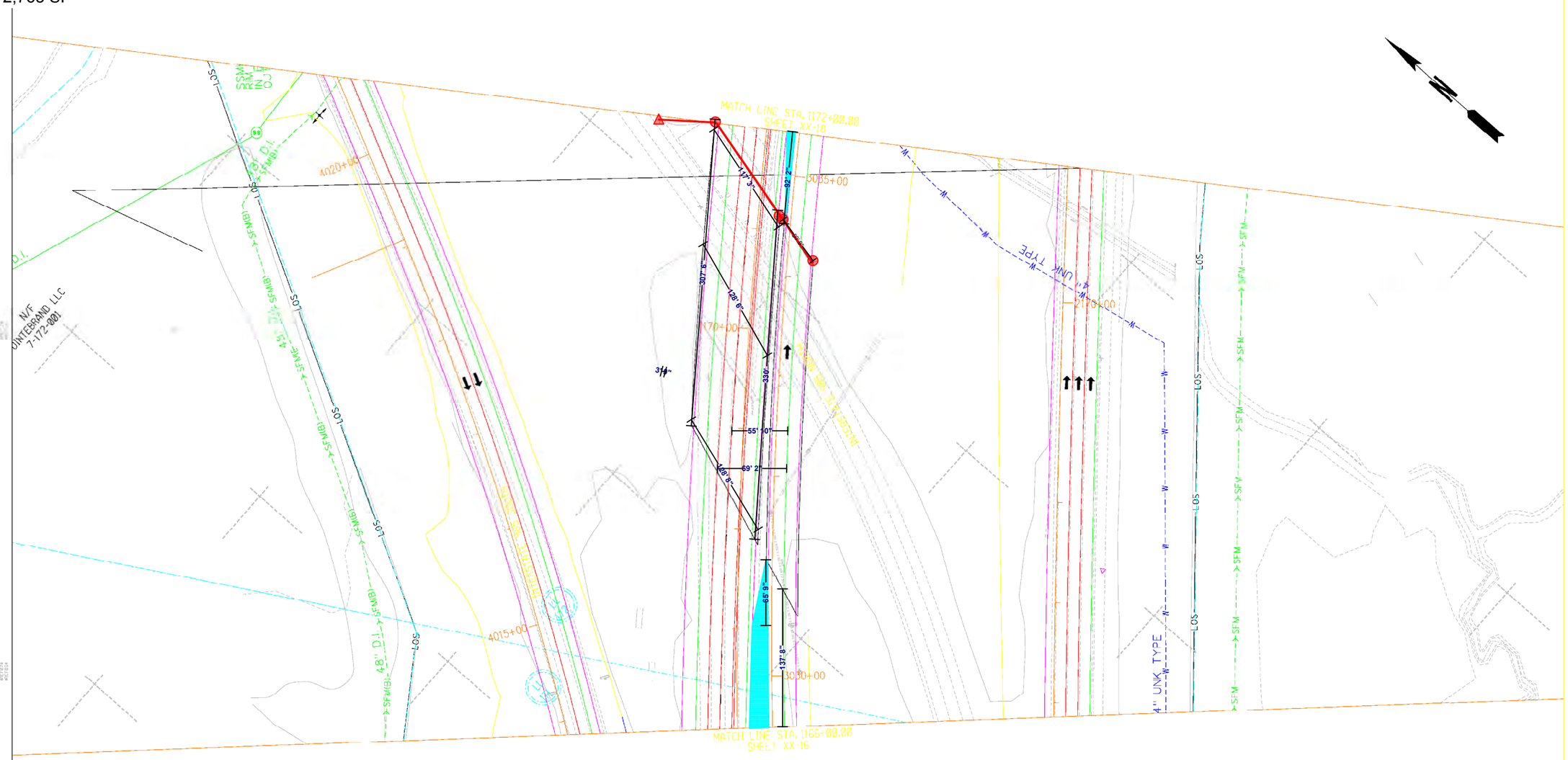
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-16

24" RC Inlet Structure (replaces 18" Cross Drain) 4 EA
24" RCP (replaces 18" CM) 227 LF
24" RC Pipe Apron - Flange Outlet 1 EA
CROSS OVERS SF 2,765 SF

TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
	$$PENTABLE$$		GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

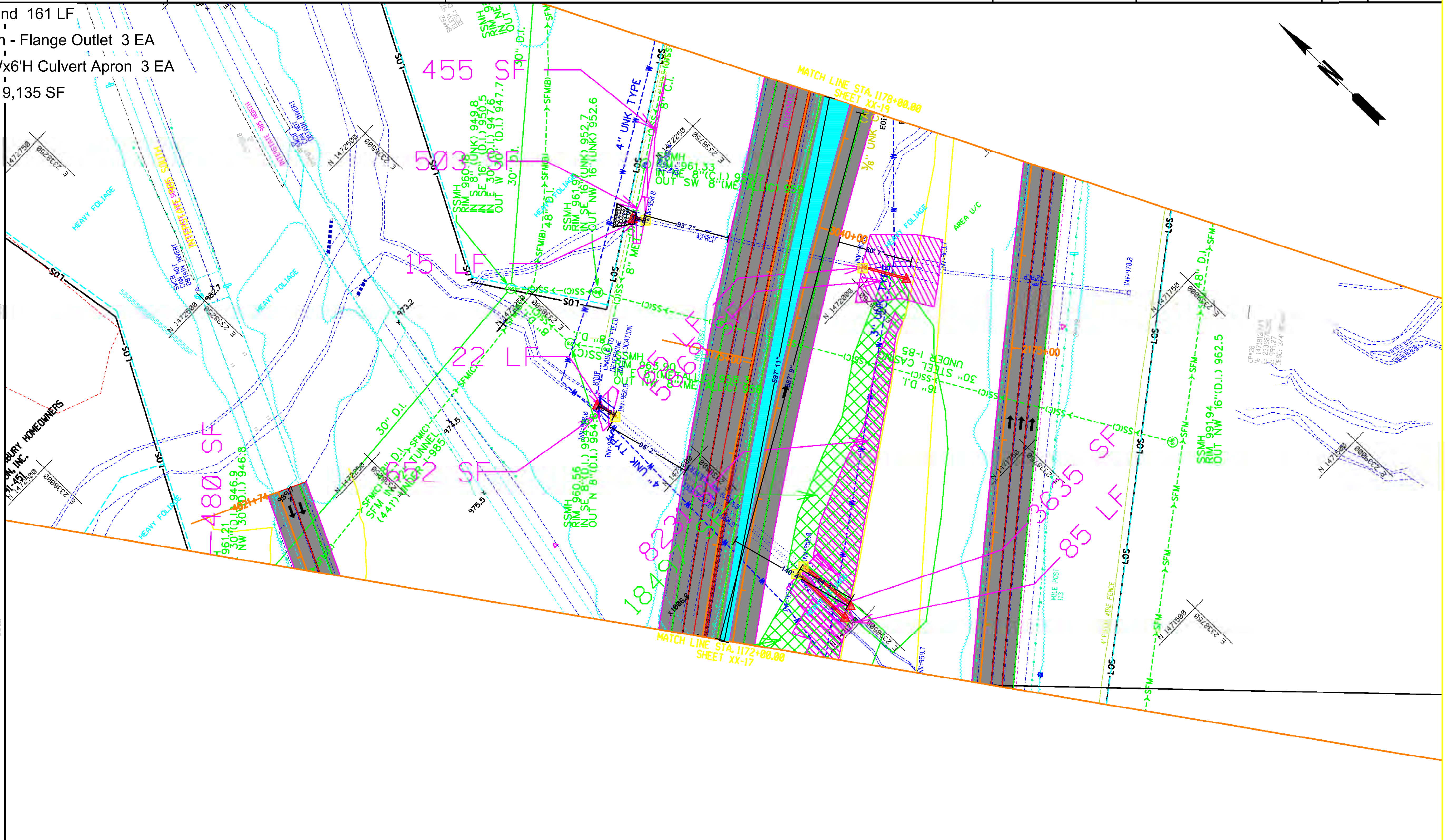
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-17

- Remove Existing 42" RC Pipe Apron 2 EA
- 42" RCP - Extend 63 LF
- 42" RC Pipe Apron - Flange Outlet 2 EA
- 5Wx6H Culvert- Extend 161 LF
- 5Wx6H Culvert Apron - Flange Outlet 3 EA
- Remove Existing 5'Wx6'H Culvert Apron 3 EA
- CROSS OVERS SF 9,135 SF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	----℘----	BEGIN LIMIT OF ACCESS............BLA	
REQUIRED R/W LINE		END LIMIT OF ACCESS..............ELA	
CONSTRUCTION LIMITS	--C-- --F--	LIMIT OF ACCESS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES		R/W AND LIMIT OF ACCESS	
EASEMENT FOR CONSTR OF SLOPES		EXISTING R/W LINE	
EASEMENT FOR CONSTR OF DRIVES		OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET: 0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

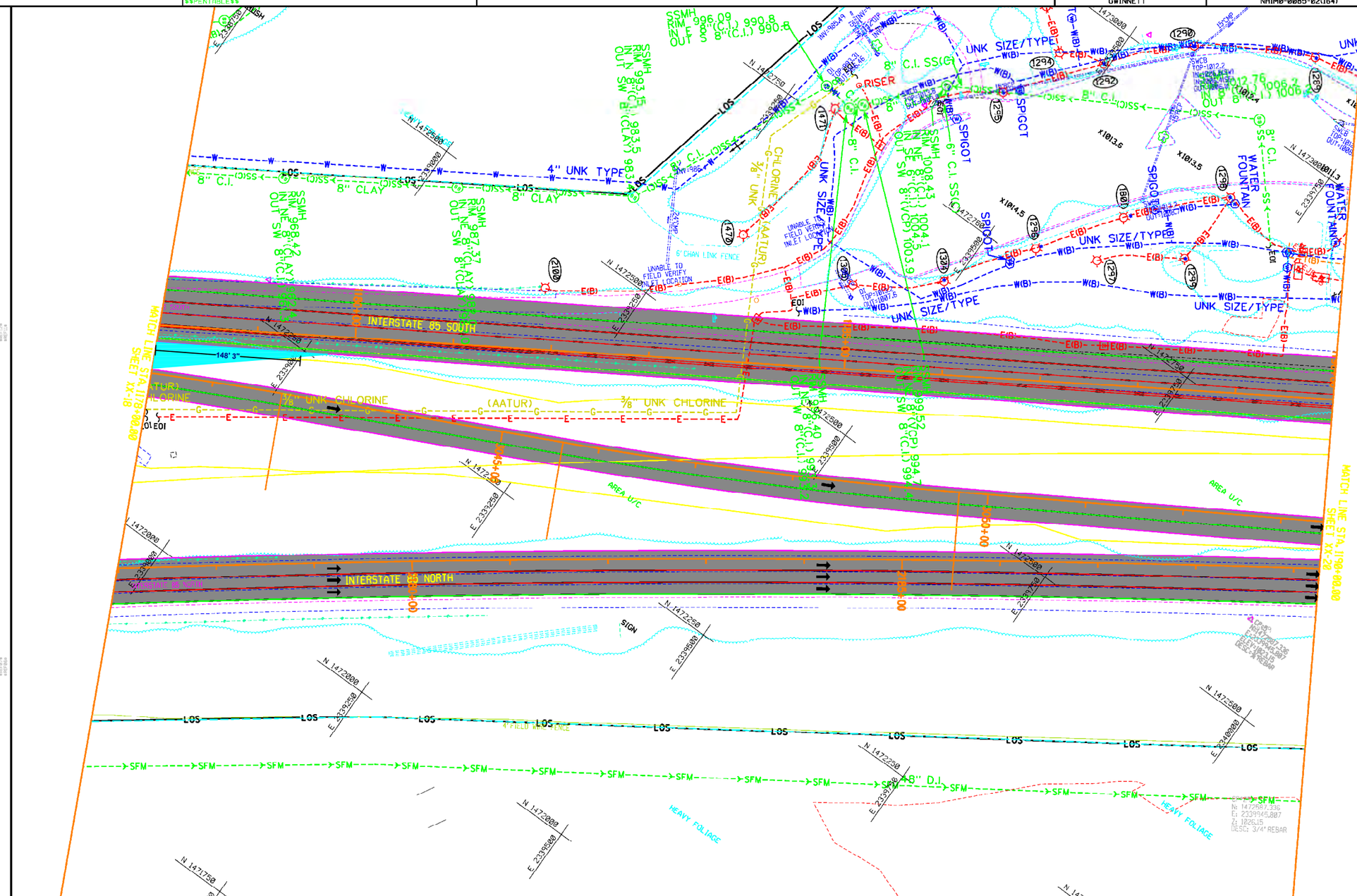
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-18

CROSS OVERS SF 2,324 SF

DATETIME$$$ TIME$$$ PRF DGN
$USER$ $$PENTABLE$$

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-19

Remove Existing 36" RC Pipe Apron 2 EA

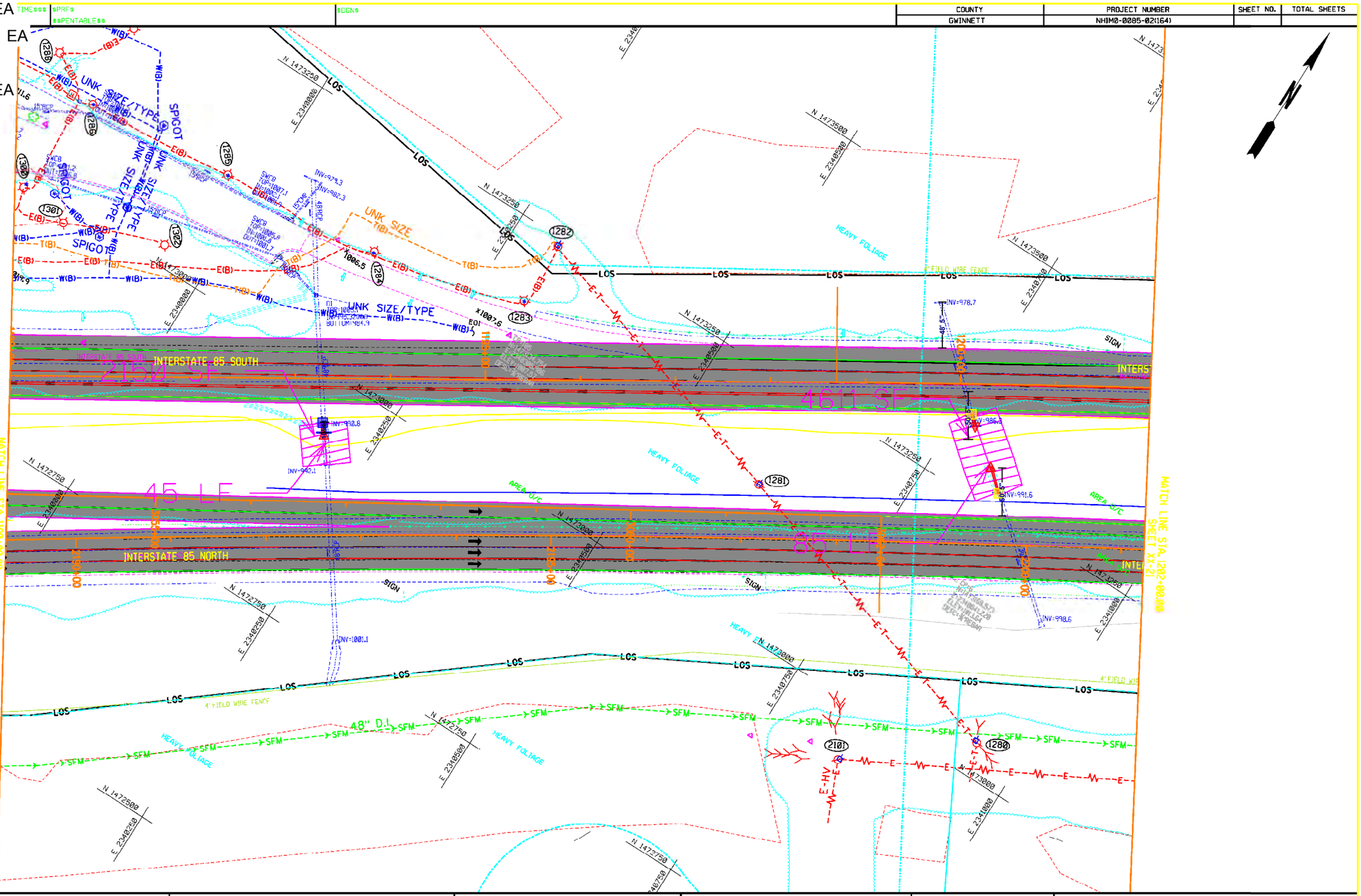
36" RCP - Extend 42 LF

36" RC Pipe Apron - Flange Outlet 2 EA

Remove Existing 48" RC Pipe Apron 1 EA

48" RCP - Extend 12 LF

48" RC Pipe Apron - Flange Outlet 1 EA



PROPERTY LINE	
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

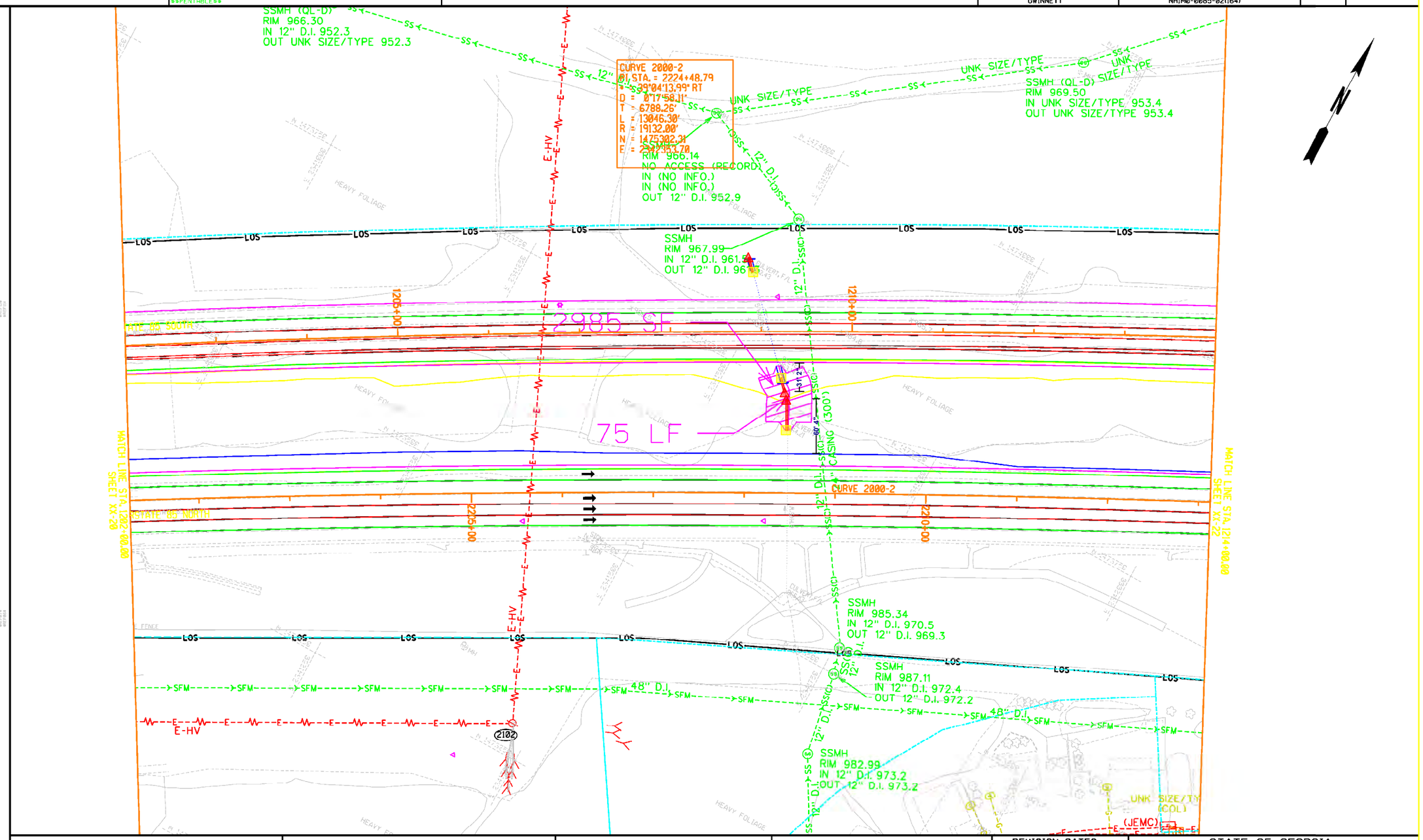
DRAWING No. XX-20

5Wx6H Culvert- Extend 67 LF

5Wx6H Culvert Apron - Flange Outlet 3 EA

Remove Existing 5'Wx6'H Culvert Apron 3 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO. 13-21

Remove Existing 42" RC Pipe Apron 3 EA

42" RCP - Extend 94 LF

42" RC Pipe Apron - Flange Outlet 3 EA

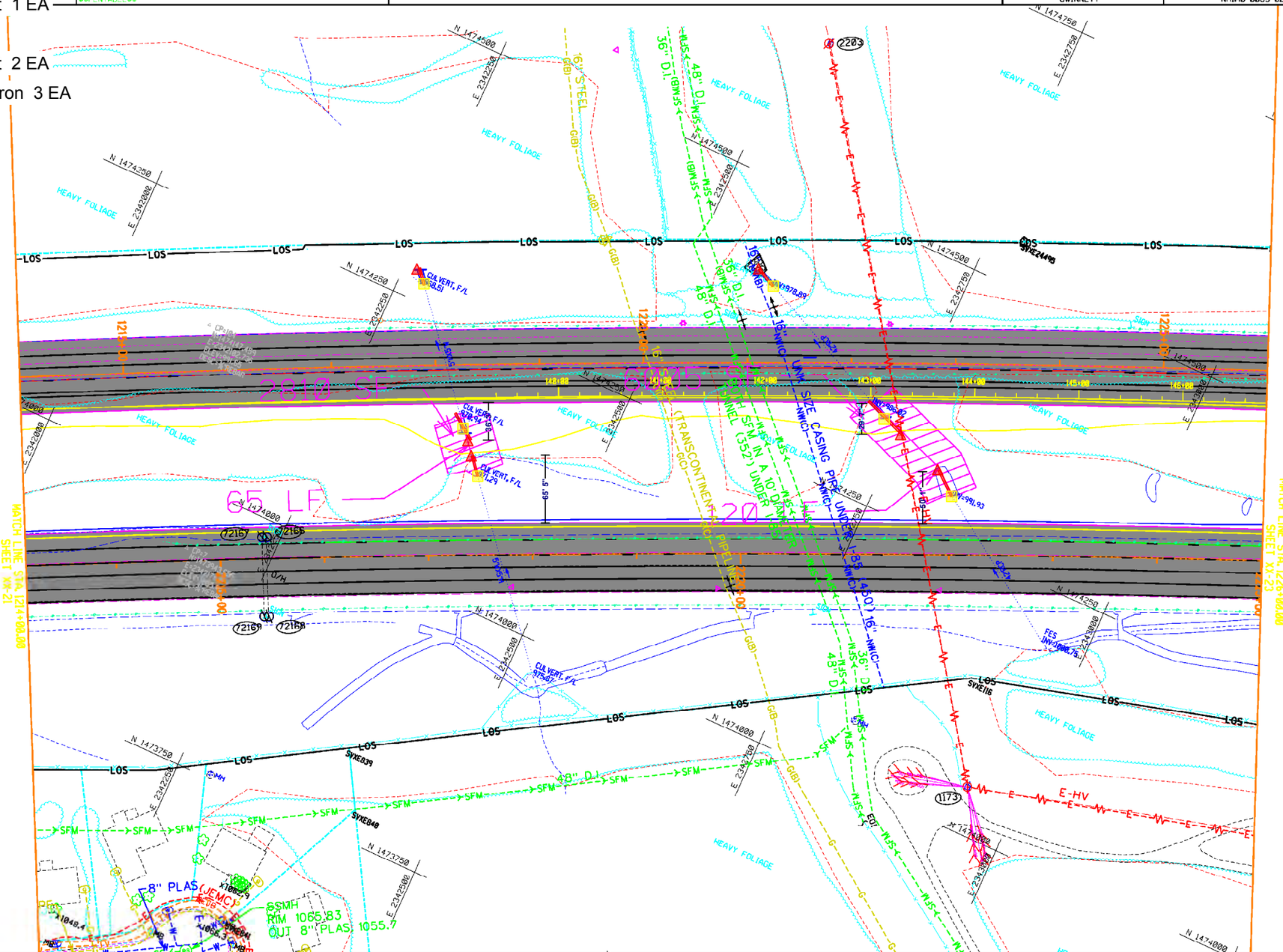
5Wx6H Culvert Apron - Flange Outlet 1 EA

5Wx5H Culvert- Extend 66 LF

5Wx5H Culvert Apron - Flange Outlet 2 EA

Remove Existing 5'Wx5'H Culvert Apron 3 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA
CONSTRUCTION LIMITS	LIMIT OF ACCESS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET 0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

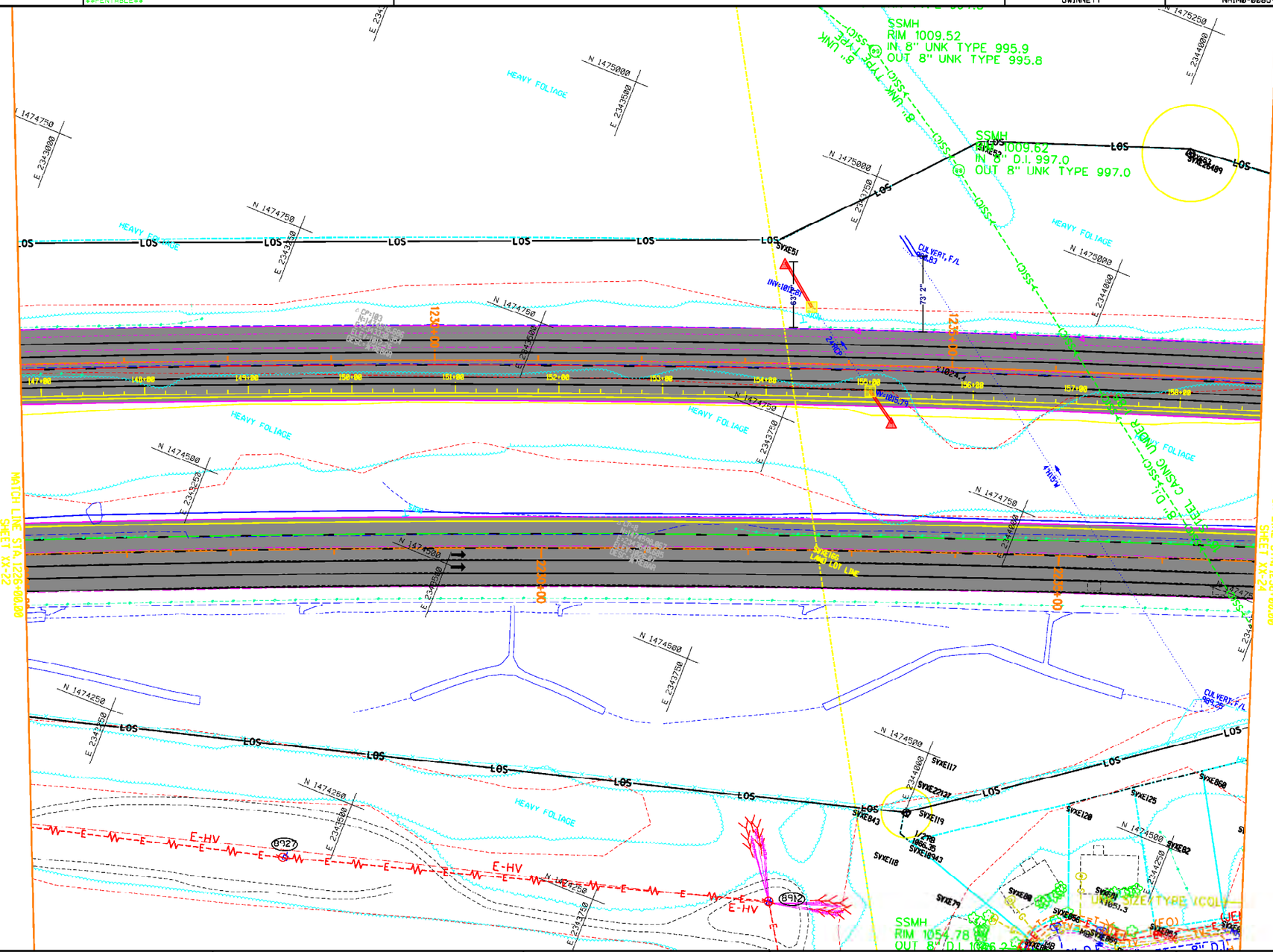
DRAWING No. 13-22

24" RCP - Extend 87 LF

24" RC Pipe Apron - Flange Outlet 2 EA

Remove Existing 24" RC Pipe Apron 2 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA
CONSTRUCTION LIMITS	LIMIT OF ACCESS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET 0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

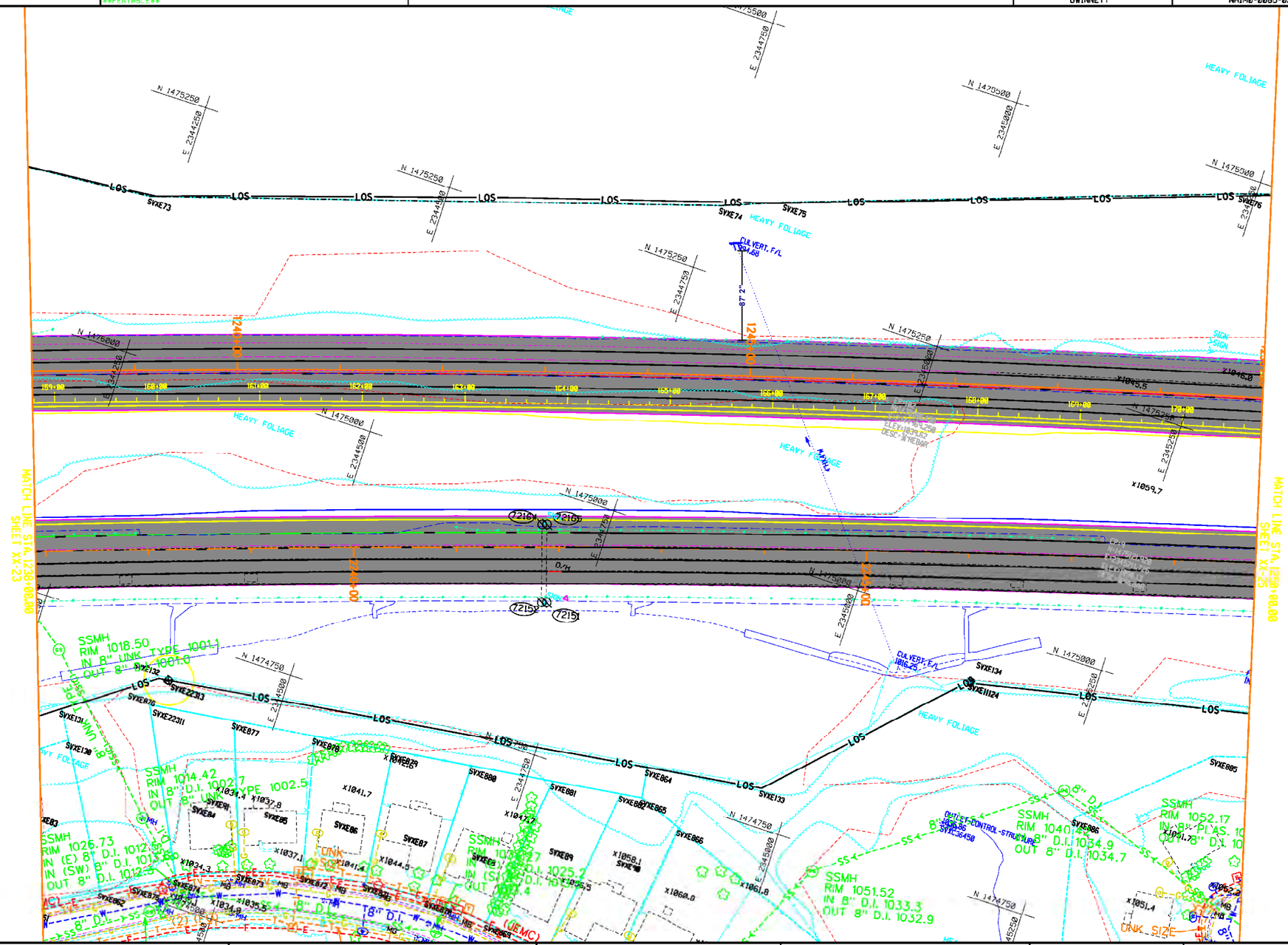
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-23

DATETIME$$$ TIME$$$ PRF DGN
$USER$ $$PENTABLE$$

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	℄
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	C F
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

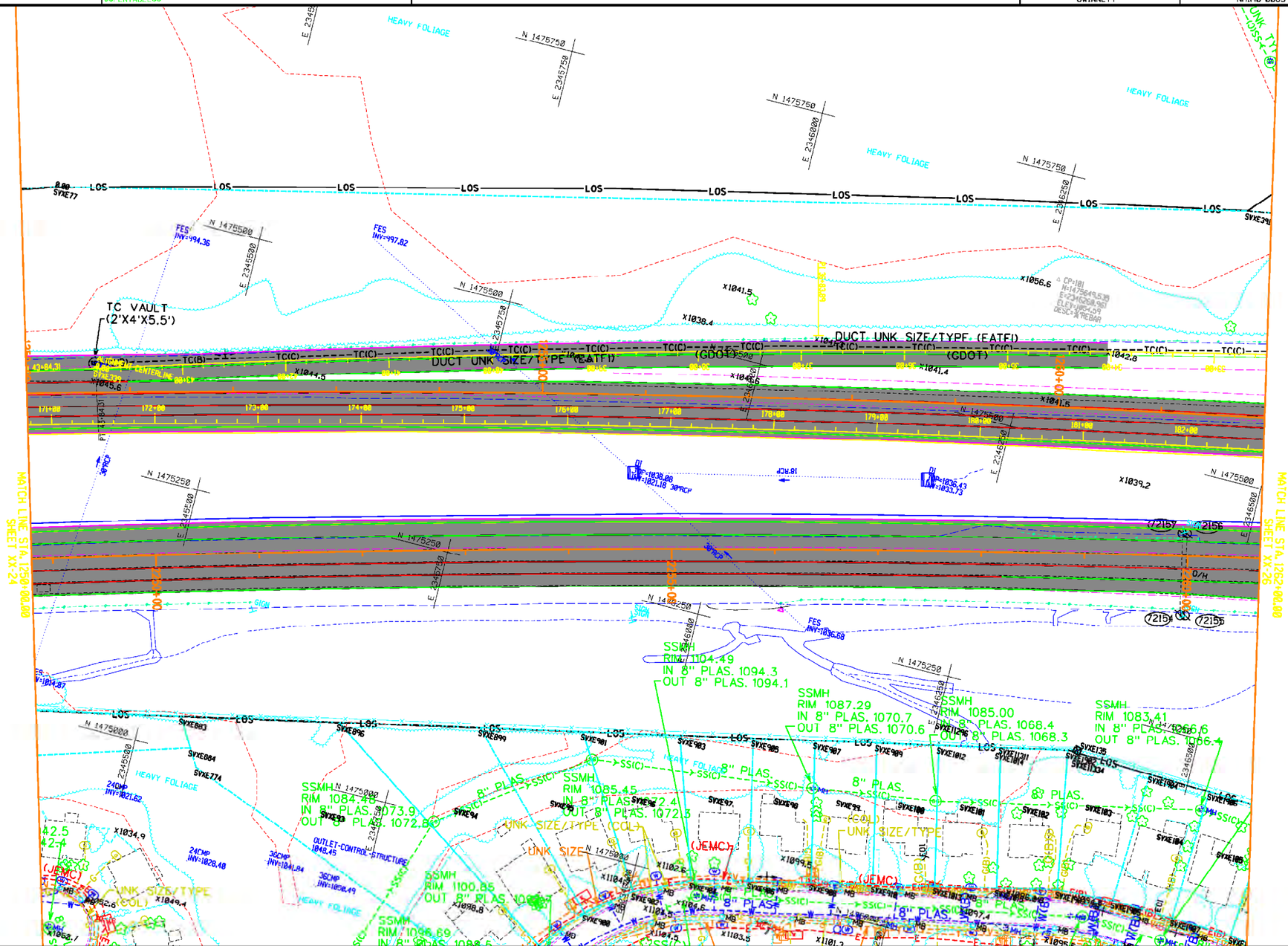
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-24

DATETIME$$$ TIME$$$ PRF DGN
$USER$ $$PENTABLE$$

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

MAINLINE PLAN

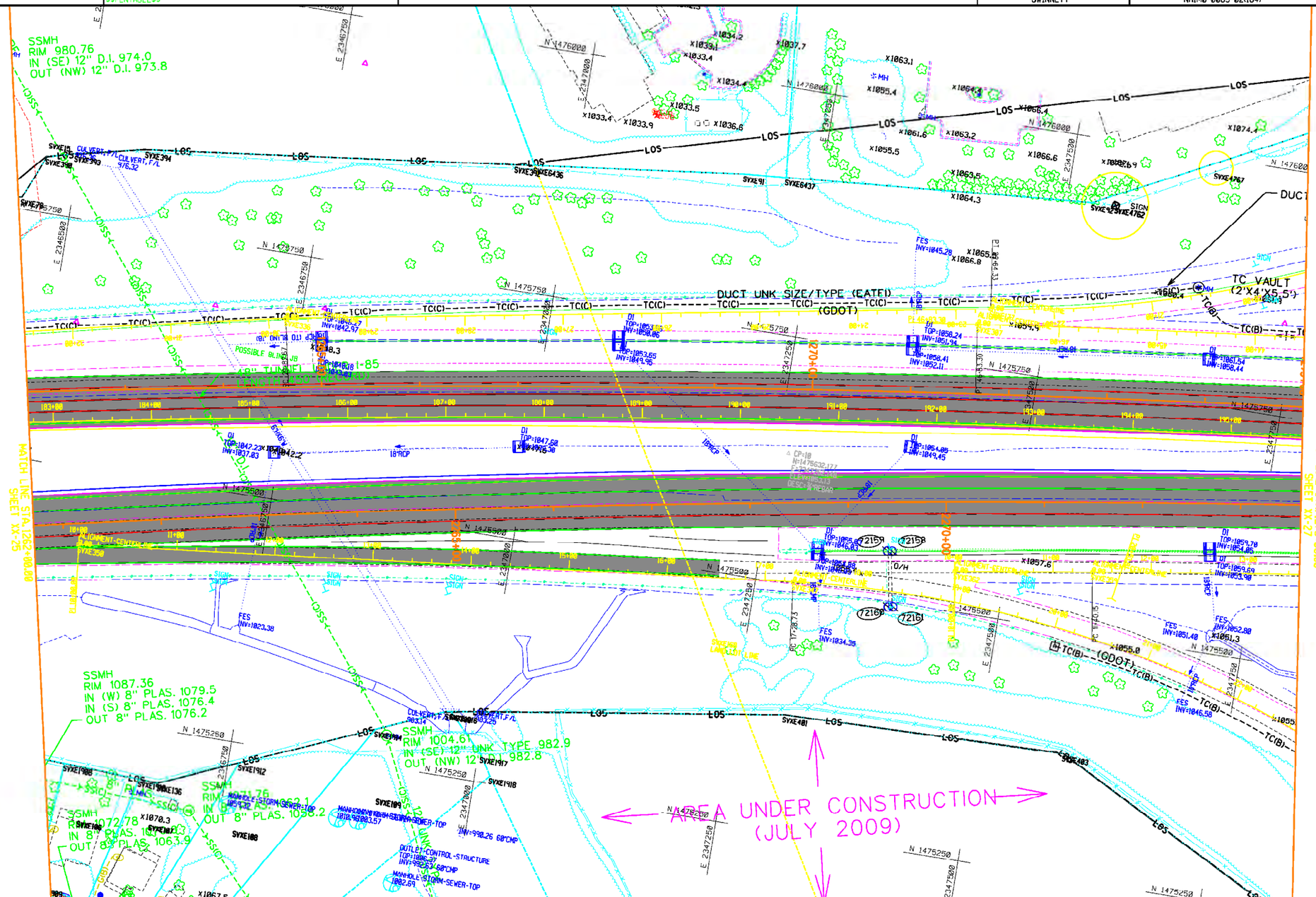
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO. 13-25

DATETIME$$ TIME$$$ PRF DGN

$USER$ $$PENTABLE$$

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
M-26

18" RCP - Extend 74 LF

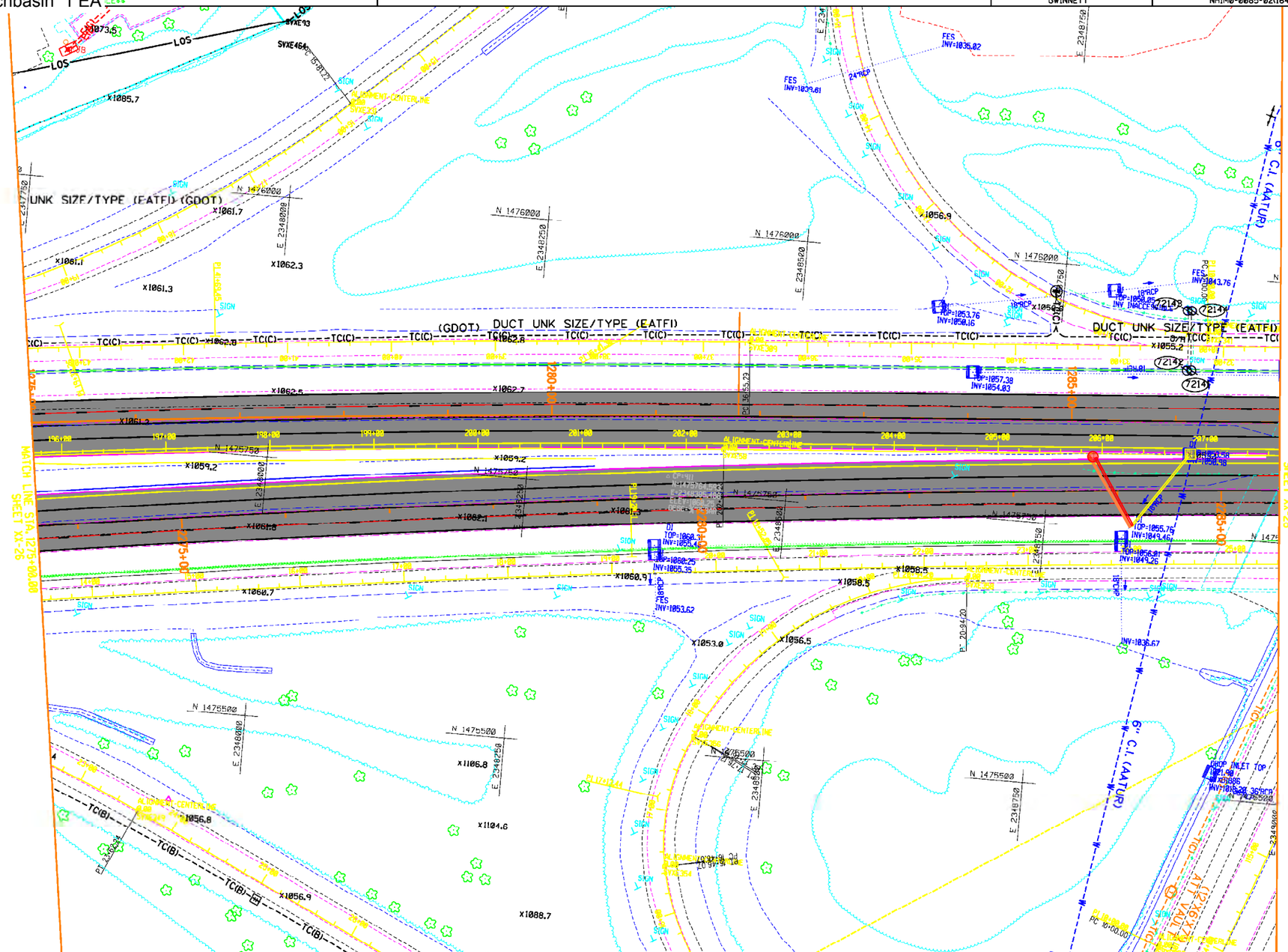
Remove Existing 18" DI Structure 1 EA

Remove Existing 18" RCP 86 LF

18" RC Inlet Structure - Shoulder Catchbasin 1 EA

Pipe Jacking 24" 80 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA
CONSTRUCTION LIMITS	LIMIT OF ACCESS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET

0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE

COUNTY: GWINNETT

DRAWING No. 13-27

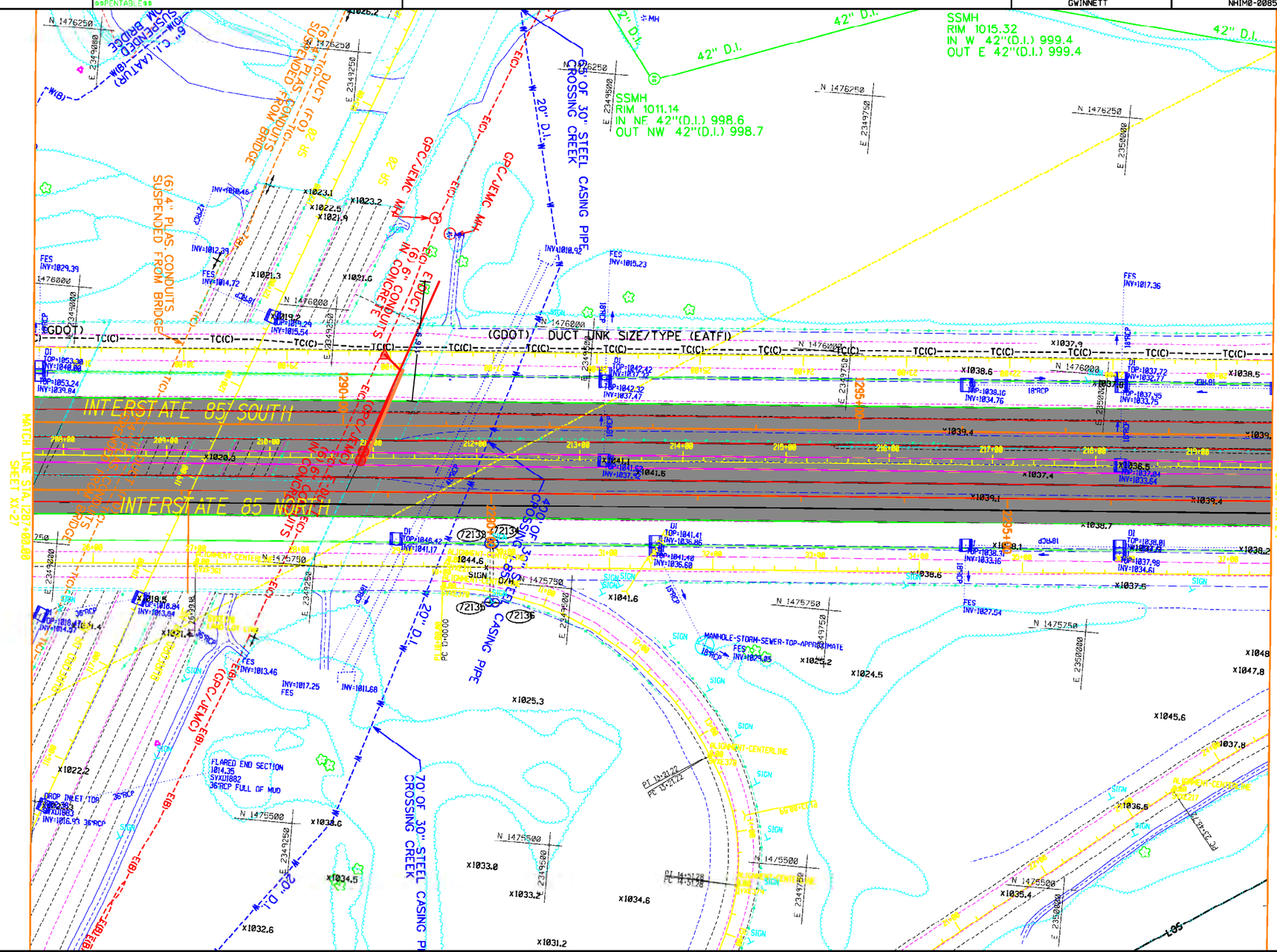
24" RC Pipe Apron - Flange Outlet (replaces 18" Cross Drain) 1 EA

24" RC Inlet Structure (replaces 18" Cross Drain) 2 EA

24" RCP (replaces 18" CM) 314 LF

Pipe Jacking 24" 95 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	℄
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	C F
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET 0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-28

24" RCP 31 LF

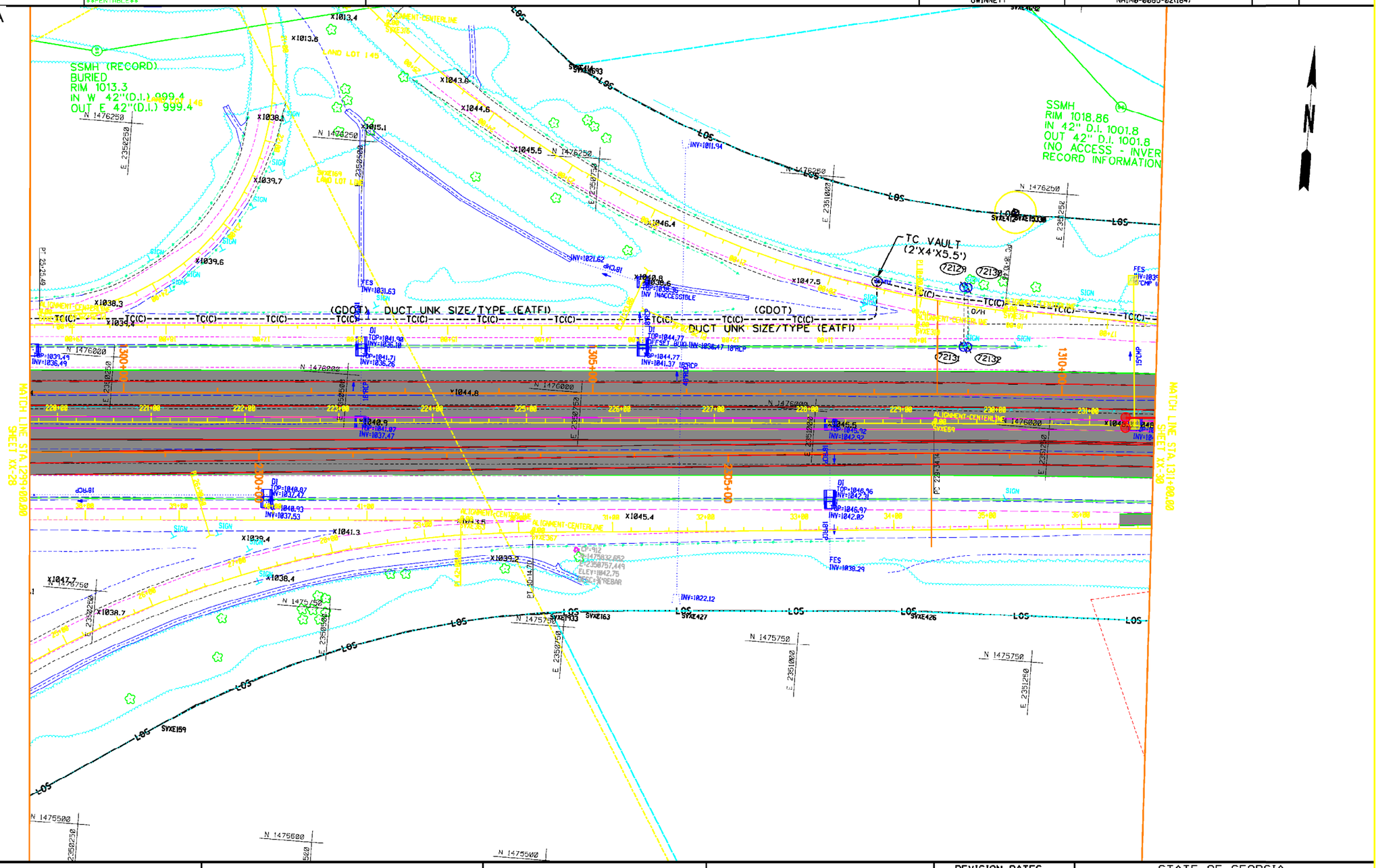
24" RC Inlet Structure w/5ft of 24" RCP 2 EA

Remove Existing 15" RC Pipe Apron 1 EA

Remove Existing 15" CM Inlet 1 EA

Remove Existing 15" RCP 152 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-2(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

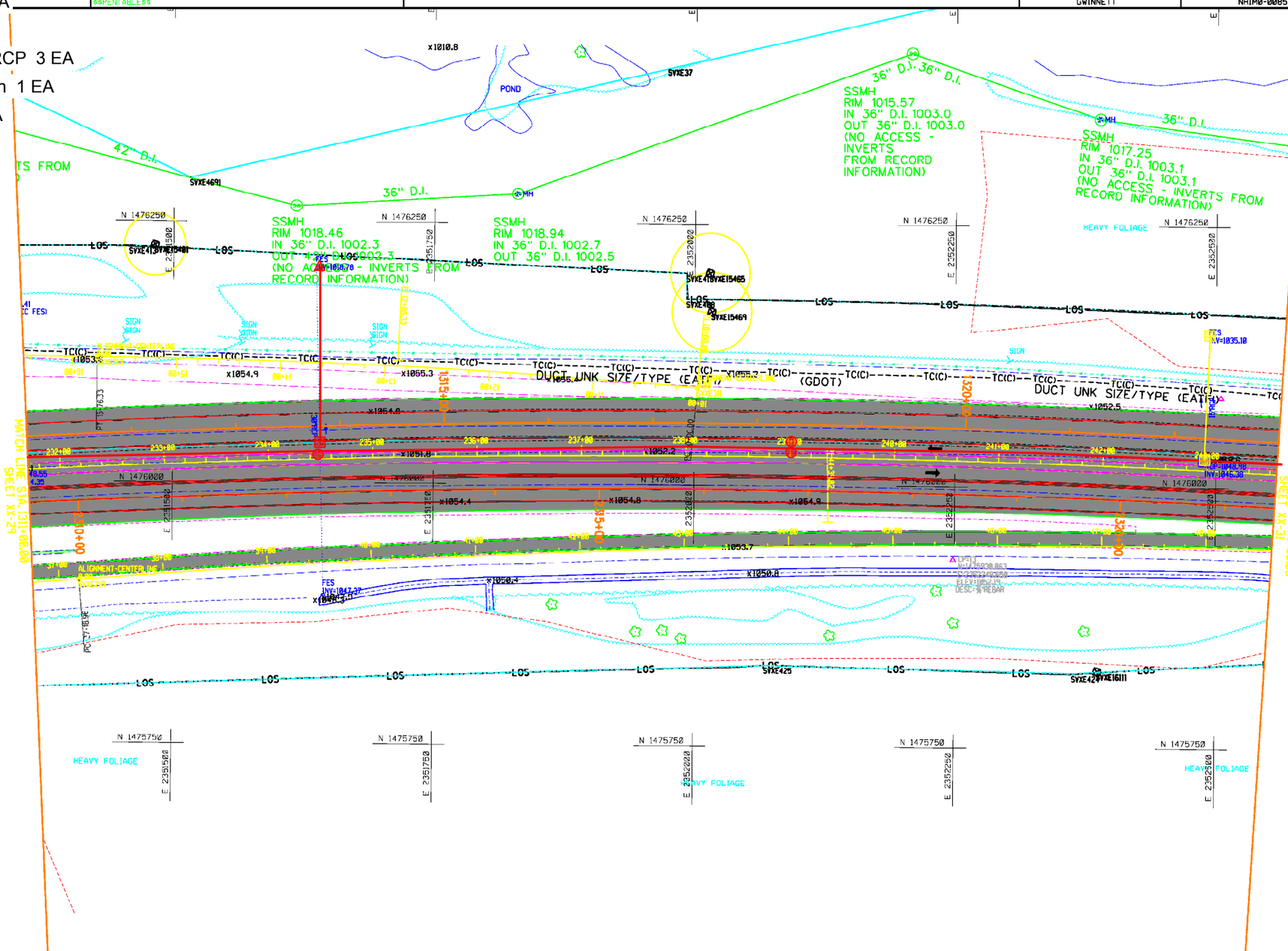
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO. 13-29

- 36" RCP / Jacked In 167 LF
- 36" RC Pipe Apron - Flange Outlet 1 EA
- 30/36" MH Drop Inlet Structure 1 EA
- 24" RCP 1,202 LF
- 24" RC Inlet Structure w/5ft of 24" RCP 3 EA
- Remove Existing 15" RC Pipe Apron 1 EA
- Remove Existing 15" CM Inlet 1 EA
- Remove Existing 15" RCP 119 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. LT-30

24" RCP 702 LF

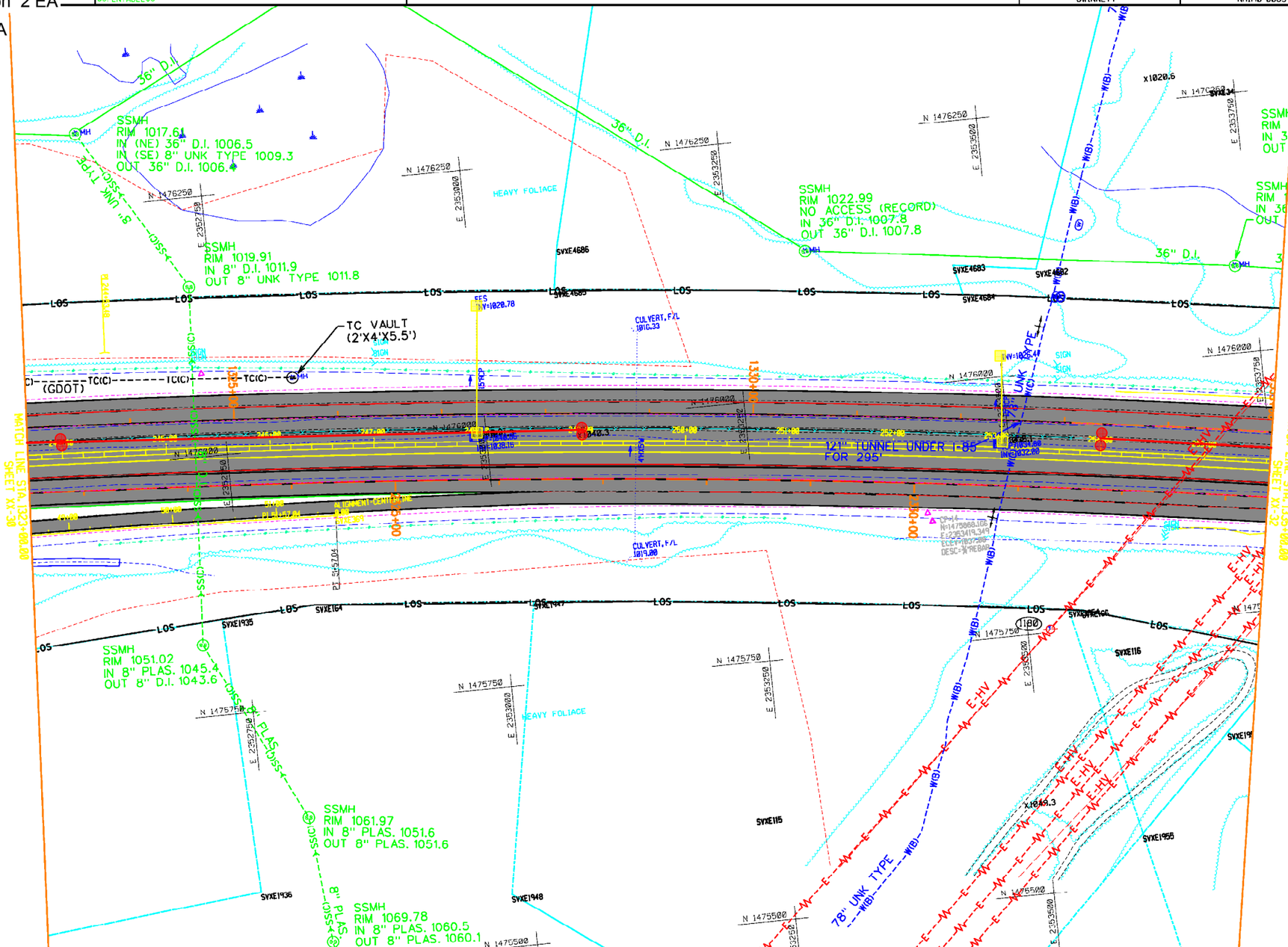
24" RC Inlet Structure w/5ft of 24" RCP 6 EA

Remove Existing 15" RC Pipe Apron 2 EA

Remove Existing 15" CM Inlet 2 EA

Remove Existing 15" RCP 210 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA
CONSTRUCTION LIMITS	LIMIT OF ACCESS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO. 13-31

36" RCP / Jacked In 102 LF

36" RC Pipe Apron - Flange Outlet 1 EA

30/36" MH Drop Inlet Structure 1 EA

24" RCP 1,205 LF

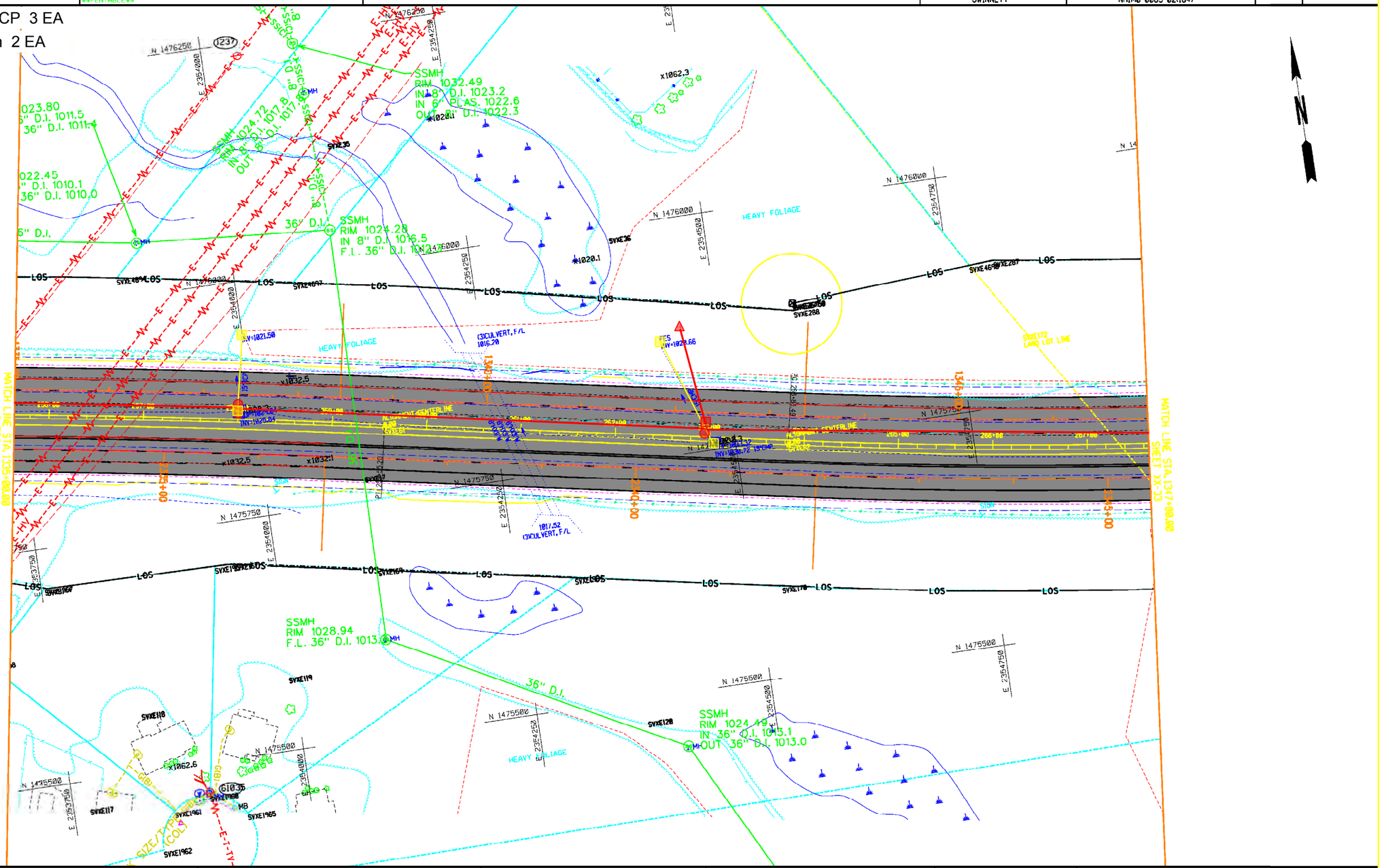
24" RC Inlet Structure w/5ft of 24" RCP 3 EA

Remove Existing 15" RC Pipe Apron 2 EA

Remove Existing 15" CM Inlet 2 EA

Remove Existing 15" RCP 202 LF

TIME$$$	PRF $$PENTABLE$$	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
			GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA
CONSTRUCTION LIMITS	LIMIT OF ACCESS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET 0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-32

24" RCP 704 LF

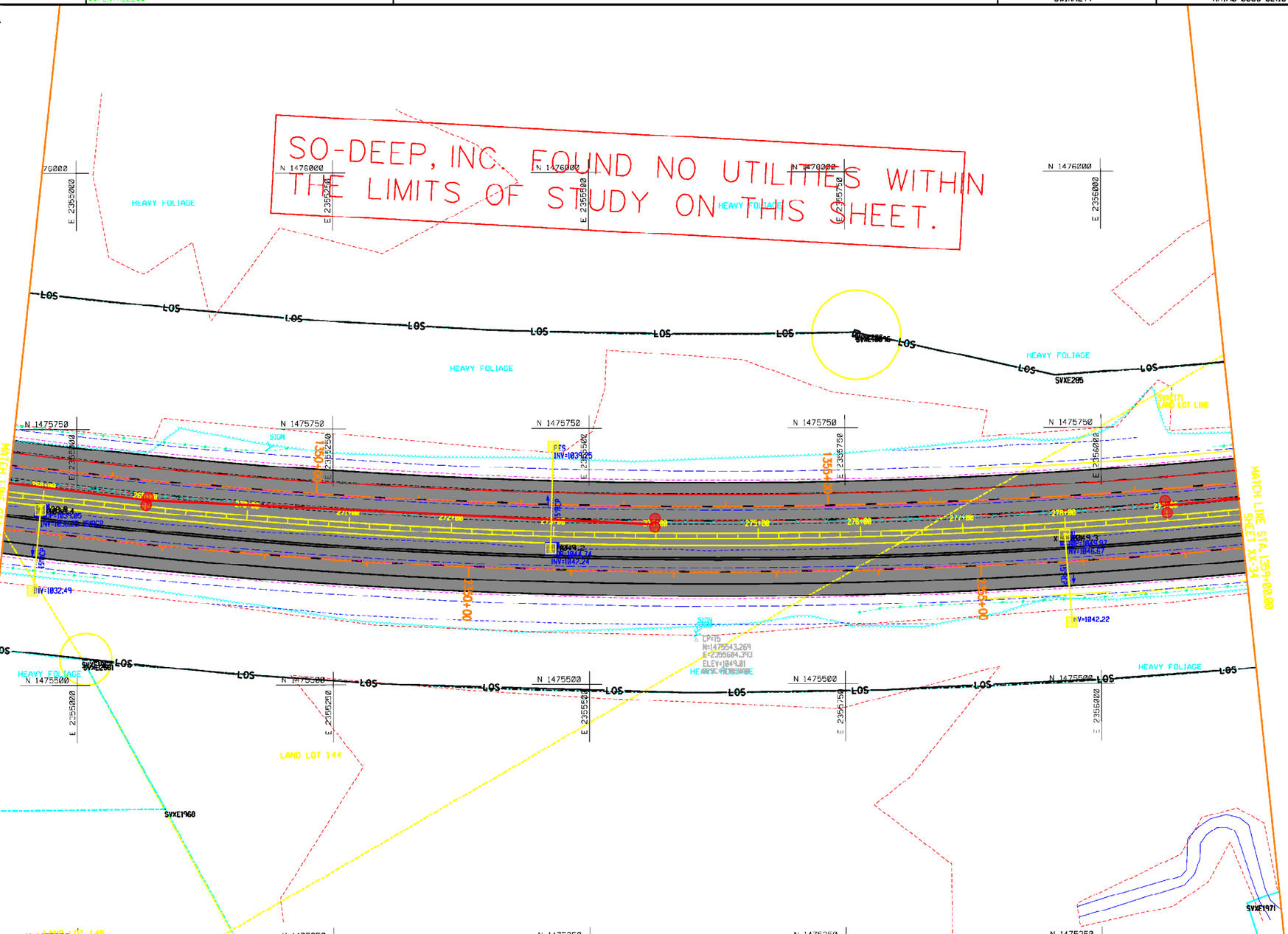
24" RC Inlet Structure w/5ft of 24" RCP 6 EA

Remove Existing 15" RC Pipe Apron 3 EA

Remove Existing 15" CM Inlet 3 EA

Remove Existing 15" RCP 276 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

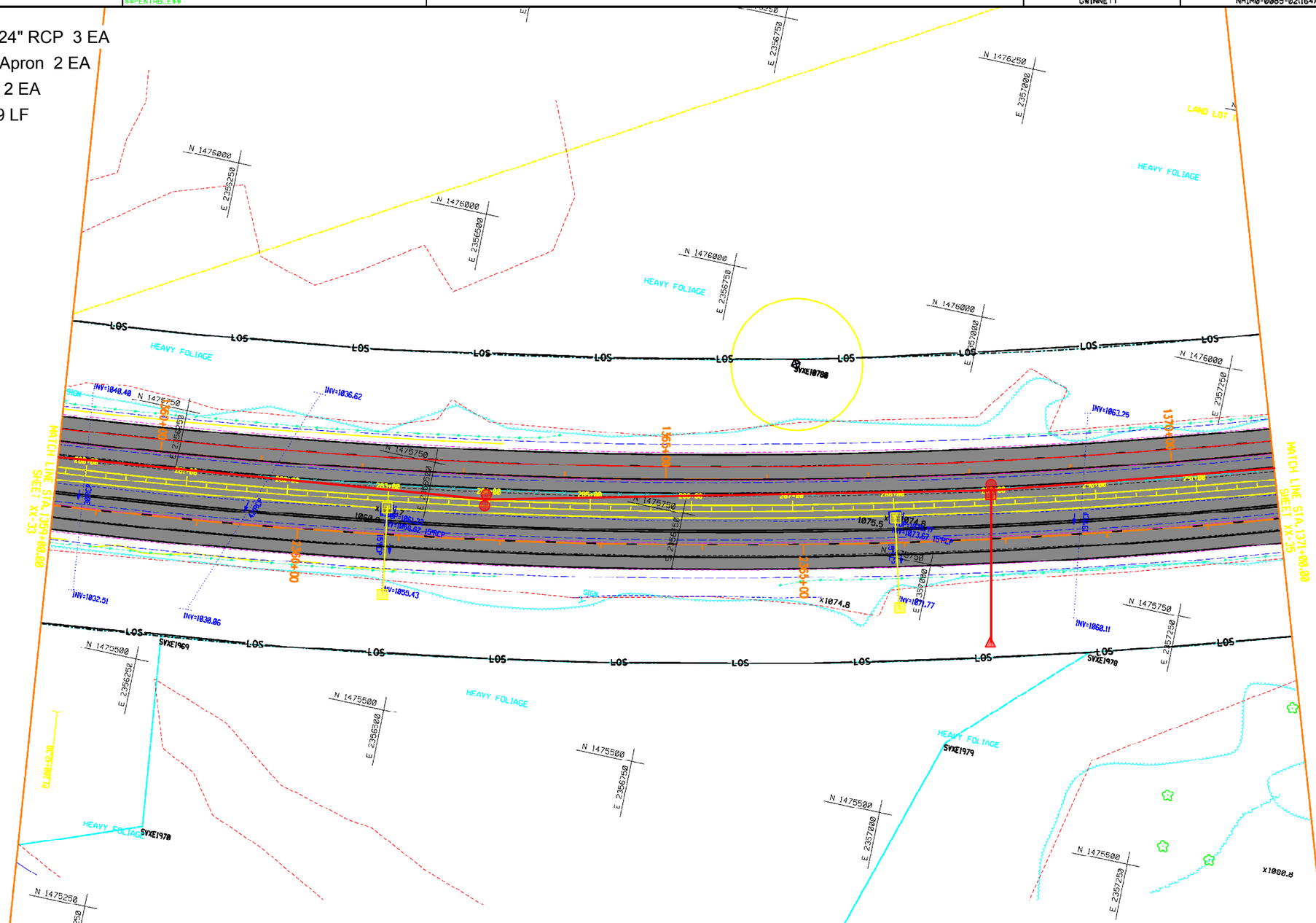
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-33

36" RCP / Jacked In 149 LF
36" RC Pipe Apron - Flange Outlet 1 EA
30/36" MH Drop Inlet Structure 1 EA
24" RCP 1,206 LF
24" RC Inlet Structure w/5ft of 24" RCP 3 EA
Remove Existing 15" RC Pipe Apron 2 EA
Remove Existing 15" CM Inlet 2 EA
Remove Existing 15" RCP 179 LF

TIME$$$ PRF $$PENTABLE$$ DGN

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-34

24" RCP 722 LF

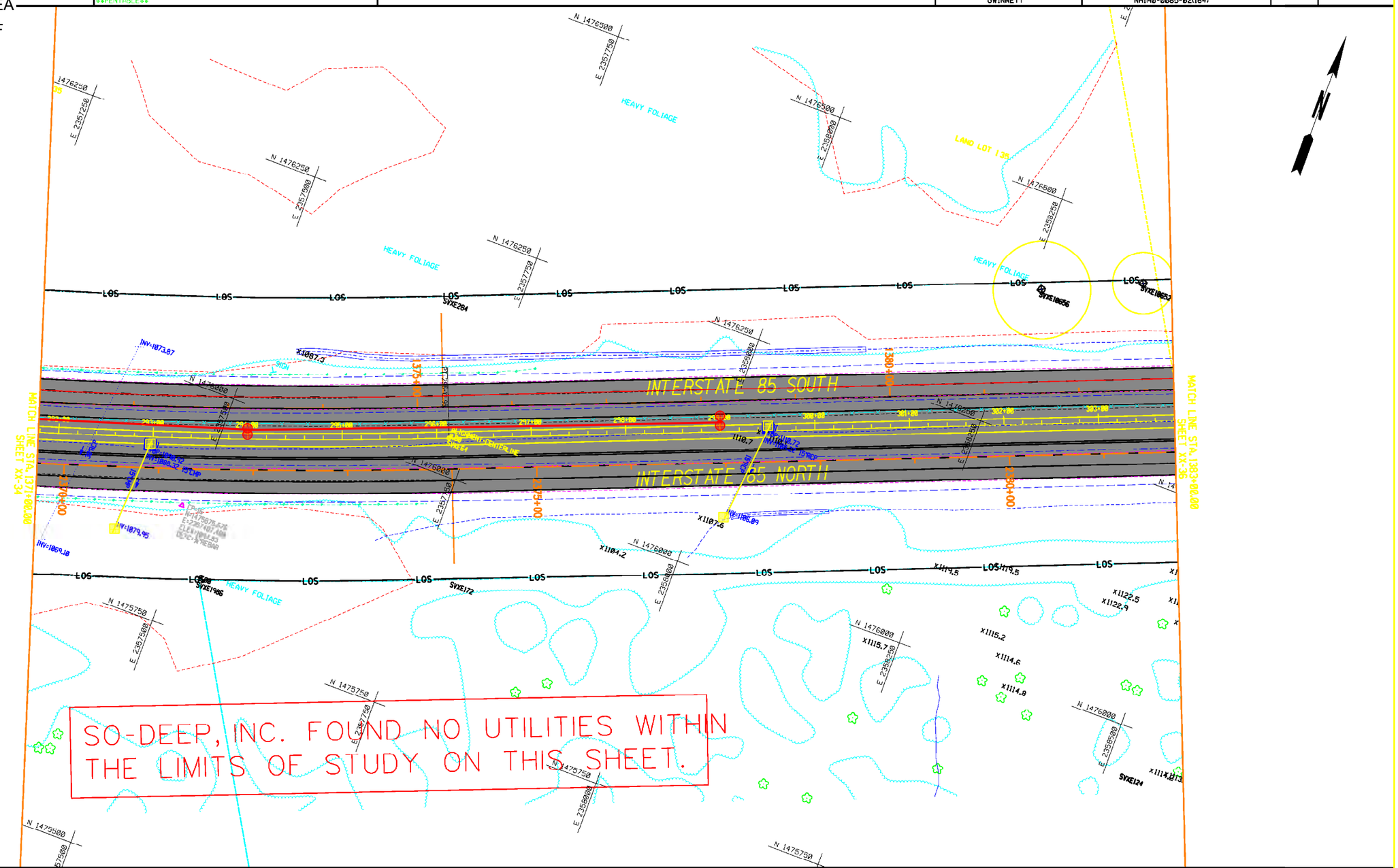
24" RC Inlet Structure w/5ft of 24" RCP 4 EA

Remove Existing 15" RC Pipe Apron 2 EA

Remove Existing 15" CM Inlet 2 EA

Remove Existing 15" RCP 218 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET 0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

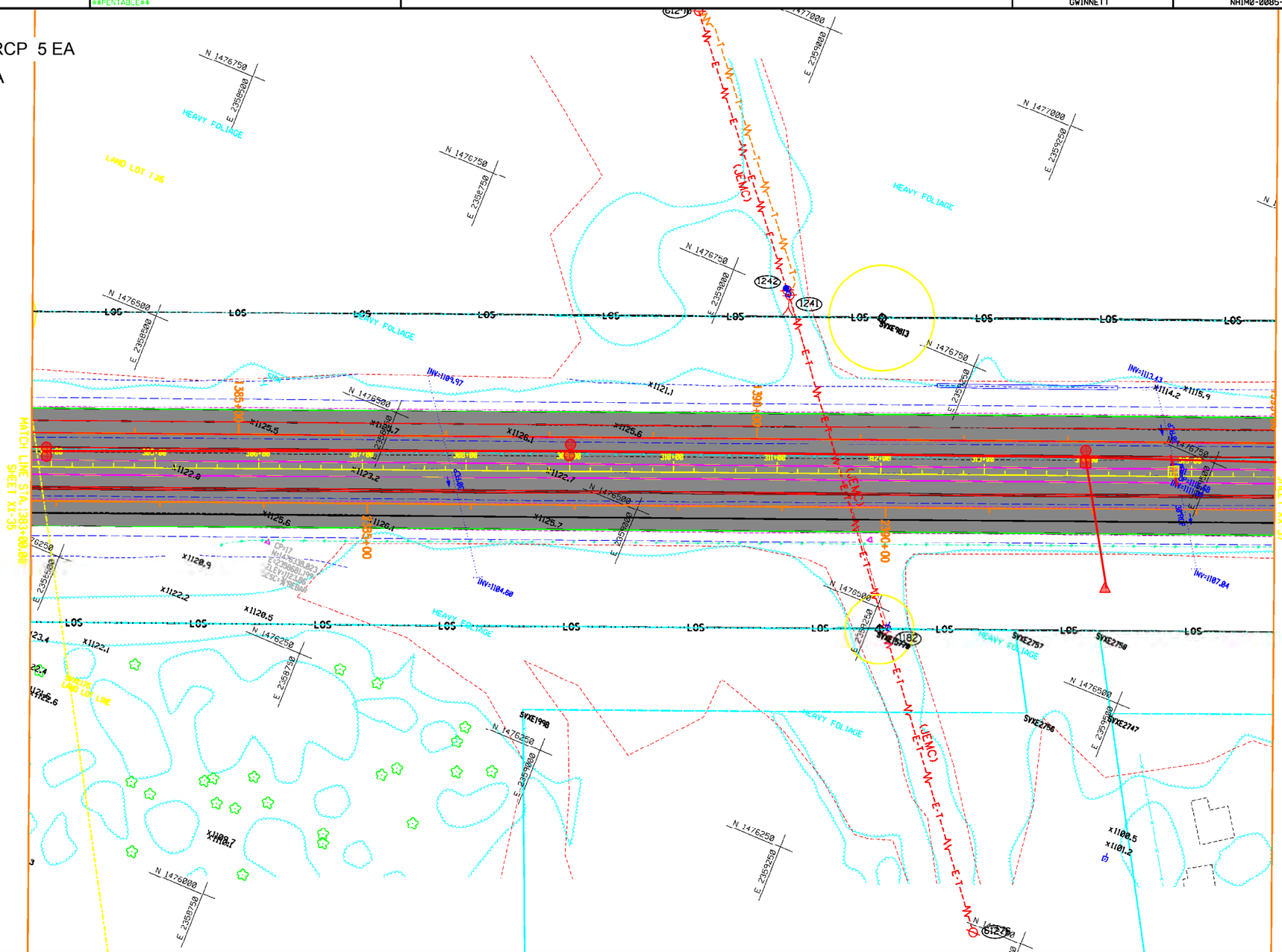
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-35

36" RCP / Jacked In 156 LF
36" RC Pipe Apron - Flange Outlet 1 EA
30/36" MH Drop Inlet Structure 1 EA
24" RCP 1,190 LF
24" RC Inlet Structure w/5ft of 24" RCP 5 EA
Remove Existing 15" CM Inlet 1 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-36

24" RCP 817 LF

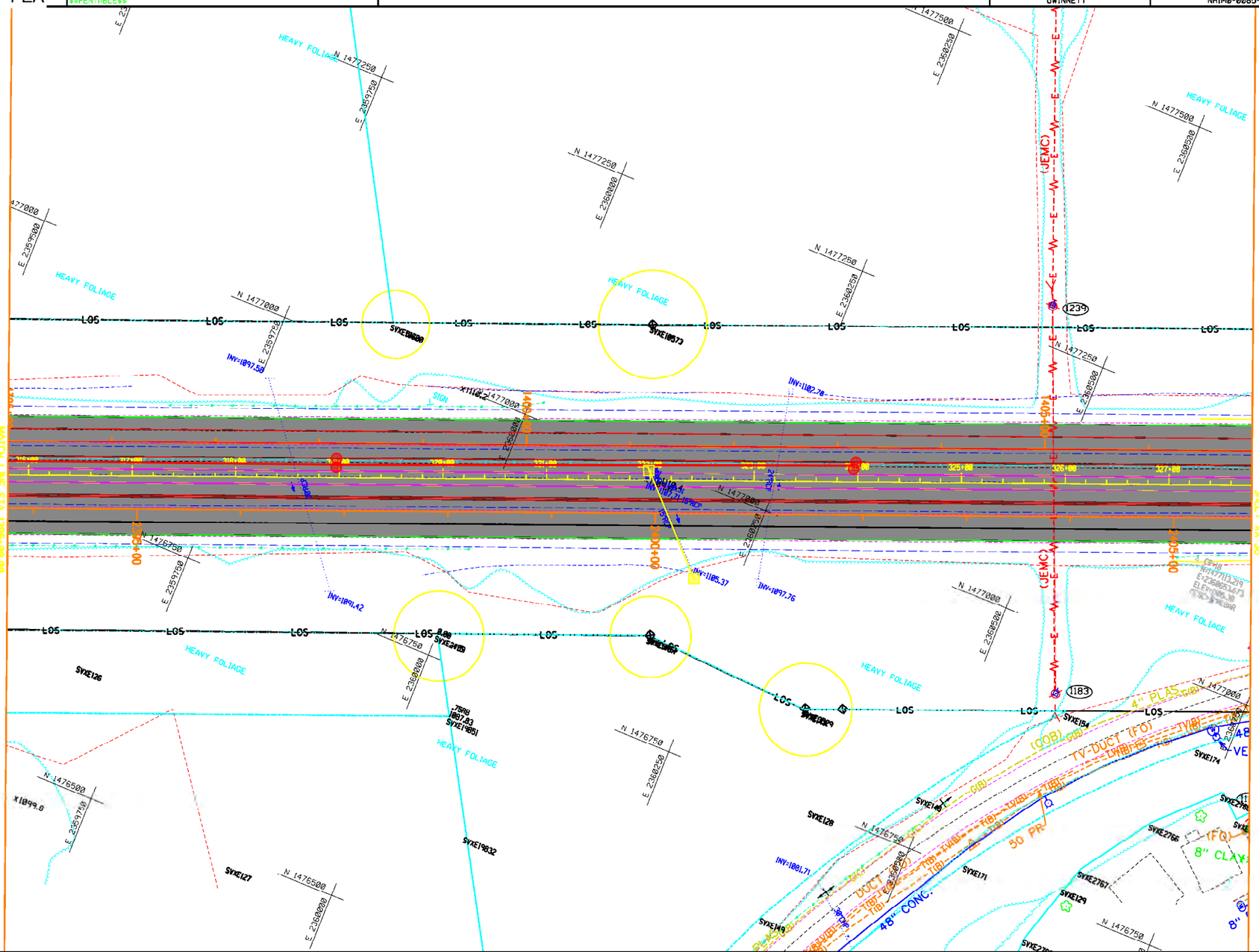
24" RC Inlet Structure w/5ft of 24" RCP 4 EA

Remove Existing 15" RC Pipe Apron 1 EA

Remove Existing 15" CM Inlet 1 EA

Remove Existing 15" RCP 116 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

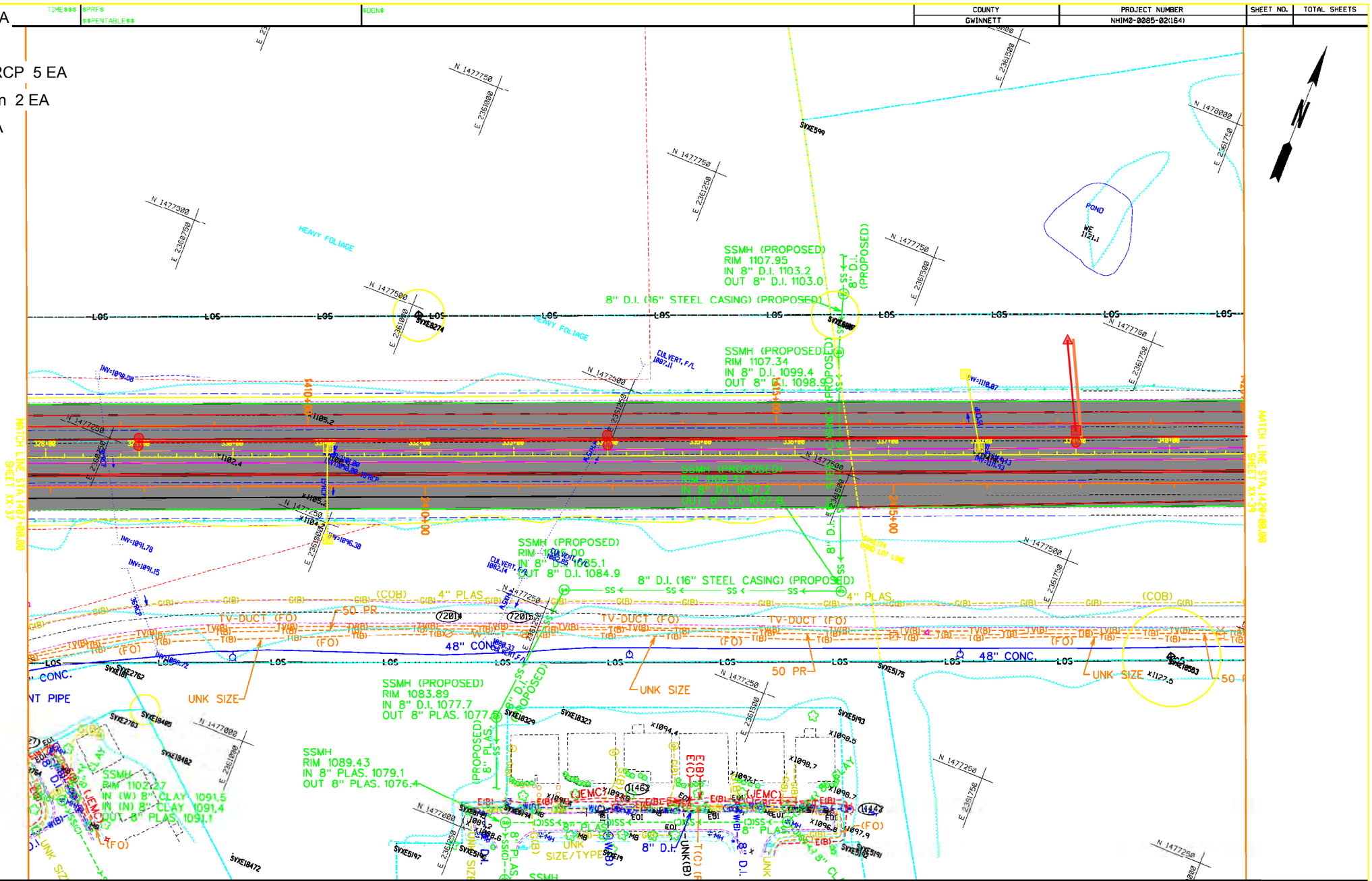
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-37

- 36" RCP / Jacked In 97 LF
- 36" RC Pipe Apron - Flange Outlet 1 EA
- 30/36" MH Drop Inlet Structure 1 EA
- 24" RCP 1,186 LF
- 24" RC Inlet Structure w/5ft of 24" RCP 5 EA
- Remove Existing 15" RC Pipe Apron 2 EA
- Remove Existing 15" CM Inlet 2 EA
- Remove Existing 15" RCP 187 LF
- Pipe Jacking 24" 105 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

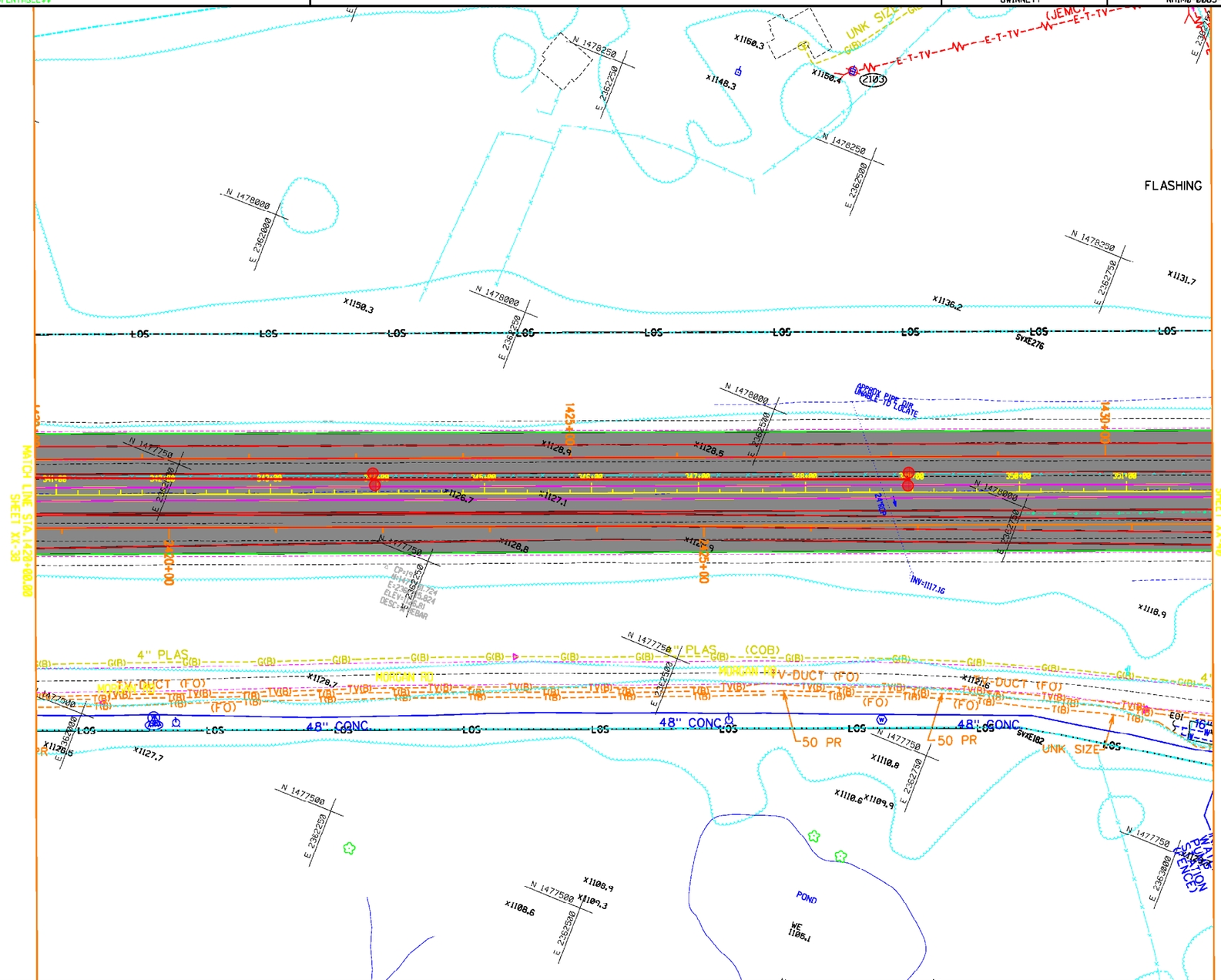
DRAWING No. 13-38

24" RCP 818 LF

24" RC Inlet Structure w/5ft of 24" RCP 4 EA

DATETIME$$ TIME$$ PRF DGN
$USER$ $$PENTABLE$$

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET 0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-39

24" RCP 1,093 LF

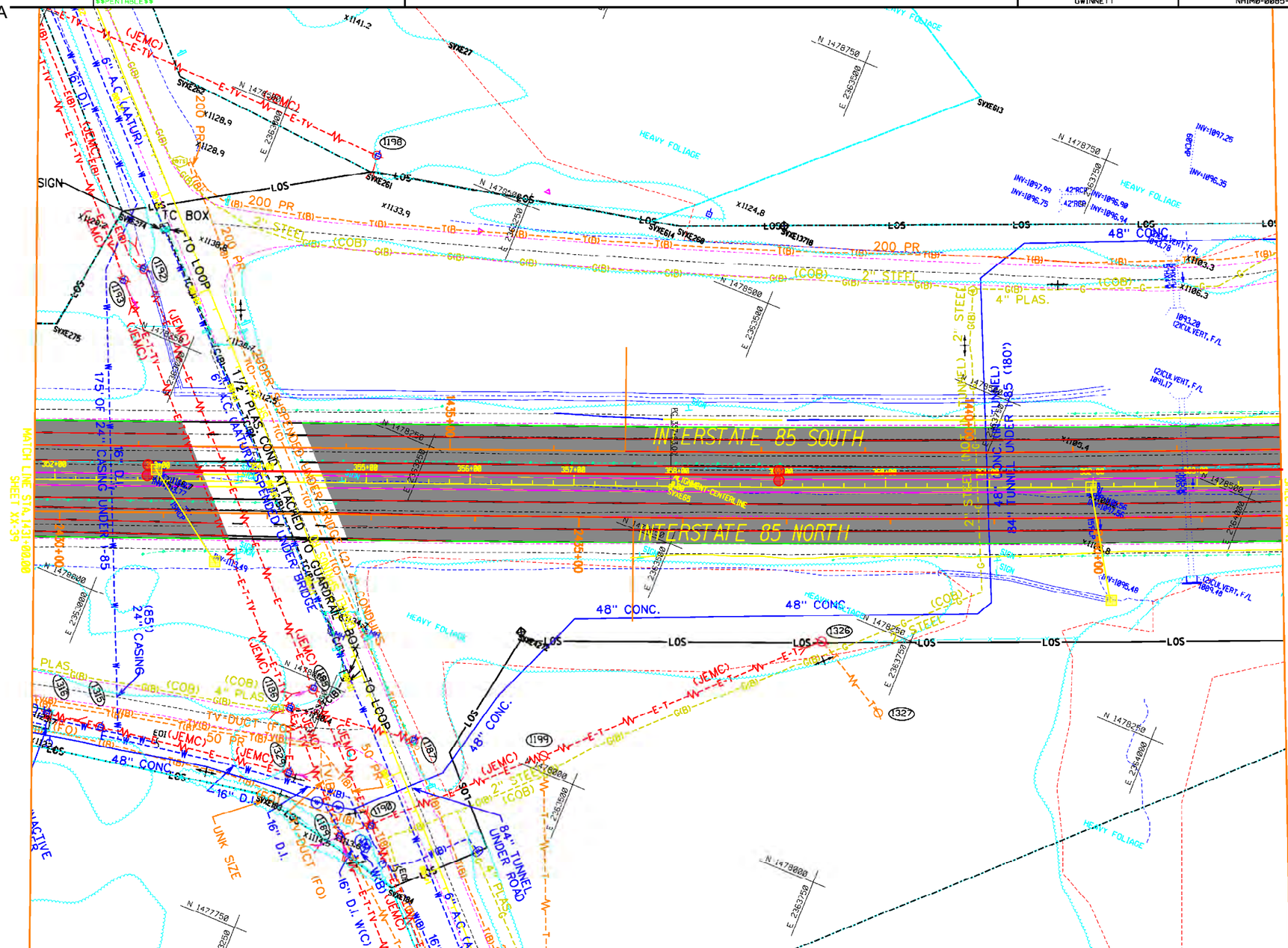
24" RC Inlet Structure w/5ft of 24" RCP 4 EA

Remove Existing 15" RC Pipe Apron 2 EA

Remove Existing 15" CM Inlet 2 EA

Remove Existing 15" RCP 220 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA
CONSTRUCTION LIMITS	LIMIT OF ACCESS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET 0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

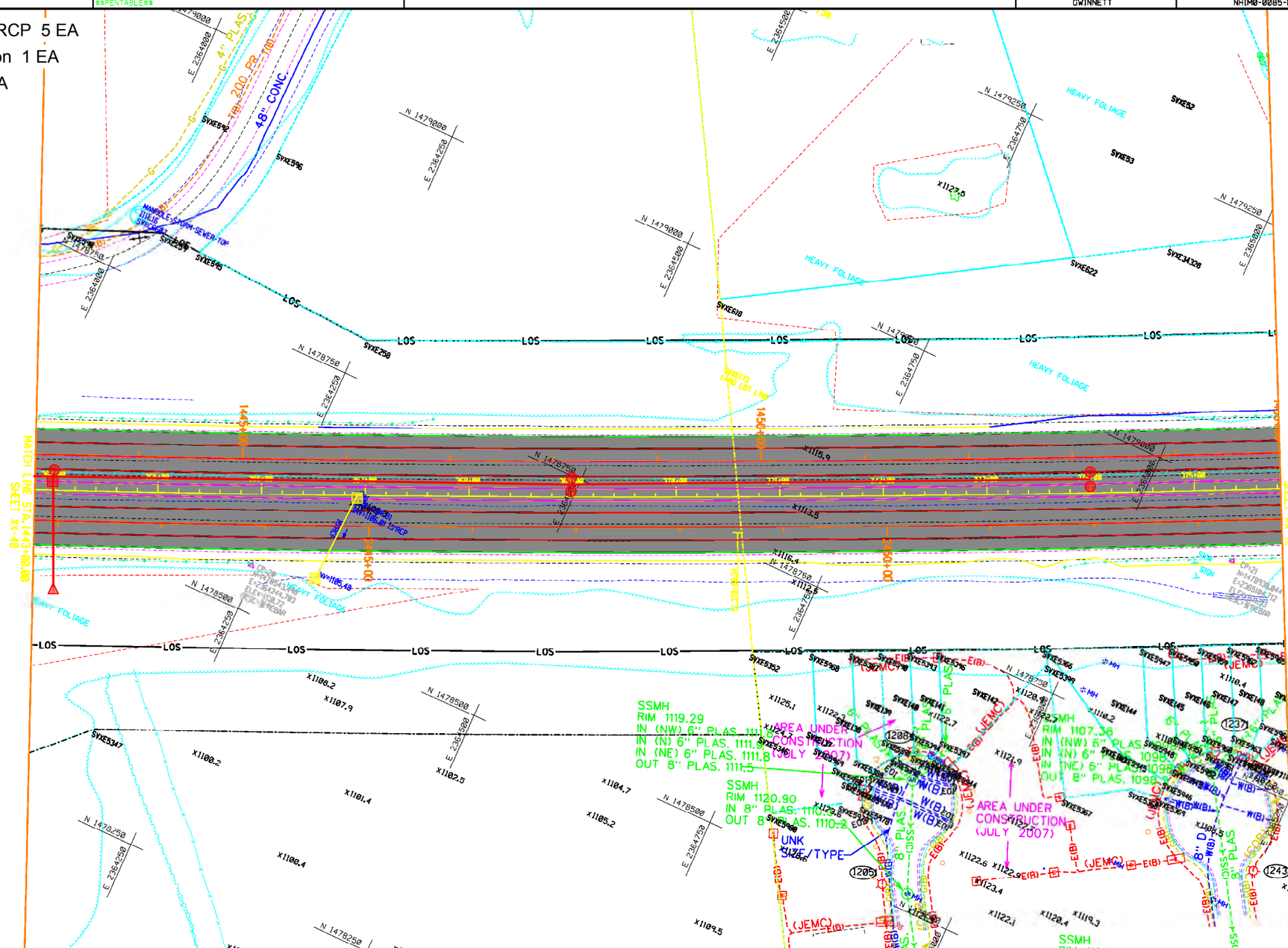
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-40

36" RCP / Jacked In 107 LF
36" RC Pipe Apron - Flange Outlet 1 EA
30/36" MH Drop Inlet Structure 1 EA
24" RCP 1,019 LF
24" RC Inlet Structure w/5ft of 24" RCP 5 EA
Remove Existing 15" RC Pipe Apron 1 EA
Remove Existing 15" CM Inlet 1 EA
Remove Existing 15" RCP 89 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHM0-0085-02(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA
CONSTRUCTION LIMITS	LIMIT OF ACCESS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO. D-41

24" RCP 889 LF

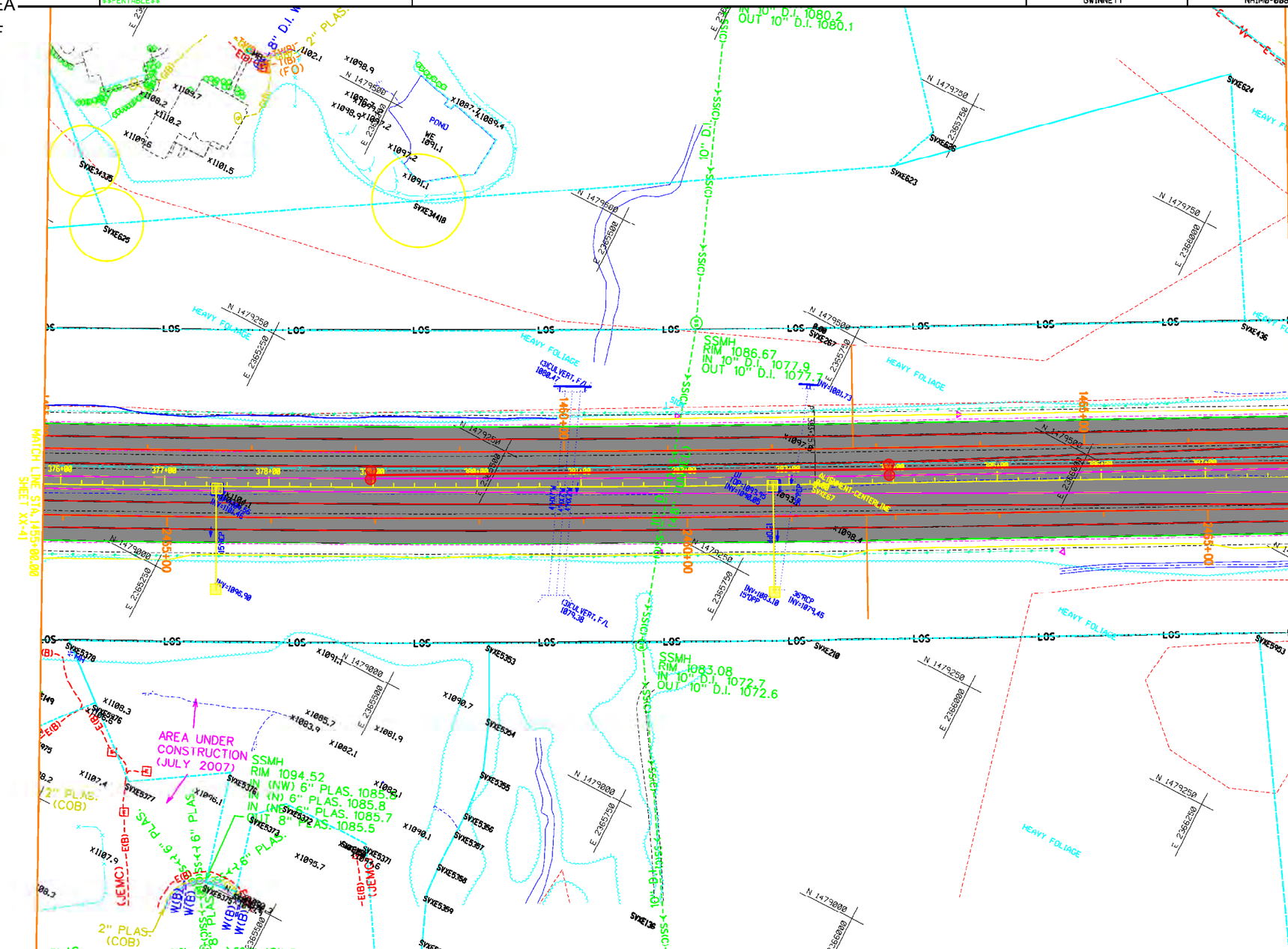
24" RC Inlet Structure w/5ft of 24" RCP 4 EA

Remove Existing 15" RC Pipe Apron 2 EA

Remove Existing 15" CM Inlet 2 EA

Remove Existing 15" RCP 203 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	C F
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET 0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

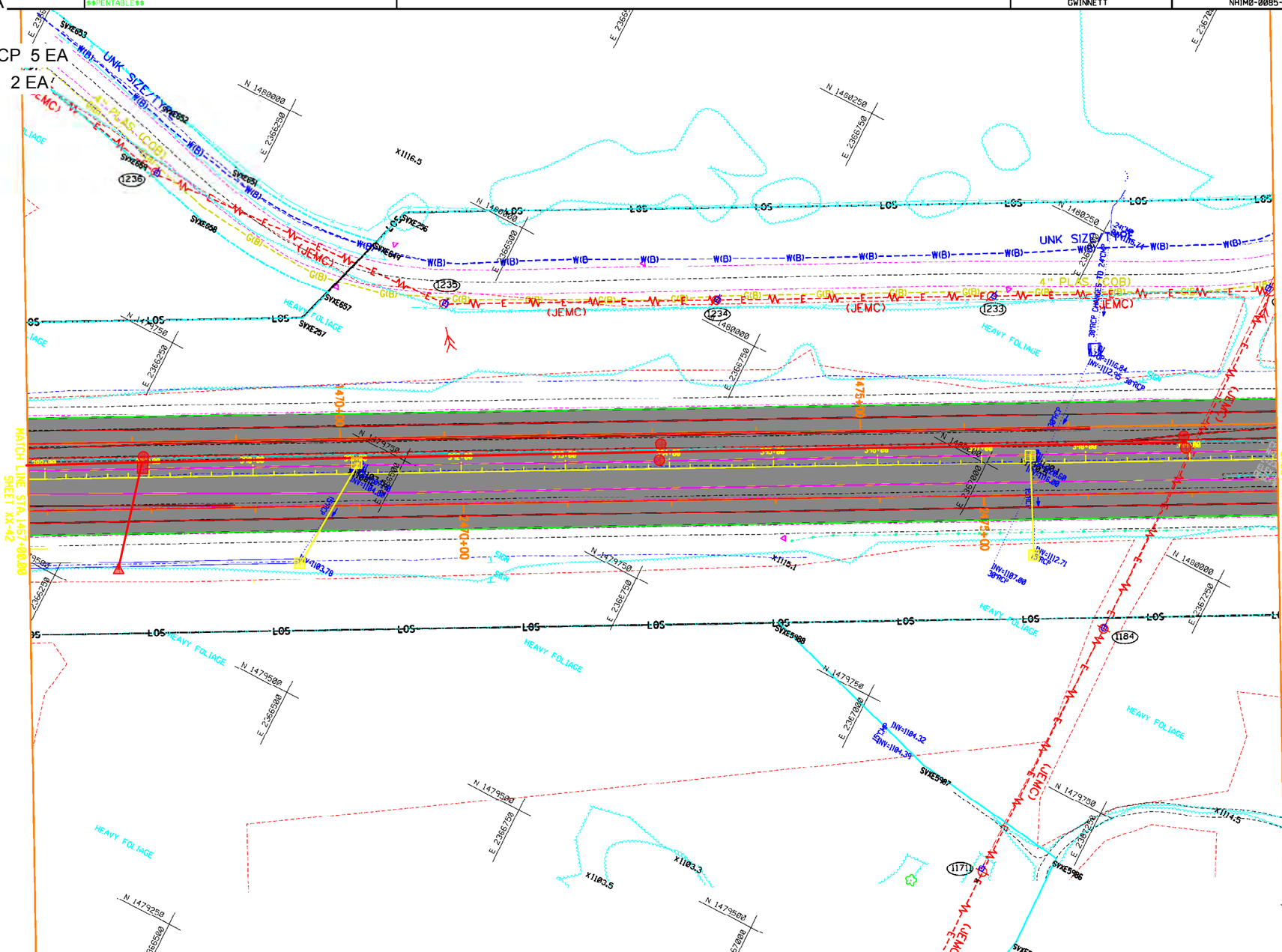
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO. XX-42

- 36" RCP / Jacked In 105 LF
- 36" RC Pipe Apron - Flange Outlet 1 EA
- 30/36" MH Drop Inlet Structure 1 EA
- 24" RCP 1,115 LF
- 24" RC Inlet Structure w/5ft of 24" RCP 5 EA
- Remove Existing 15" RC Pipe Apron 2 EA
- Remove Existing 15" CM Inlet 2 EA
- Remove Existing 15" RCP 211 LF

TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
	$$PENTABLE$$		GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE	
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	
BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-43

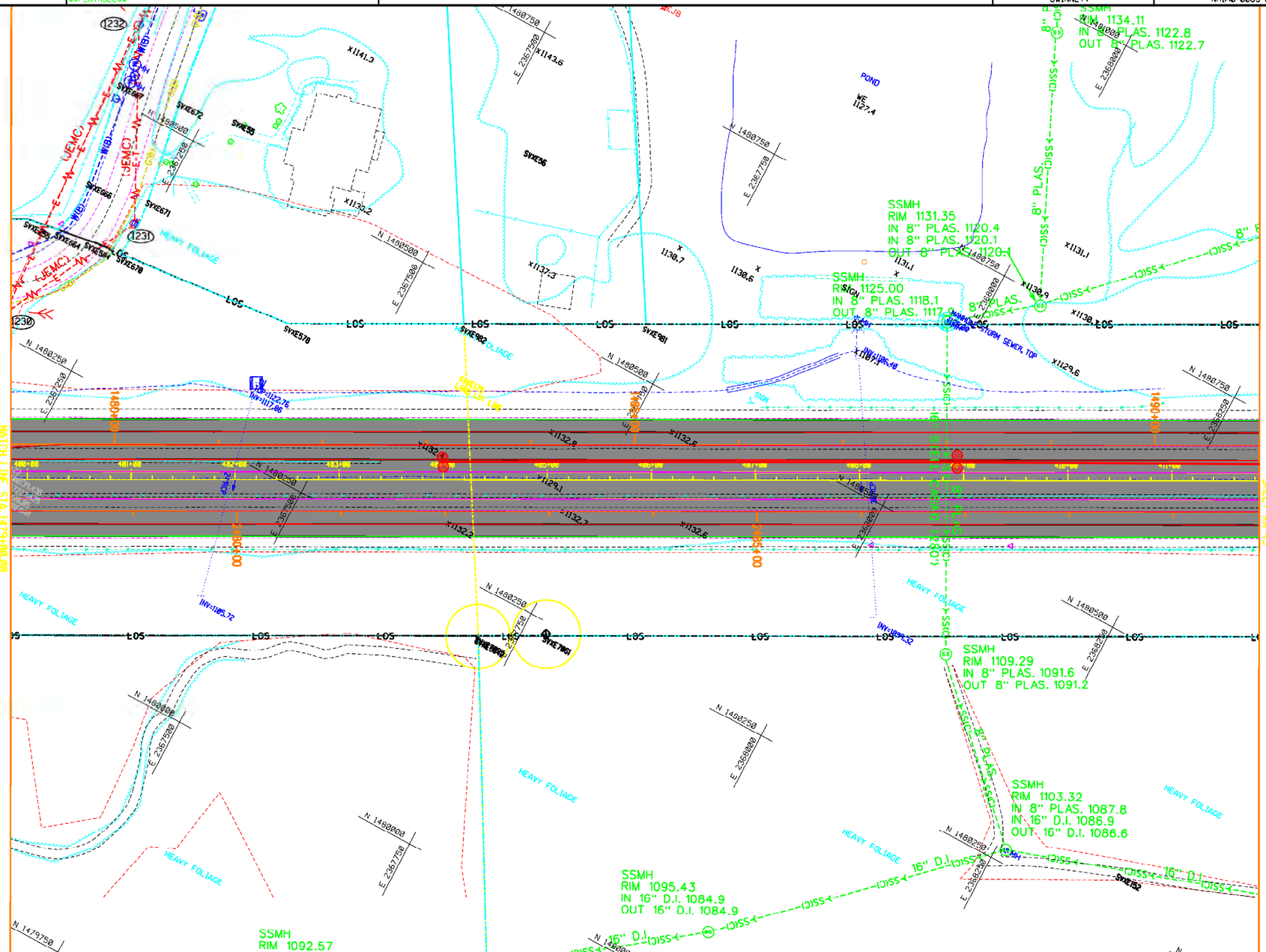
24" RCP 787 LF

24" RC Inlet Structure w/5ft of 24" RCP 4 EA

DATETIME$$$ TIME$$$ PRF DGN

$USER$ $$PENTABLE$$

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NH(M0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-44

36" RCP / Jacked In 127 LF

36" RC Pipe Apron - Flange Outlet 1 EA

30/36" MH Drop Inlet Structure 1 EA

24" RCP 1,201 LF

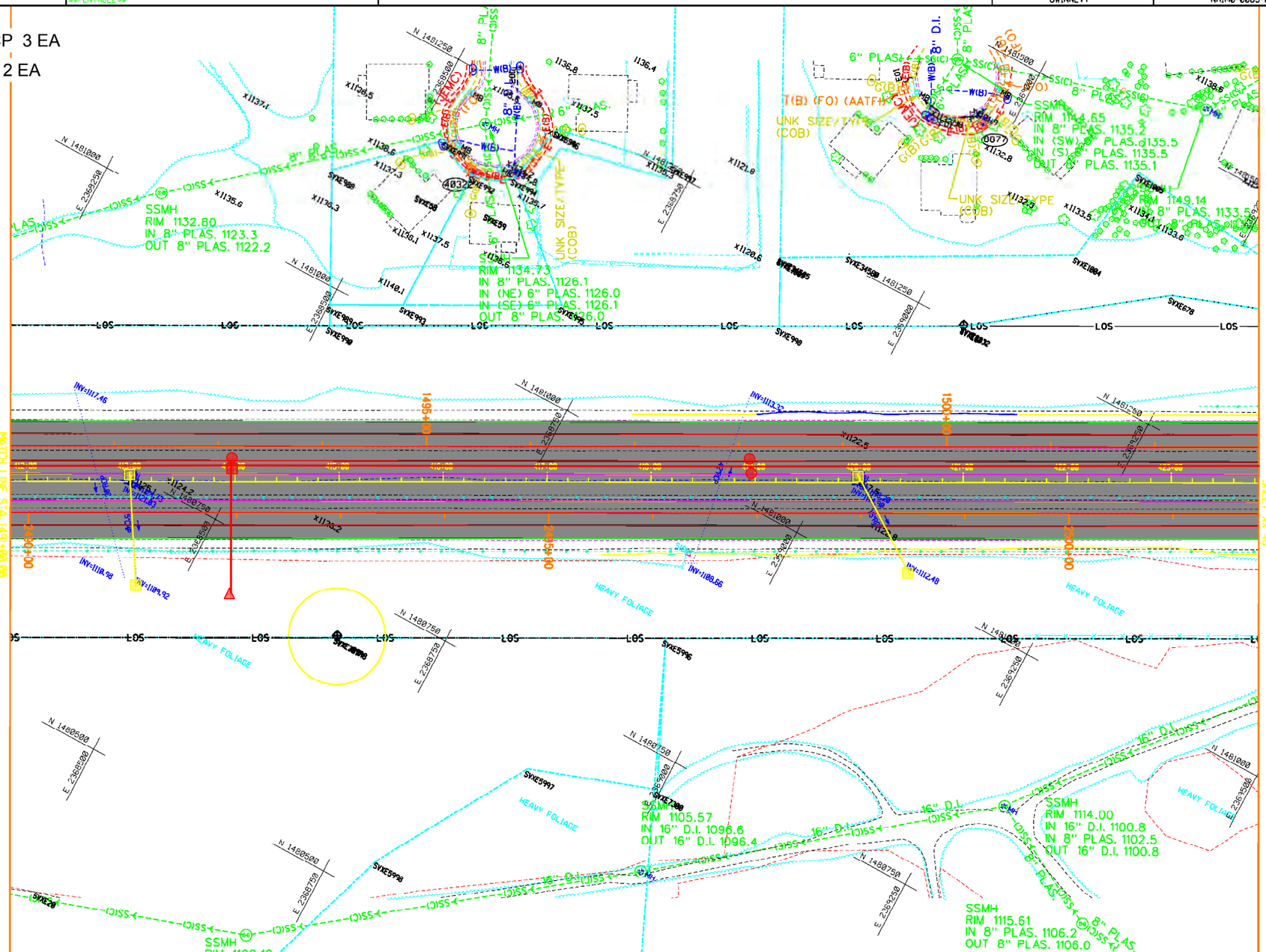
24" RC Inlet Structure w/5ft of 24" RCP 3 EA

Remove Existing 15" RC Pipe Apron 2 EA

Remove Existing 15" CM Inlet 2 EA

Remove Existing 15" RCP 219 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 3-45

24" RCP 701 LF

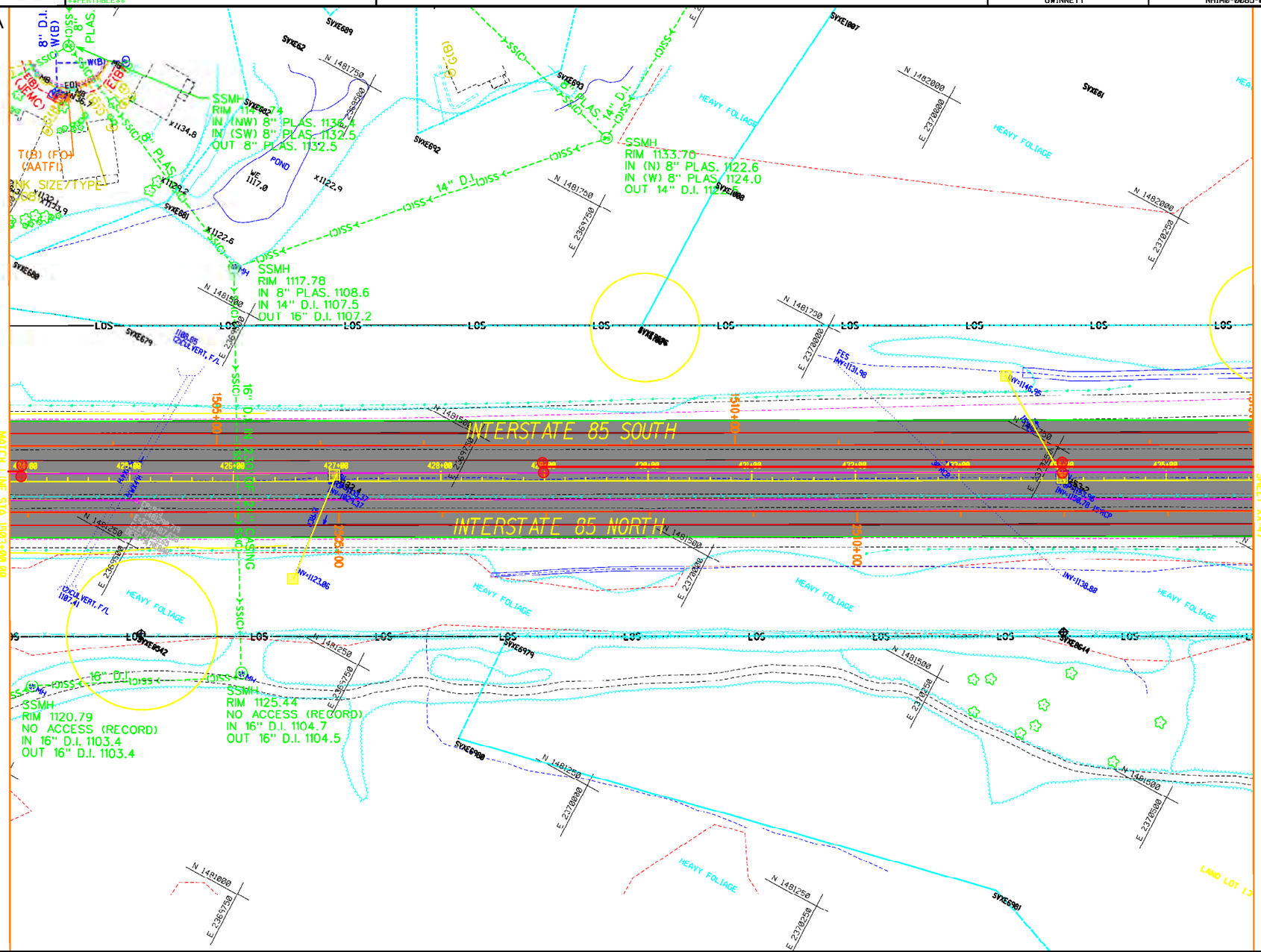
24" RC Inlet Structure w/5ft of 24" RCP 6 EA

Remove Existing 15" RC Pipe Apron 2 EA

Remove Existing 15" CM Inlet 2 EA

Remove Existing 15" RCP 228 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

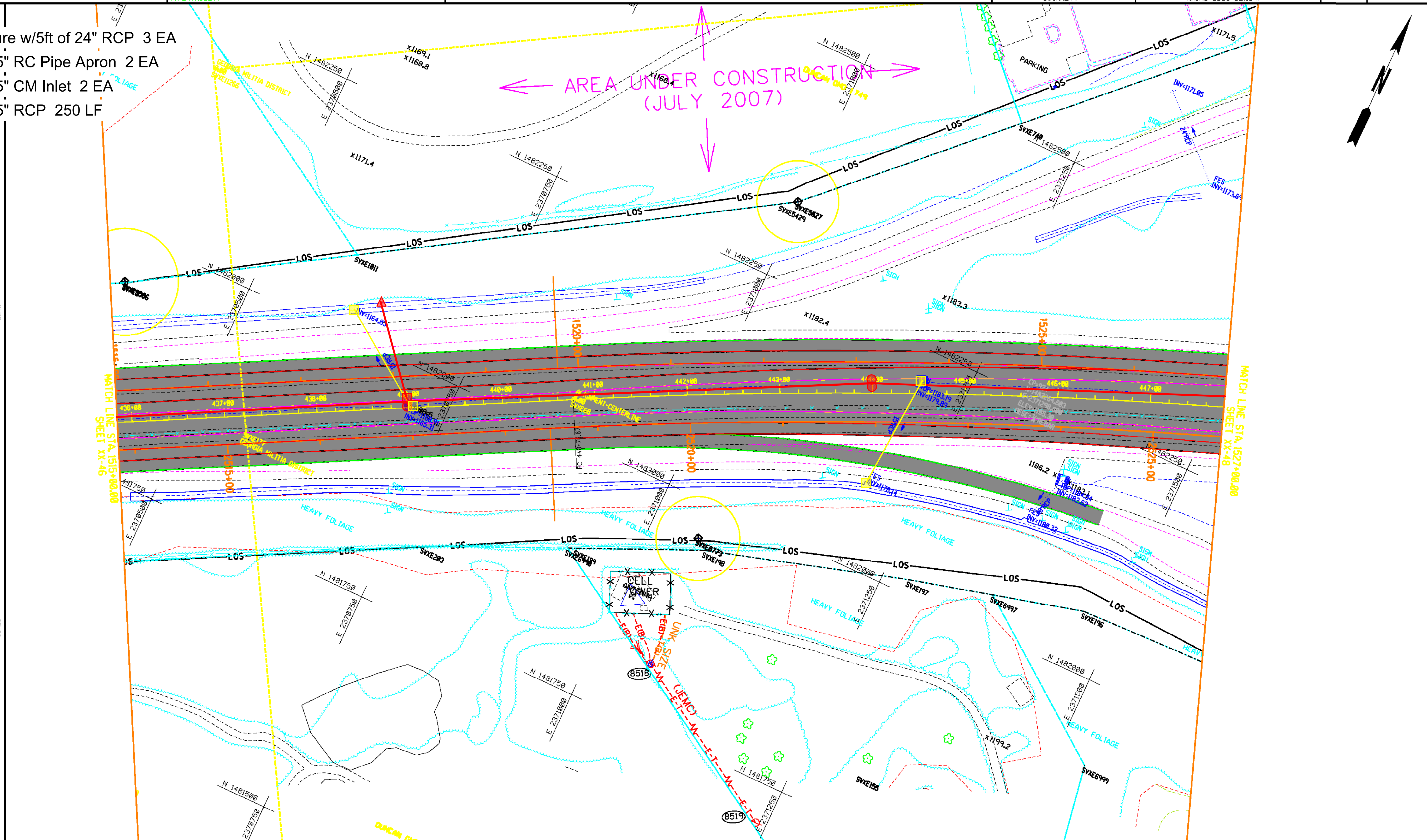
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-46

36" RCP / Jacked In 117 LF
36" RC Pipe Apron - Flange Outlet 1 EA
30/36" MH Drop Inlet Structure 1 EA
24" RCP 1,199 LF
24" RC Inlet Structure w/5ft of 24" RCP 3 EA
Remove Existing 15" RC Pipe Apron 2 EA
Remove Existing 15" CM Inlet 2 EA
Remove Existing 15" RCP 250 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS............BLA
END LIMIT OF ACCESS..............ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

MAINLINE PLAN

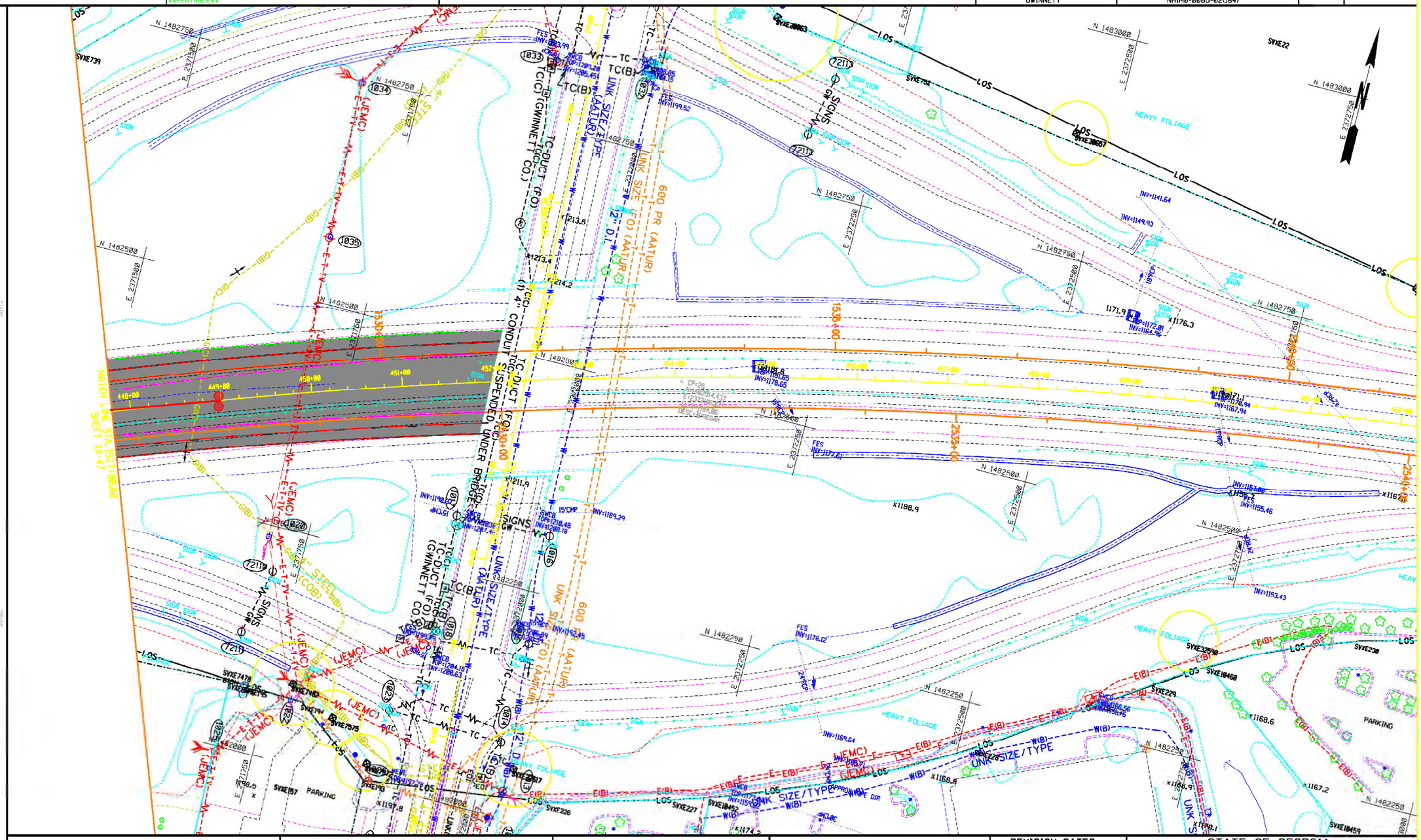
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
-47

24" RCP 120 LF

24" RC Inlet Structure w/5ft of 24" RCP 2 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-48

Takeoff Tab

1-85 Managed Lanes STRIPING

Bid No. 20

No.	Name	Height	Quantity1	UOM1	Quantity2	UOM2	Quantity3	UOM3
(unassigned)								
(unassigned)								
1	5" Skip White Line (10 ft)	0"	5,587	EA	0		0	
2	Type 3 (Clear/Red) Raised Pavement Marker	0"	4,105	EA	0		0	
3	Double 8" Solid White Line (x2)	0"	90,336	LF	0		0	
4	5" Solid Yellow Line	0"	113,151	LF	0		0	
5	5" Solid White Line	0"	109,984	LF	0		0	
6	Sawcutt Existing Pavement/Bituminous	0"	18,081	LF	0		0	
7	Type 3 (#x3) DW Line - Raised Pavement Marker	0"	1,264	EA	0		0	
8	10" Solid White Line	0"	18,516	LF	0		0	
9	5" Skip White Line (2 ft)	0"	344	EA	0		0	
11	Double 8" Skip White Line (10ft) (x2)	0"	160	EA	0		0	

5" Skip White Line (10 ft) 117 EA

Type 3 (Clear/Red) Raised Pavement Marker 59 EA

Double 8" Solid White Line (x2) 1,267 LF

5" Solid Yellow Line 1,599 LF

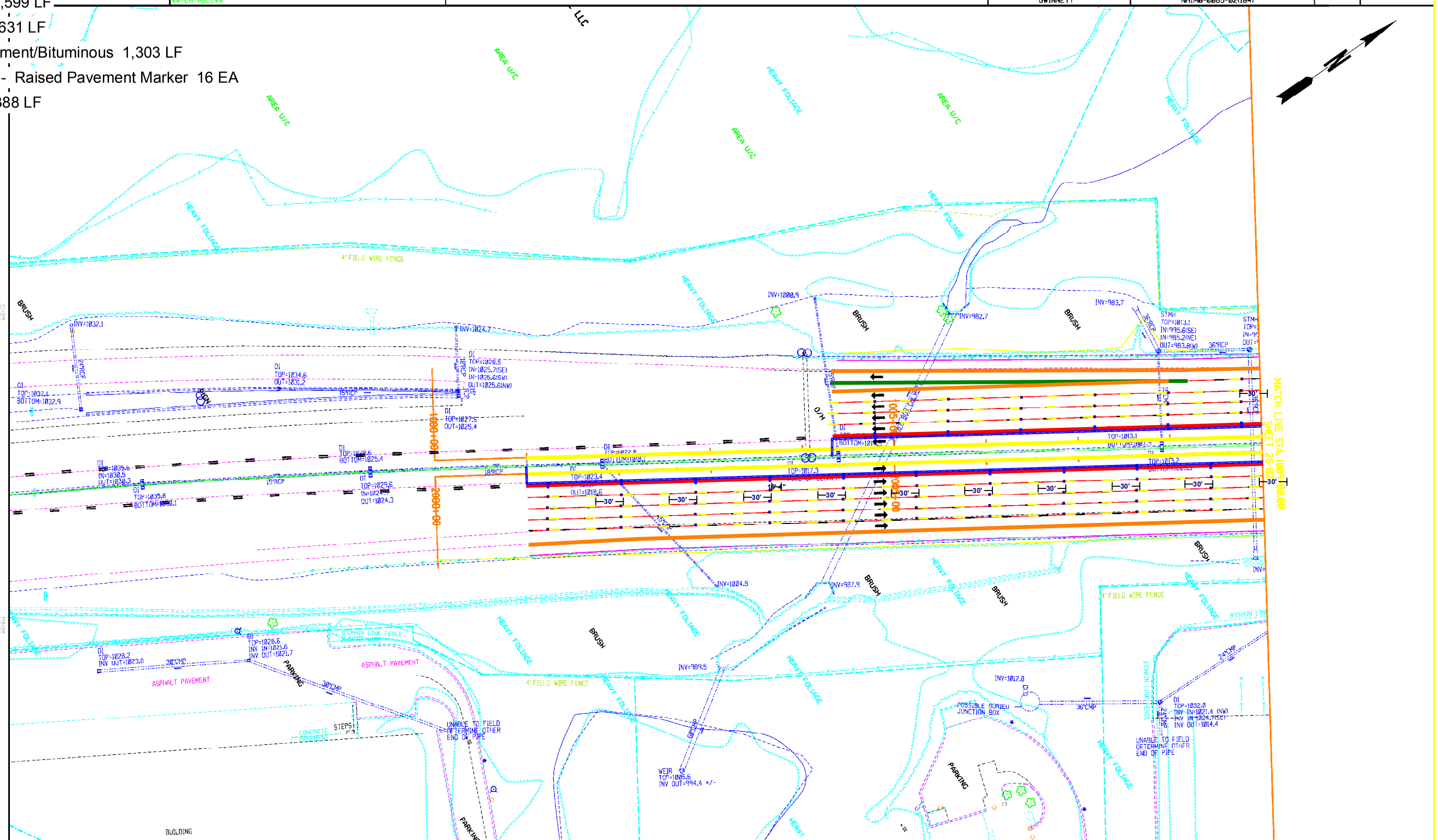
5" Solid White Line 1,631 LF

Sawcutt Existing Pavement/Bituminous 1,303 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 16 EA

10" Solid White Line 388 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

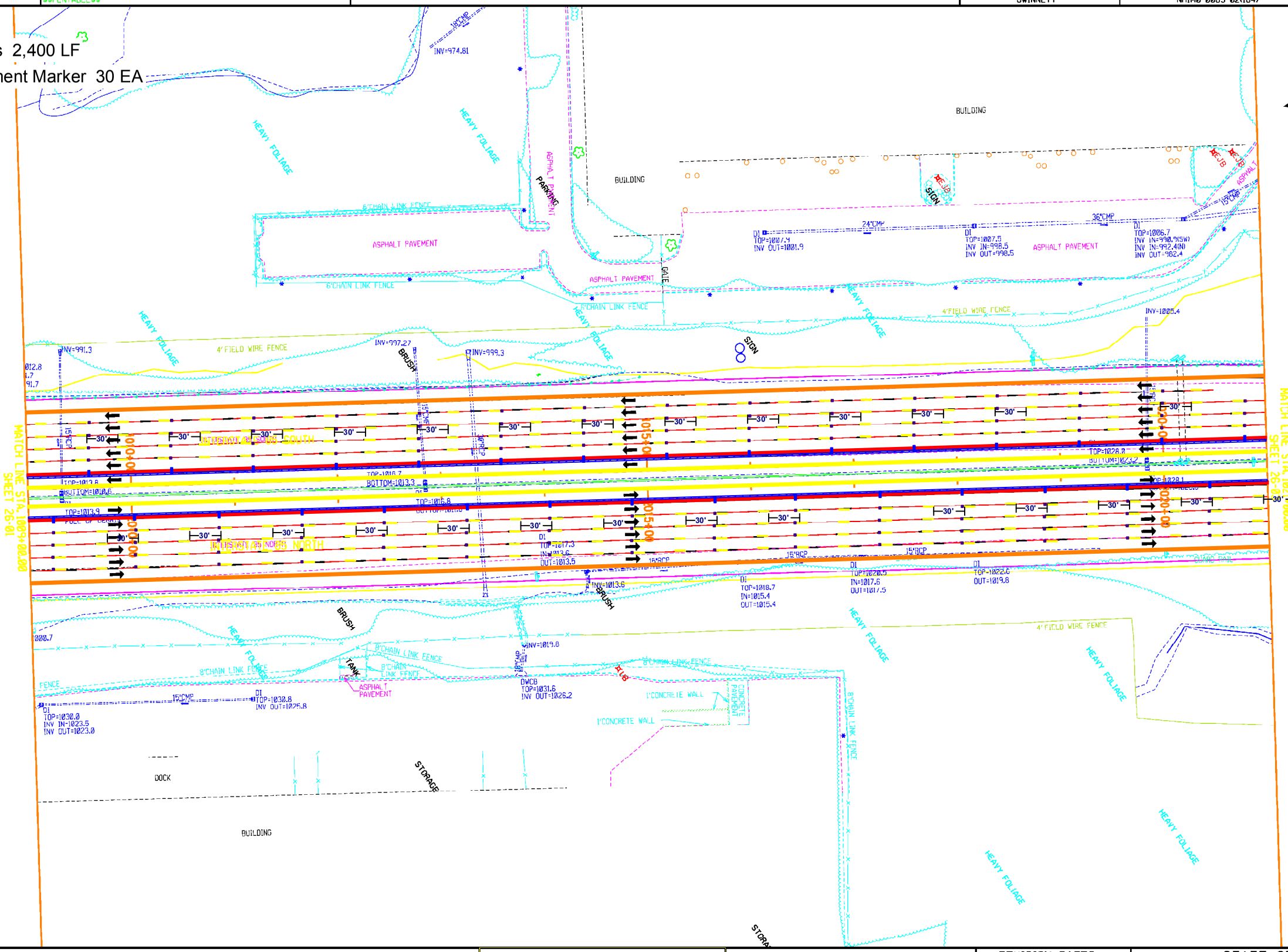
SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO. 26-01

5" Skip White Line (10 ft) 239 EA
Type 3 (Clear/Red) Raised Pavement Marker 119 EA
Double 8" Solid White Line (x2) 2,402 LF
5" Solid Yellow Line 2,401 LF
5" Solid White Line 2,400 LF
Sawcutt Existing Pavement/Bituminous 2,400 LF
Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:
SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO. 26-02

5" Skip White Line (10 ft) 210 EA

Type 3 (Clear/Red) Raised Pavement Marker 105 EA

Double 8" Solid White Line (x2) 2,402 LF

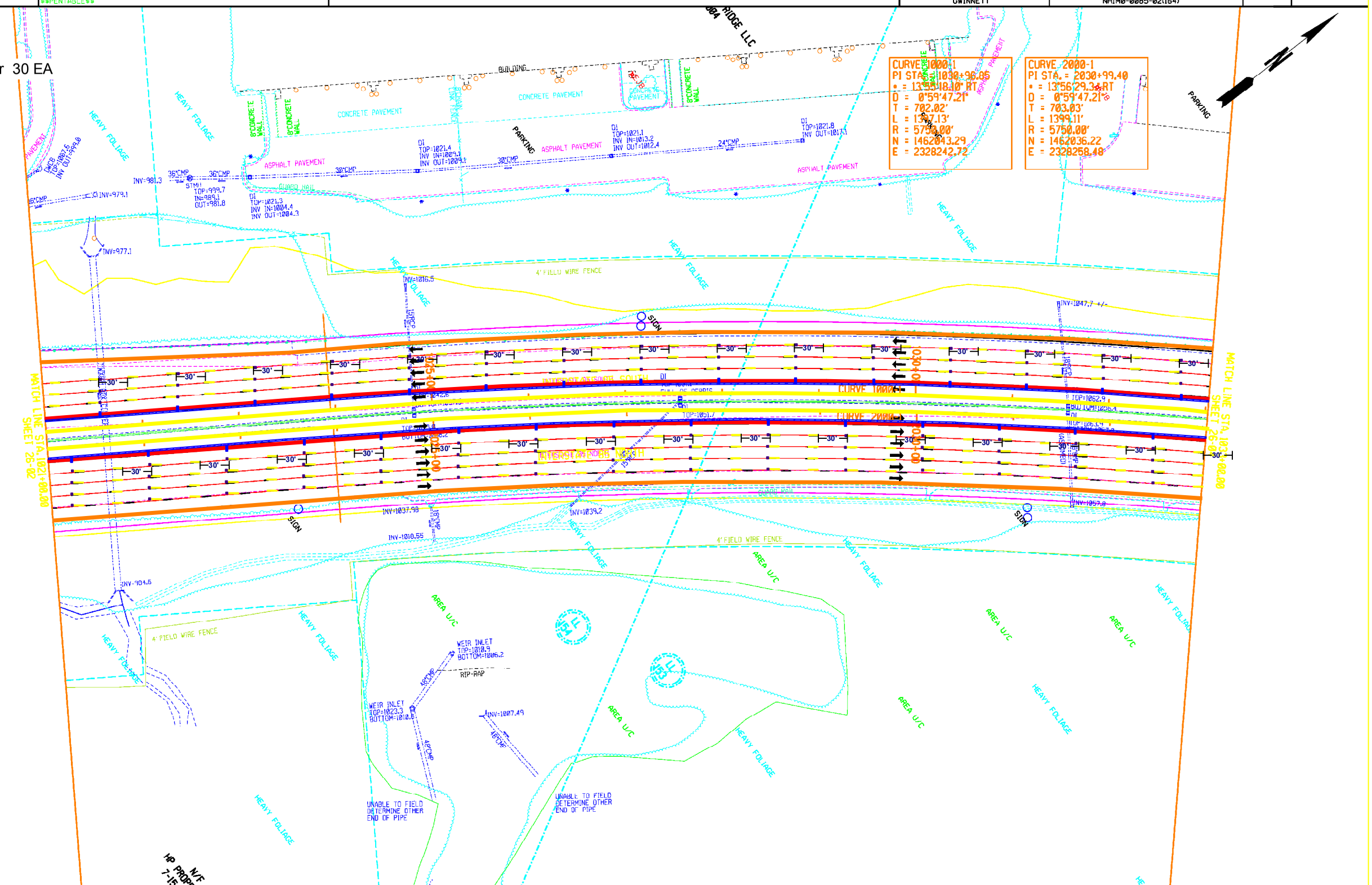
5" Solid Yellow Line 2,402 LF

5" Solid White Line 2,400 LF

Sawcutt Existing Pavement/Bituminous 2,402 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET 0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 26-03

5" Skip White Line (10 ft) 213 EA

Type 3 (Clear/Red) Raised Pavement Marker 195 EA

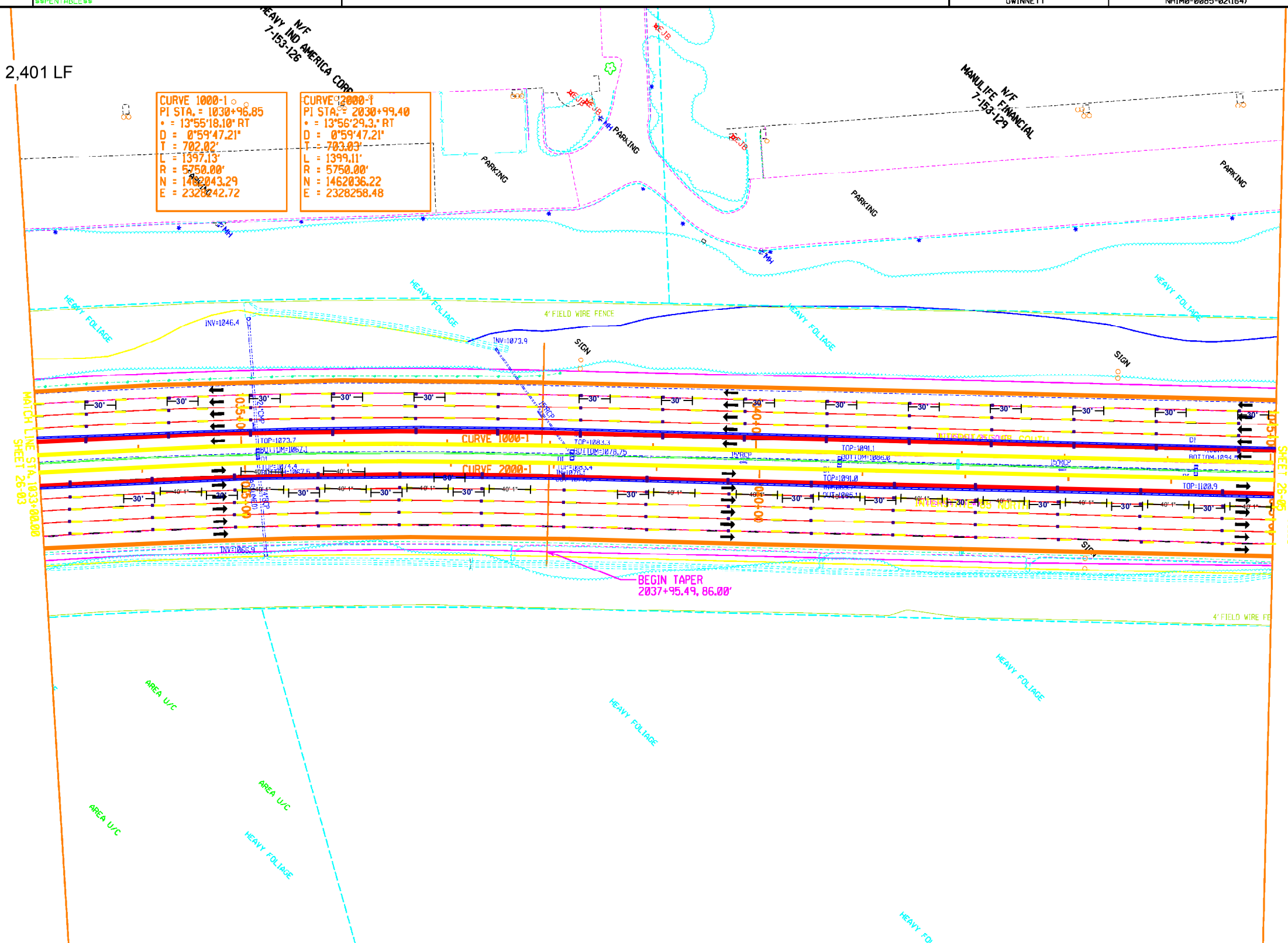
Double 8" Solid White Line (x2) 2,401 LF

5" Solid Yellow Line 2,401 LF

5" Solid White Line 2,400 LF

Sawcutt Existing Pavement/Bituminous 2,401 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-04

5" Skip White Line (10 ft) 203 EA

Type 3 (Clear/Red) Raised Pavement Marker 111 EA

Double 8" Solid White Line (x2) 2,392 LF

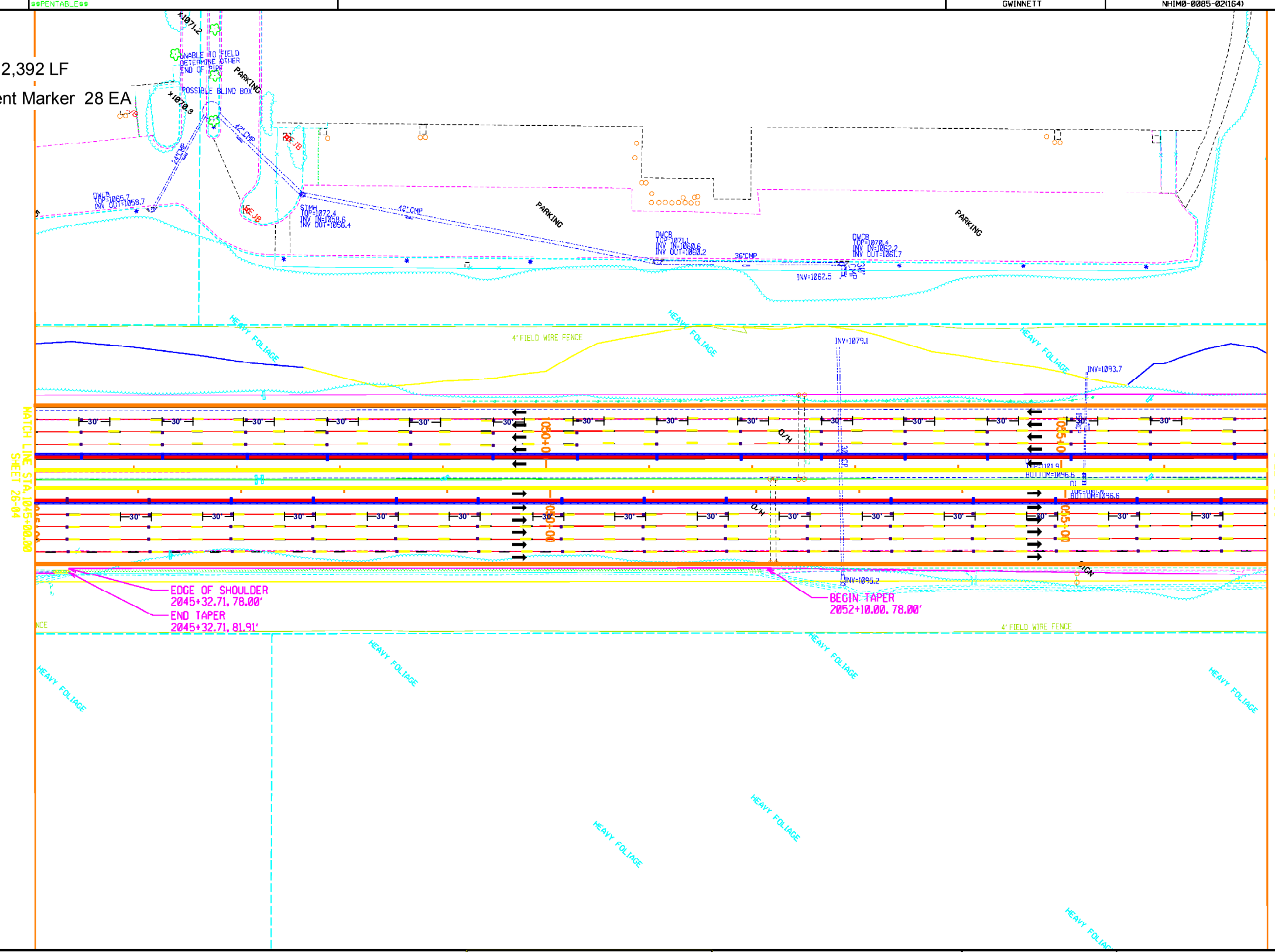
5" Solid Yellow Line 2,393 LF

5" Solid White Line 2,393 LF

Sawcutt Existing Pavement/Bituminous 2,392 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 28 EA

PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$$PENTABLE$$		GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-05

5" Skip White Line (10 ft) 210 EA

Type 3 (Clear/Red) Raised Pavement Marker 105 EA

Double 8" Solid White Line (x2) 2,392 LF

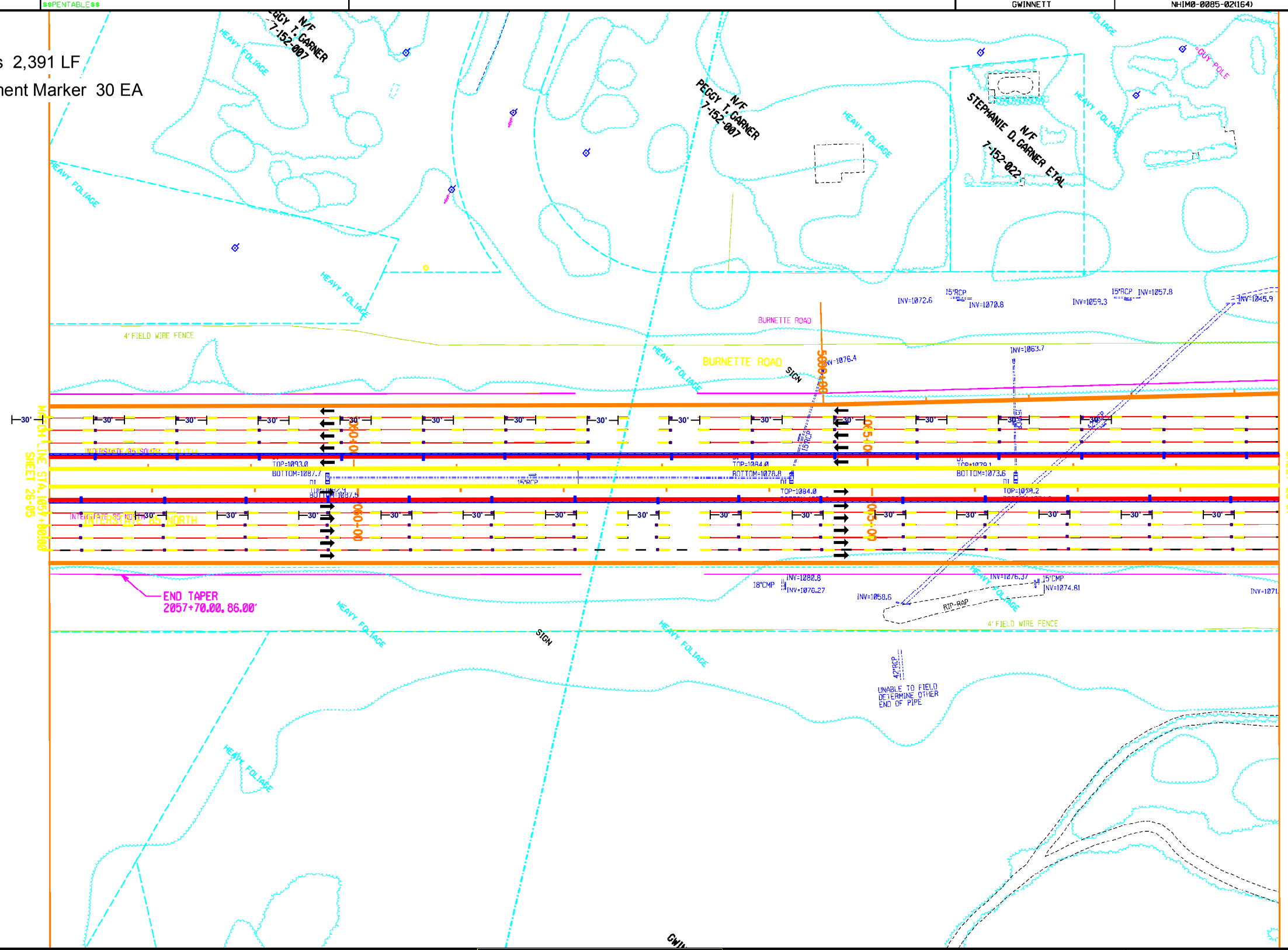
5" Solid Yellow Line 2,392 LF

5" Solid White Line 2,393 LF

Sawcutt Existing Pavement/Bituminous 2,391 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-06

5" Skip White Line (10 ft) 184 EA

Type 3 (Clear/Red) Raised Pavement Marker 264 EA

Double 8" Solid White Line (x2) 2,391 LF

5" Solid Yellow Line 2,393 LF

5" Solid White Line 2,394 LF

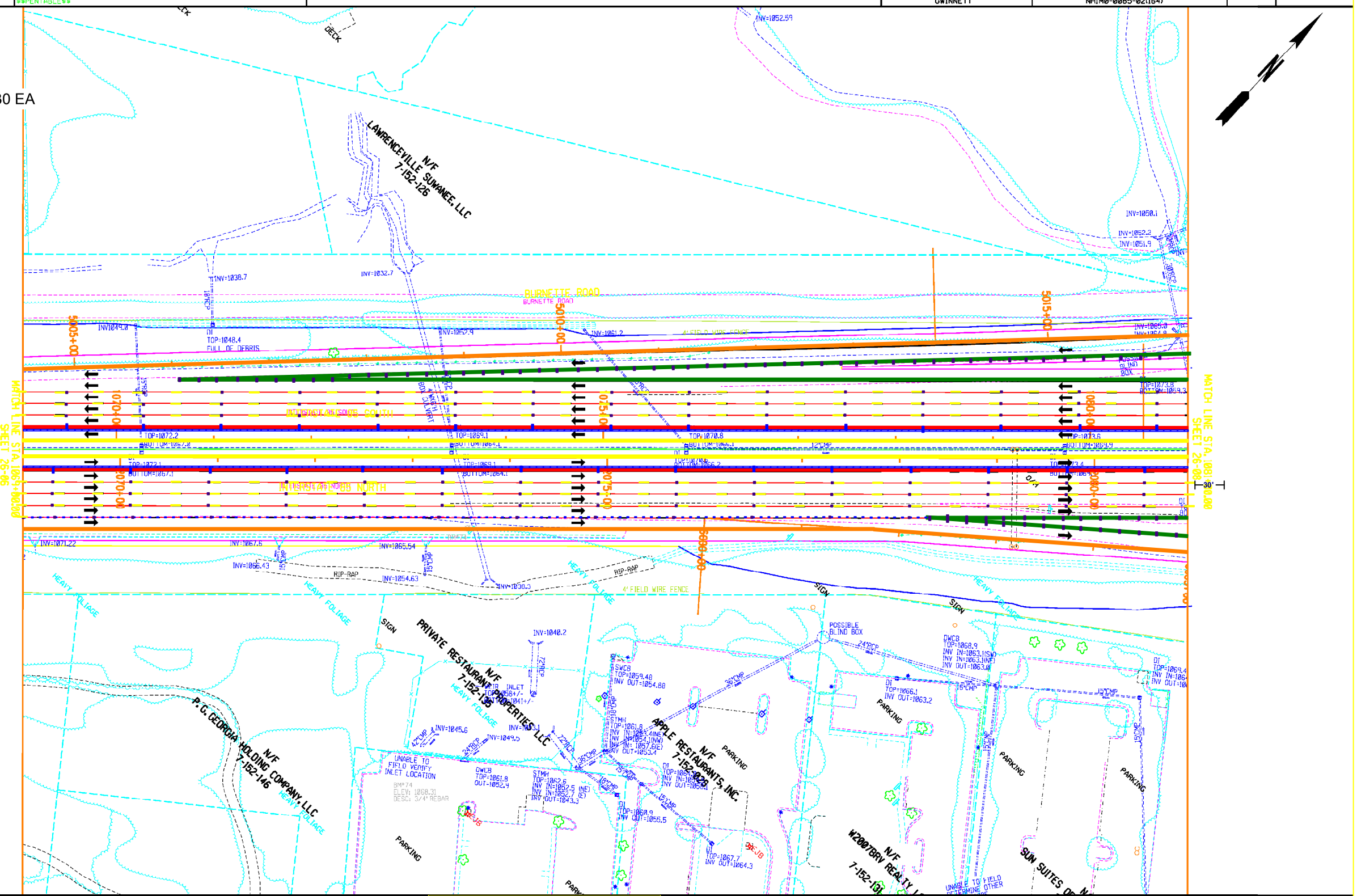
Sawcutt Existing Pavement/Bituminous 2,391 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

10" Solid White Line 2,611 LF

5" Skip White Line (2 ft) 116 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-07

5" Skip White Line (10 ft) 199 EA

Type 3 (Clear/Red) Raised Pavement Marker 120 EA

Double 8" Solid White Line (x2) 2,400 LF

5" Solid Yellow Line 2,400 LF

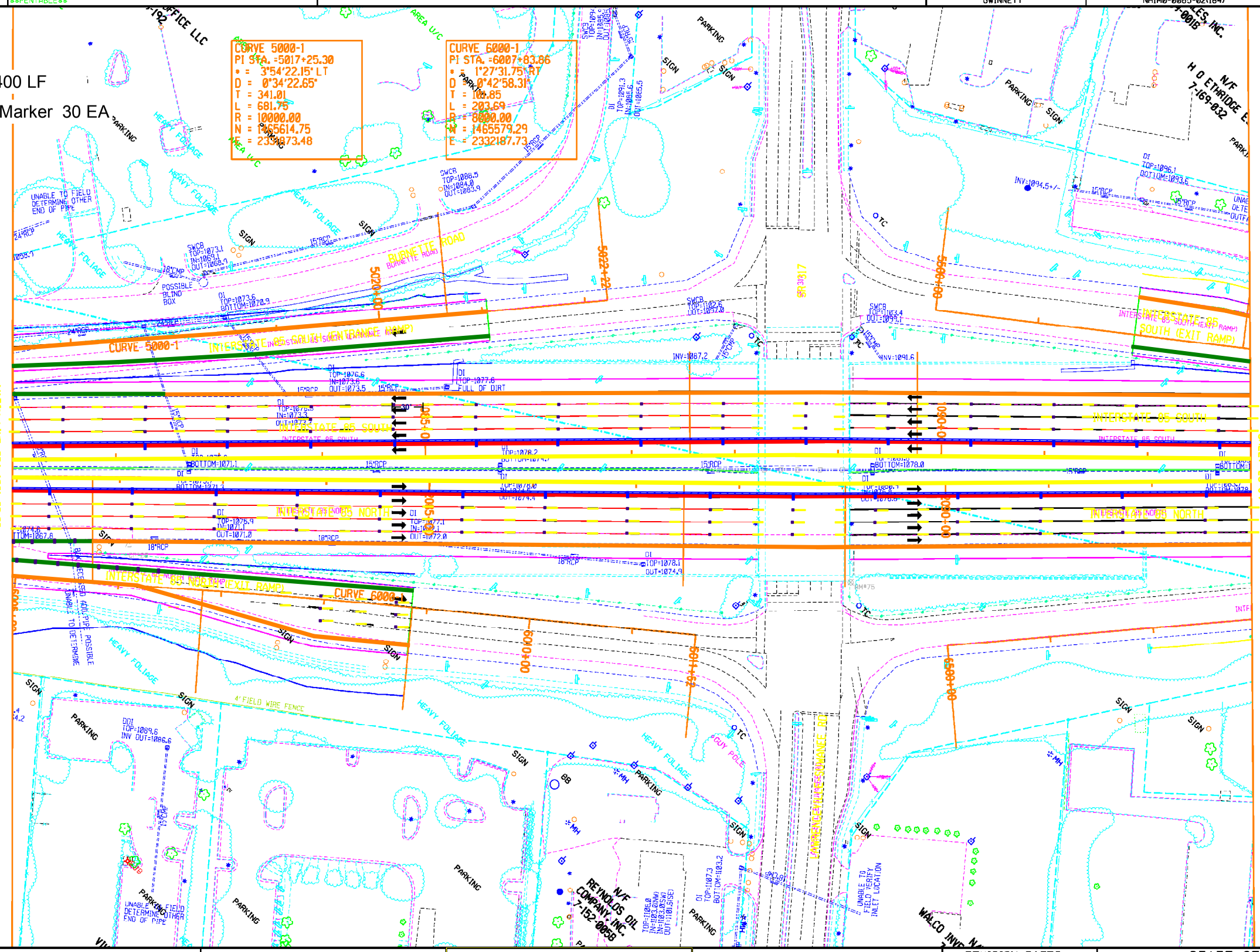
5" Solid White Line 3,138 LF

Sawcutt Existing Pavement/Bituminous 2,400 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

10" Solid White Line 1,193 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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The Subsurface Utility Engineering Company

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Covington, Ga 30016
678-342-2775

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ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT **STAGE 3**

DRAWING No. 26-08

5" Skip White Line (10 ft) 180 EA

Type 3 (Clear/Red) Raised Pavement Marker 264 EA

Double 8" Solid White Line (x2) 2,401 LF

5" Solid Yellow Line 2,400 LF

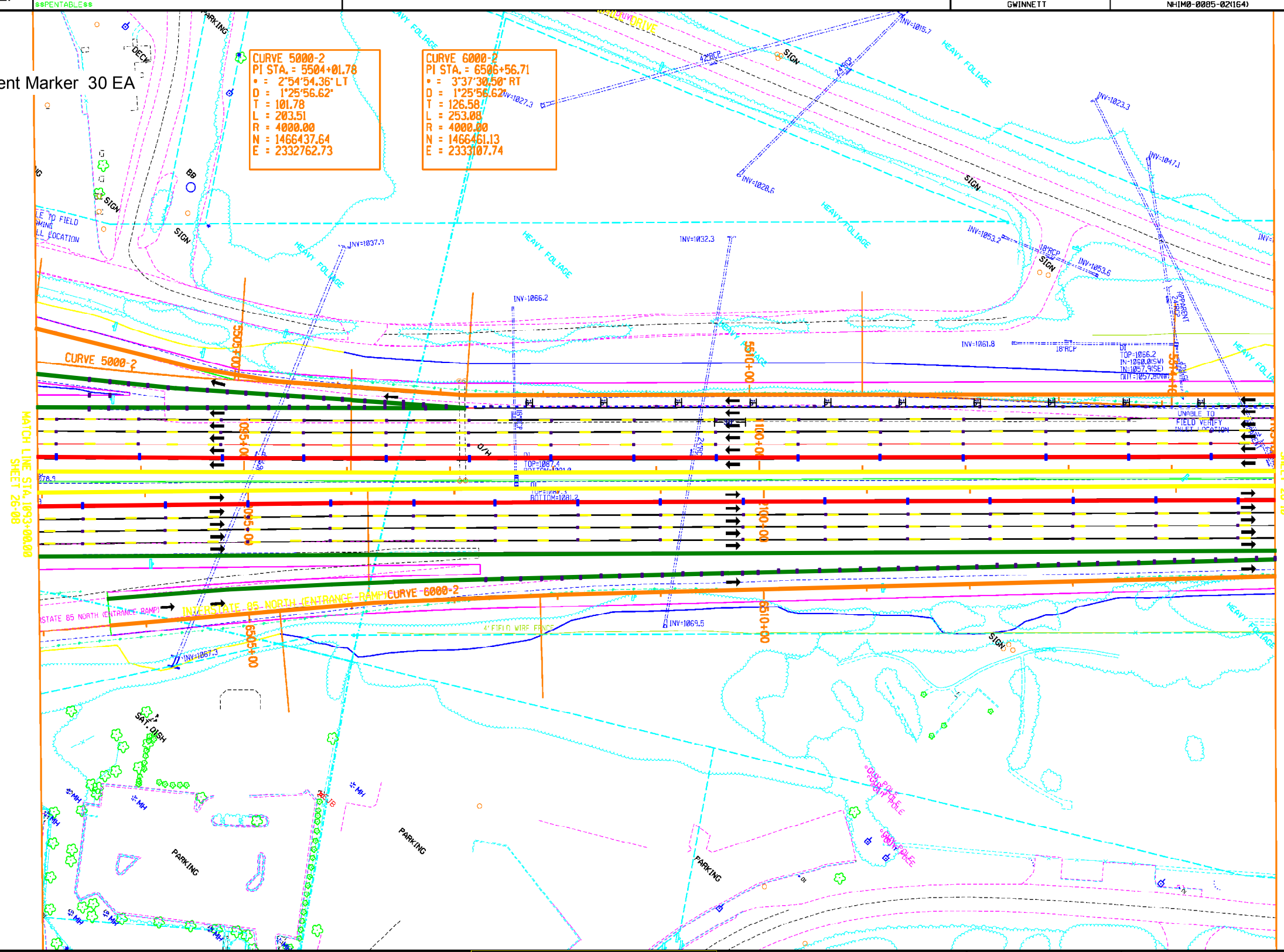
5" Solid White Line 2,340 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

10" Solid White Line 3,168 LF

5" Skip White Line (2 ft) 98 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES		

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-09

5" Skip White Line (10 ft) 210 EA

Type 3 (Clear/Red) Raised Pavement Marker 147 EA

Double 8" Solid White Line (x2) 2,400 LF

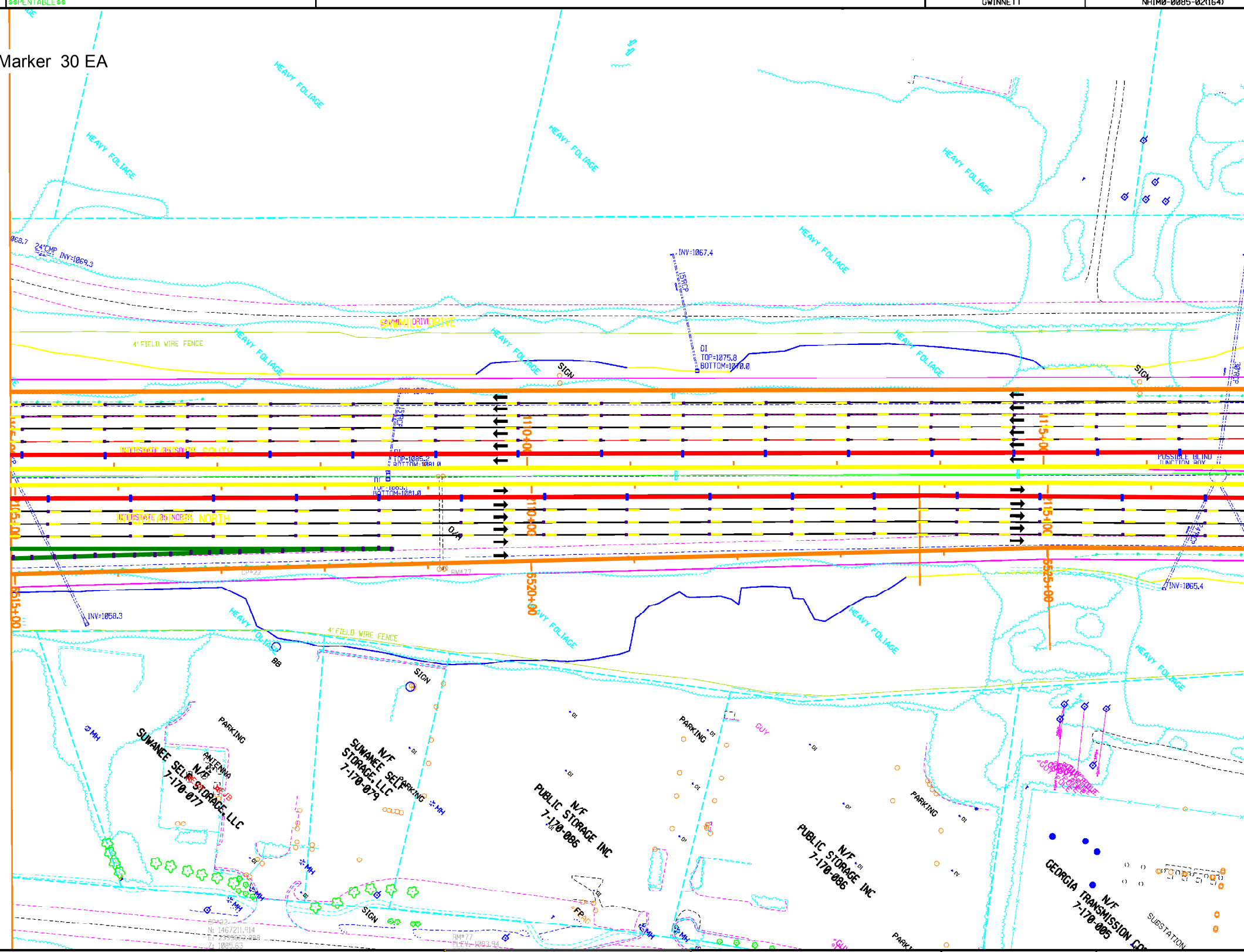
5" Solid Yellow Line 2,399 LF

5" Solid White Line 2,401 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

10" Solid White Line 674 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-10

5" Skip White Line (10 ft) 210 EA

Type 3 (Clear/Red) Raised Pavement Marker 105 EA

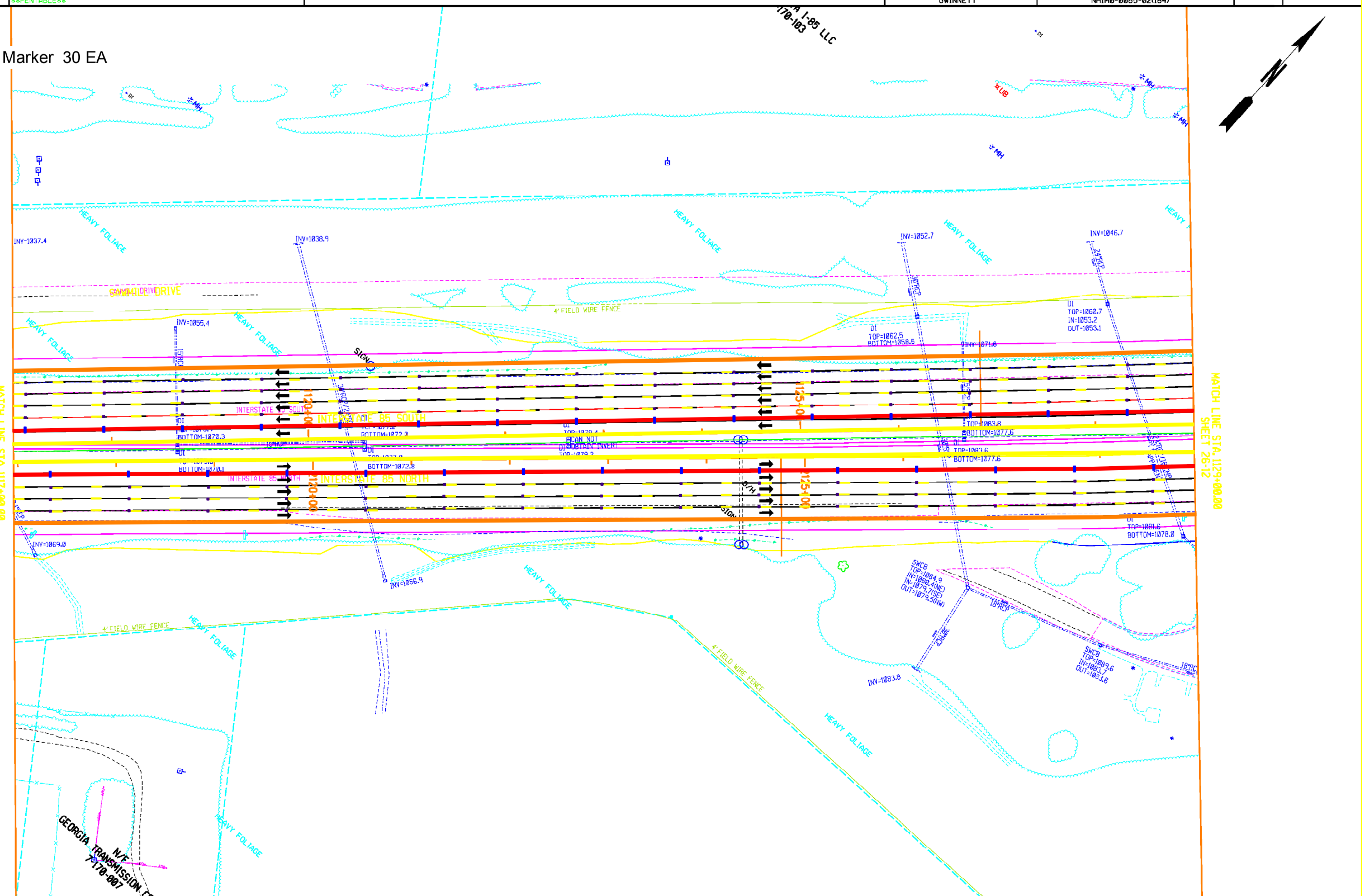
Double 8" Solid White Line (x2) 2,401 LF

5" Solid Yellow Line 2,401 LF

5" Solid White Line 2,401 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-11

5" Skip White Line (10 ft) 213 EA

Type 3 (Clear/Red) Raised Pavement Marker 199 EA

Double 8" Solid White Line (x2) 1,963 LF

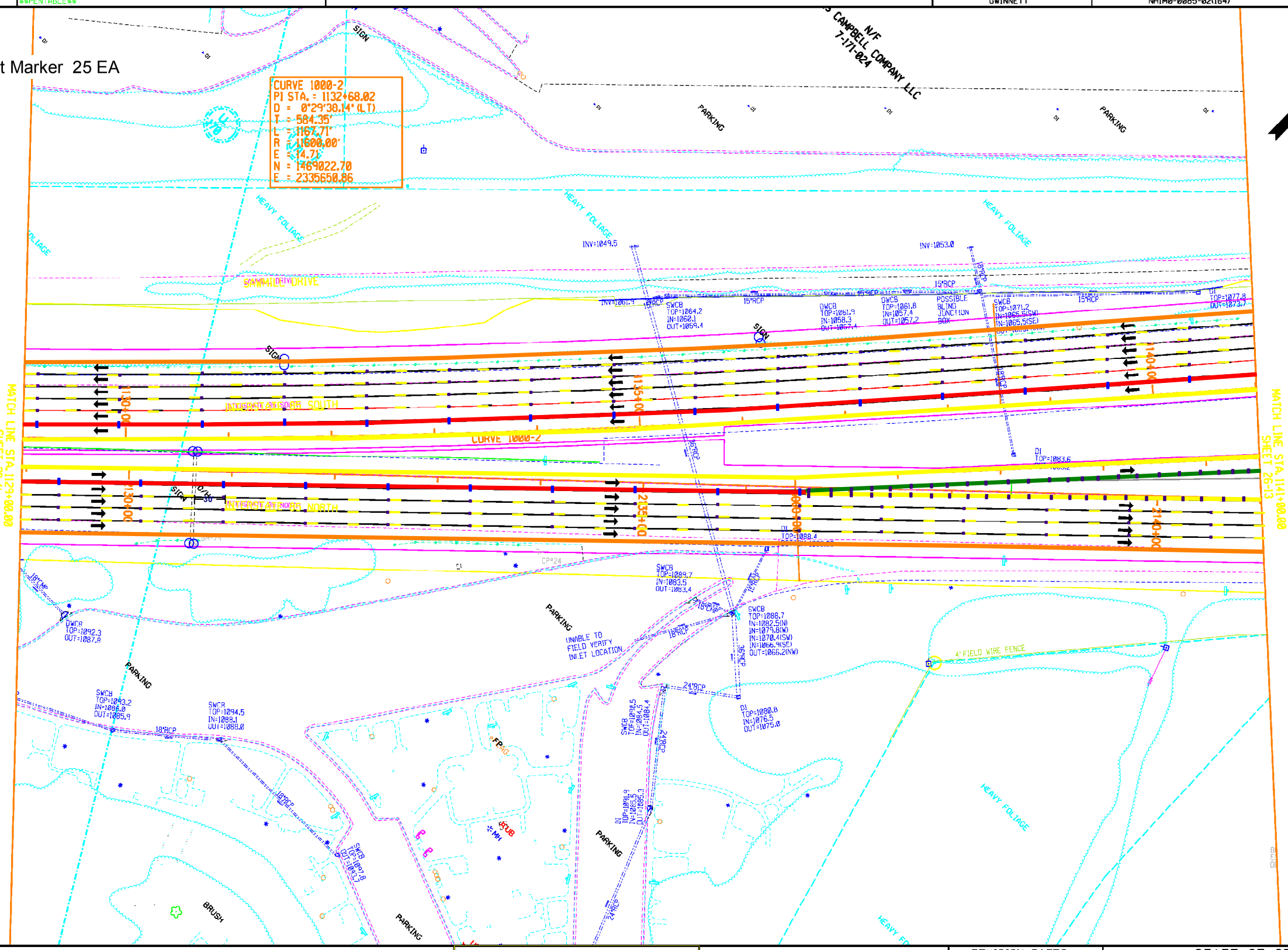
5" Solid Yellow Line 2,847 LF

5" Solid White Line 2,405 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 25 EA

10" Solid White Line 442 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
25-12

5" Skip White Line (10 ft) 108 EA

Type 3 (Clear/Red) Raised Pavement Marker 78 EA

Double 8" Solid White Line (x2) 600 LF

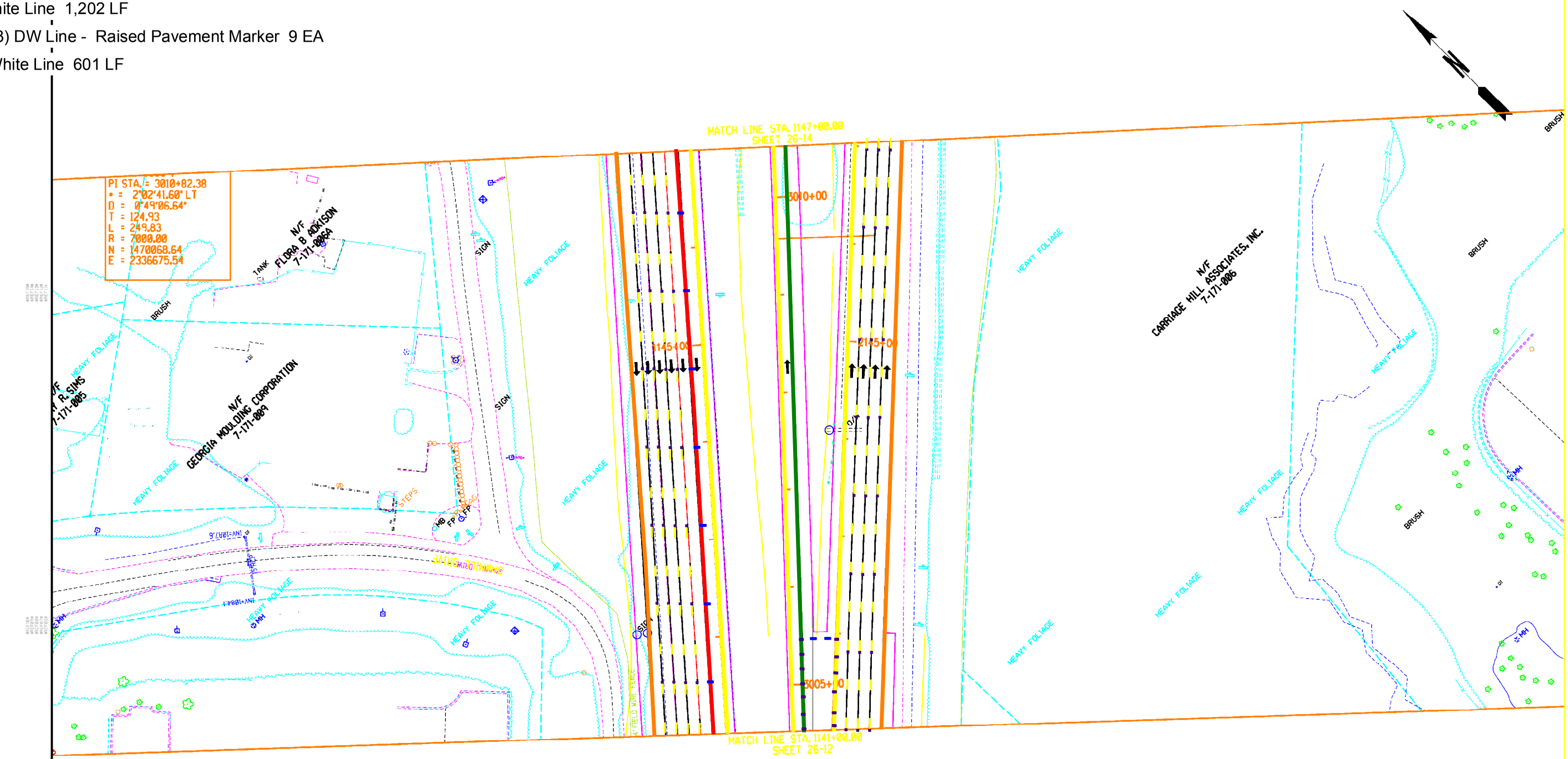
5" Solid Yellow Line 1,803 LF

5" Solid White Line 1,202 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 9 EA

10" Solid White Line 601 LF

PRF $$PENTABLE$$	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		GWINNETT	NHIM0-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO.
26-13

5" Skip White Line (10 ft) 126 EA

Type 3 (Clear/Red) Raised Pavement Marker 63 EA

Double 8" Solid White Line (x2) 700 LF

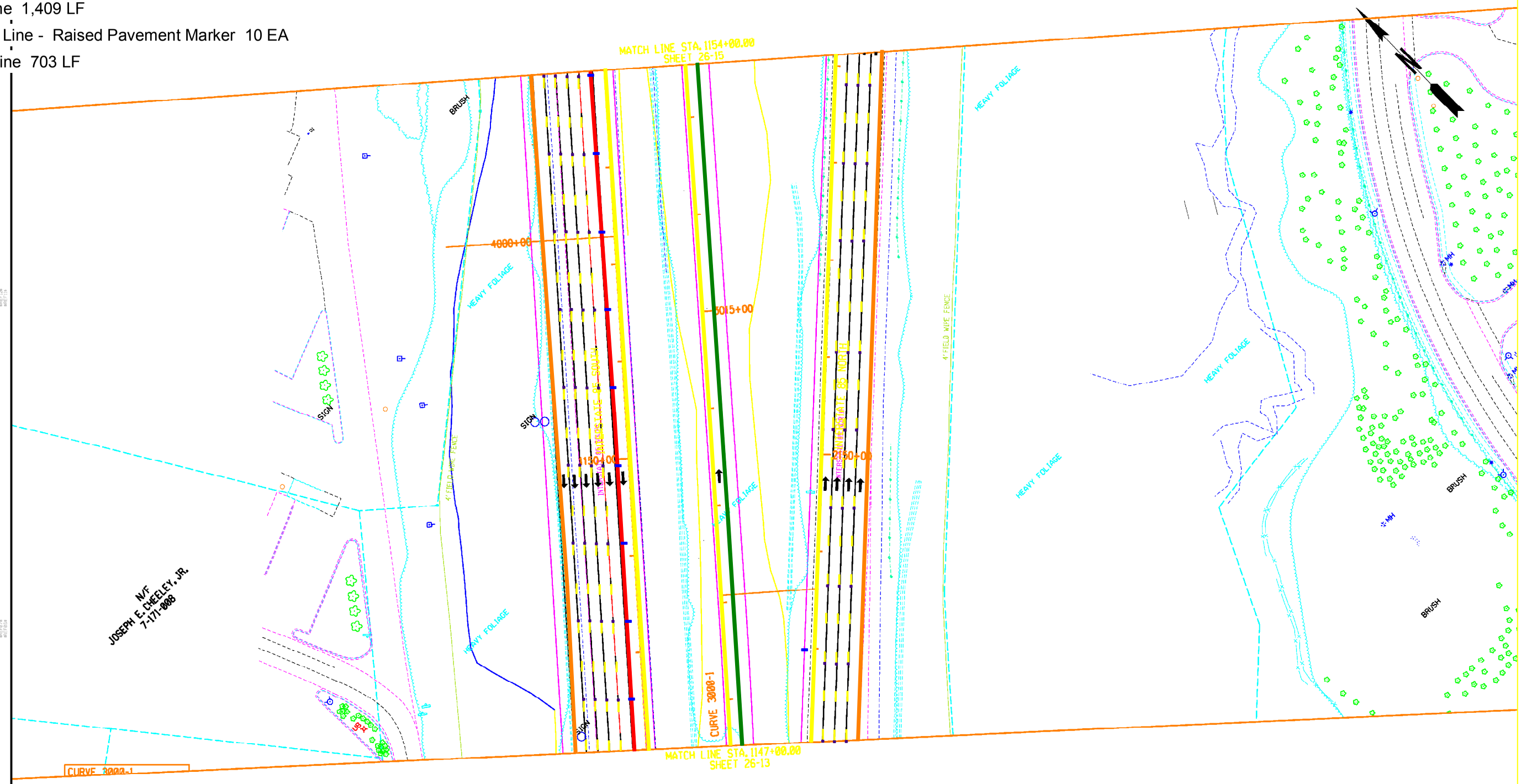
5" Solid Yellow Line 2,113 LF

5" Solid White Line 1,409 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 10 EA

10" Solid White Line 703 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-14

5" Skip White Line (10 ft) 100 EA

Type 3 (Clear/Red) Raised Pavement Marker 149 EA

Double 8" Solid White Line (x2) 602 LF

5" Solid Yellow Line 1,802 LF

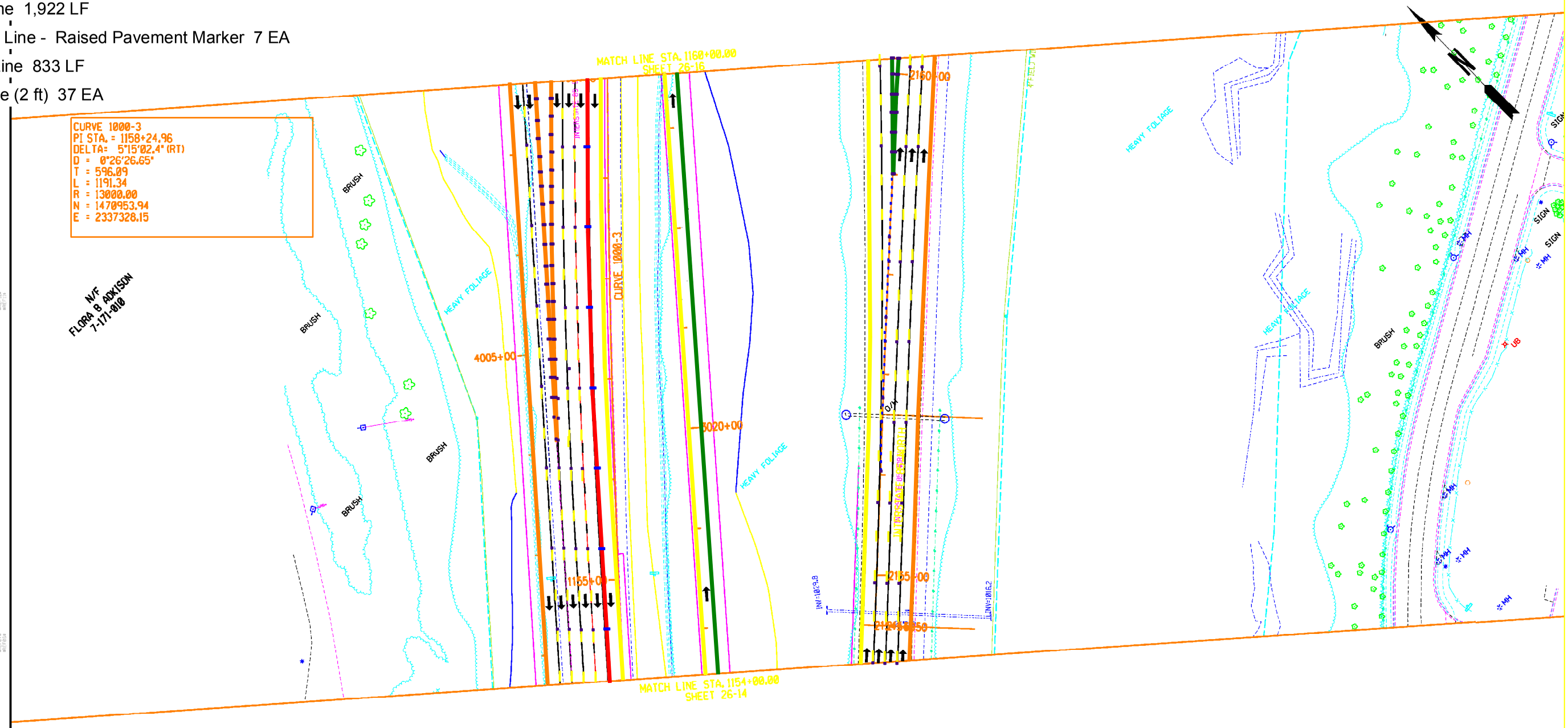
5" Solid White Line 1,922 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 7 EA

10" Solid White Line 833 LF

5" Skip White Line (2 ft) 37 EA

PRF $$PENTABLE$$	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		GWINNETT	NHIM0-0085-02(164)		



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COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES		

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

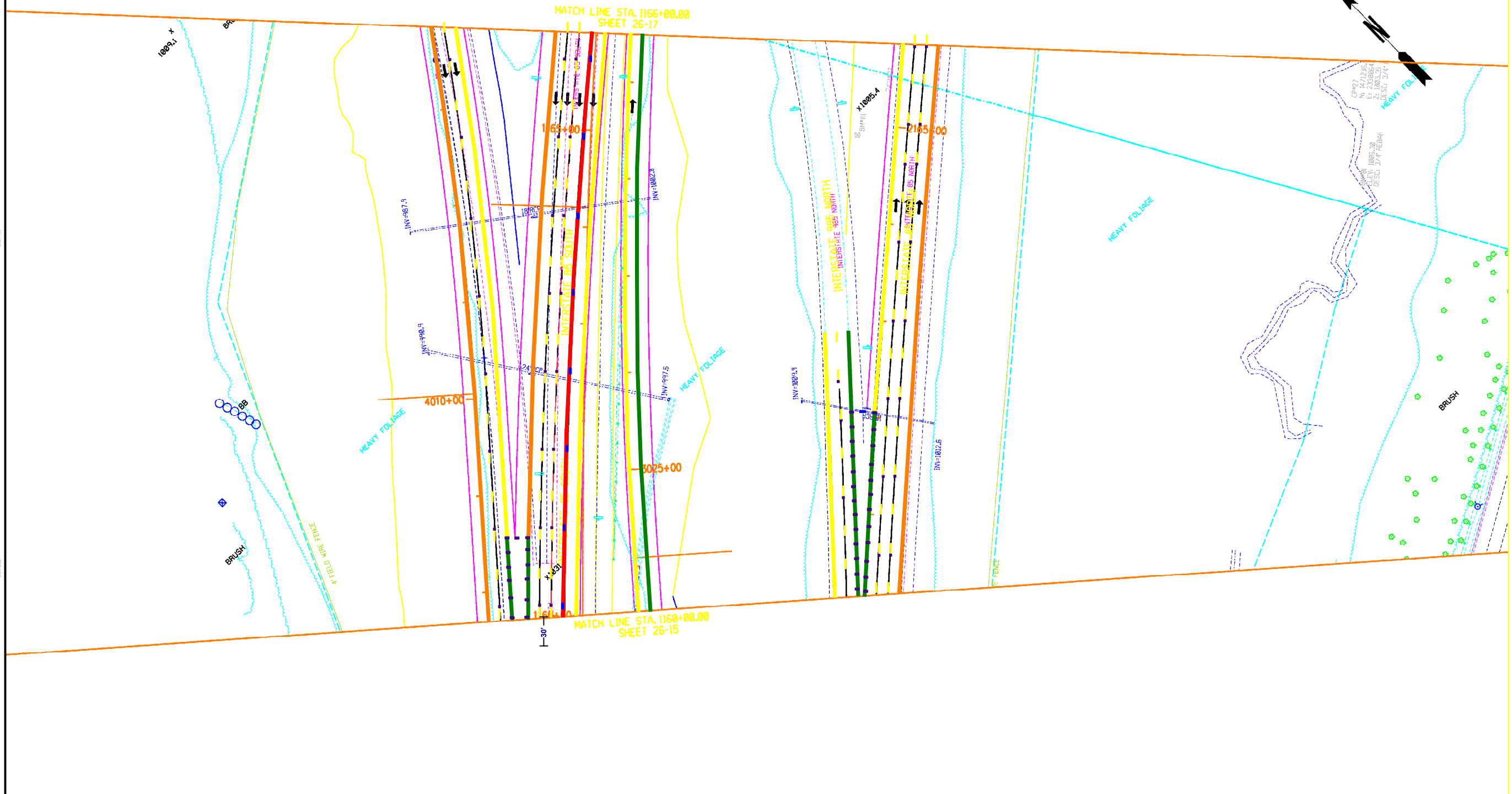
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT **STAGE 2**

DRAWING No.
26-15

5" Skip White Line (10 ft) 86 EA
Type 3 (Clear/Red) Raised Pavement Marker 119 EA
Double 8" Solid White Line (x2) 604 LF
5" Solid Yellow Line 2,380 LF
5" Solid White Line 1,705 LF
Type 3 (#x3) DW Line - Raised Pavement Marker 9 EA
10" Solid White Line 1,226 LF

$$$ PRF $$PENTABLE$$ DGN

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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Covington, Ga 30016
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400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

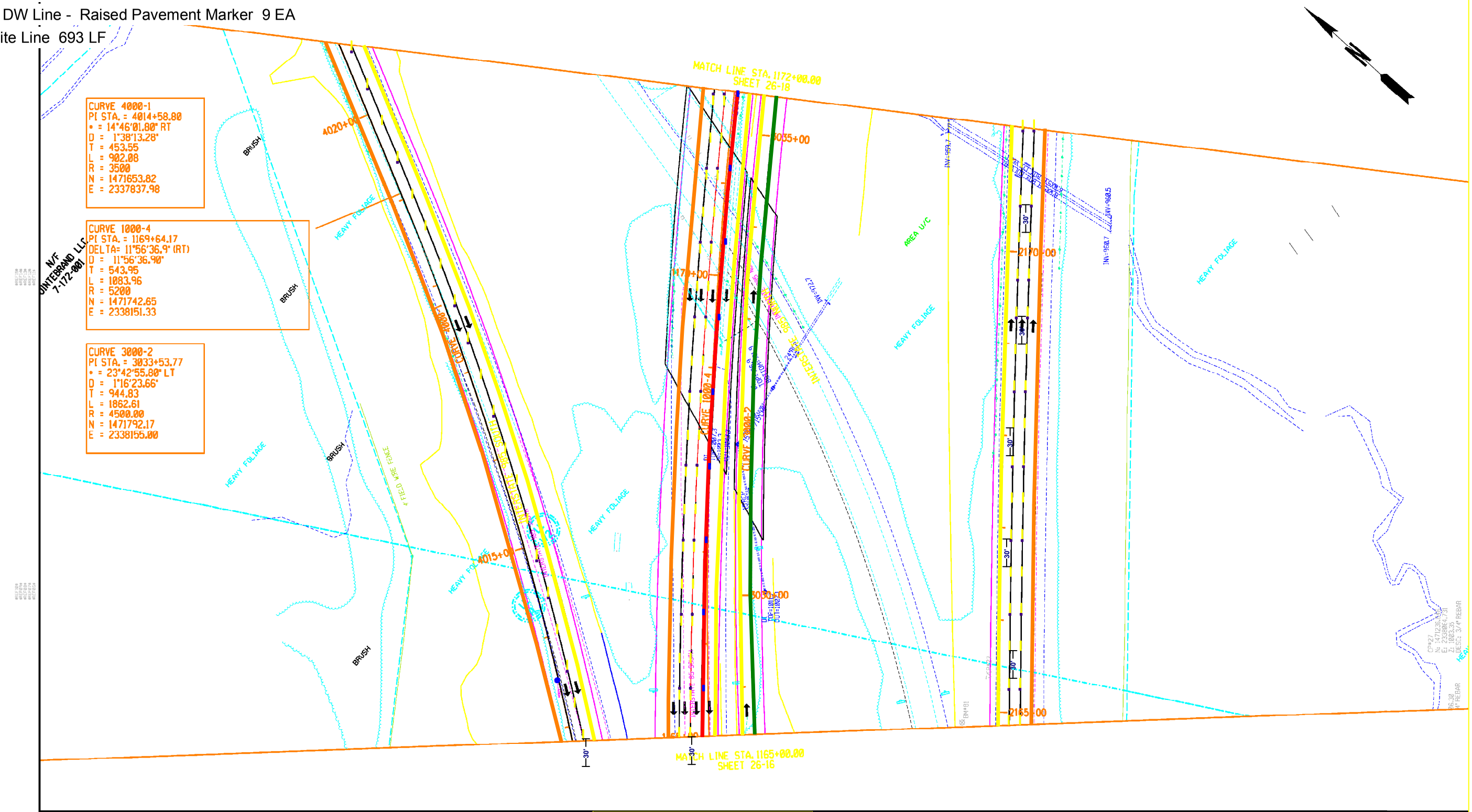
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:
SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT STAGE 2

DRAWING No.
26-16

5" Skip White Line (10 ft) 90 EA
Type 3 (Clear/Red) Raised Pavement Marker 45 EA
Double 8" Solid White Line (x2) 702 LF
5" Solid Yellow Line 2,838 LF
5" Solid White Line 2,155 LF
Type 3 (#x3) DW Line - Raised Pavement Marker 9 EA
10" Solid White Line 693 LF

$$PRF$ $$PENTABLE$$	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES		

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:
SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO.
26-17

5" Skip White Line (10 ft) 63 EA

Type 3 (Clear/Red) Raised Pavement Marker 34 EA

Double 8" Solid White Line (x2) 600 LF

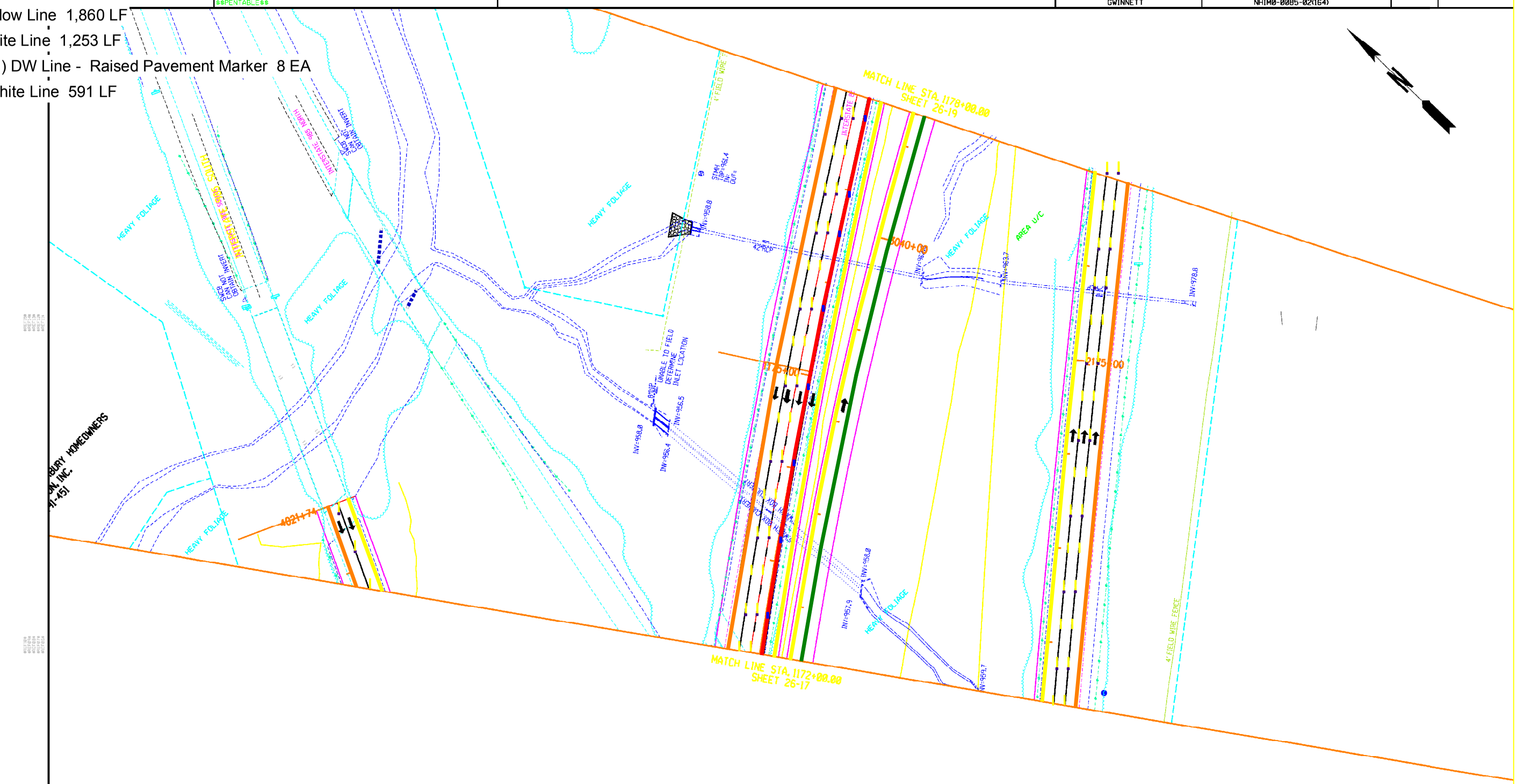
5" Solid Yellow Line 1,860 LF

5" Solid White Line 1,253 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 8 EA

10" Solid White Line 591 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-18

5" Skip White Line (10 ft) 124 EA

Type 3 (Clear/Red) Raised Pavement Marker 64 EA

Double 8" Solid White Line (x2) 392 LF

5" Solid Yellow Line 3,611 LF

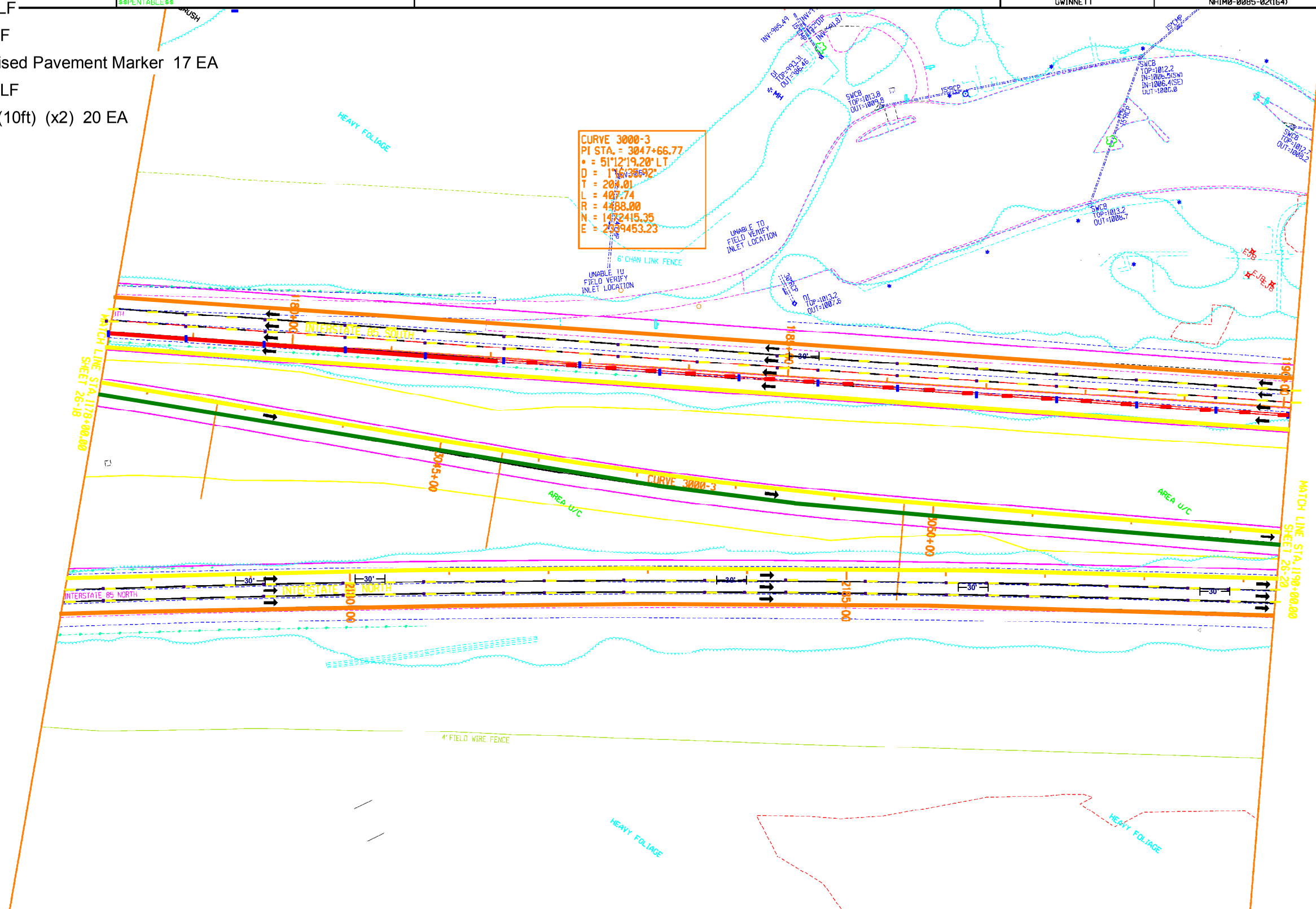
5" Solid White Line 2,411 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 17 EA

10" Solid White Line 1,200 LF

Double 8" Skip White Line (10ft) (x2) 20 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

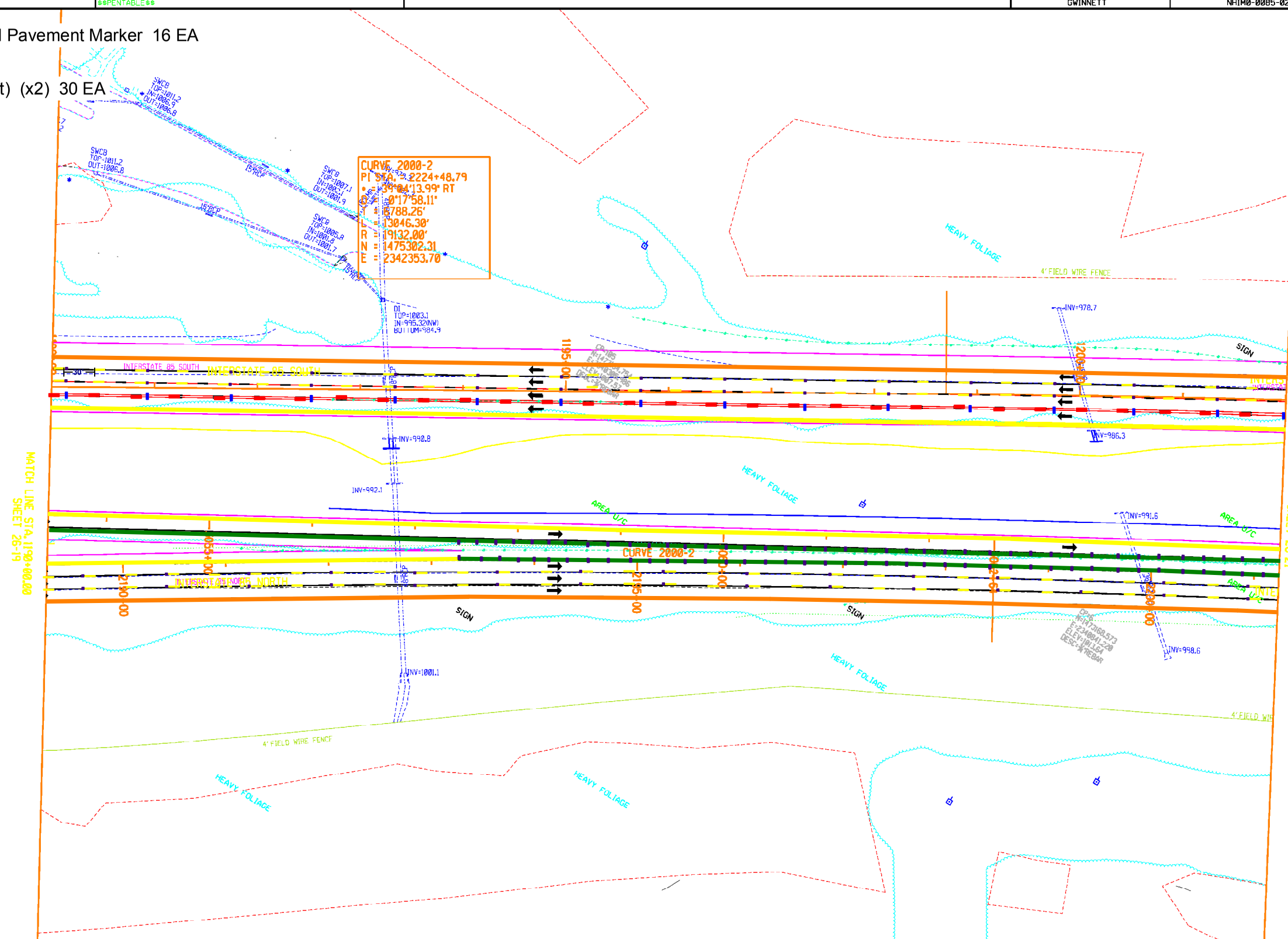
SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-19

5" Skip White Line (10 ft) 122 EA
Type 3 (Clear/Red) Raised Pavement Marker 224 EA
5" Solid Yellow Line 2,798 LF
5" Solid White Line 2,397 LF
Type 3 (#x3) DW Line - Raised Pavement Marker 16 EA
10" Solid White Line 1,994 LF
Double 8" Skip White Line (10ft) (x2) 30 EA

TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
	$$PENTABLE$$		GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
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ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

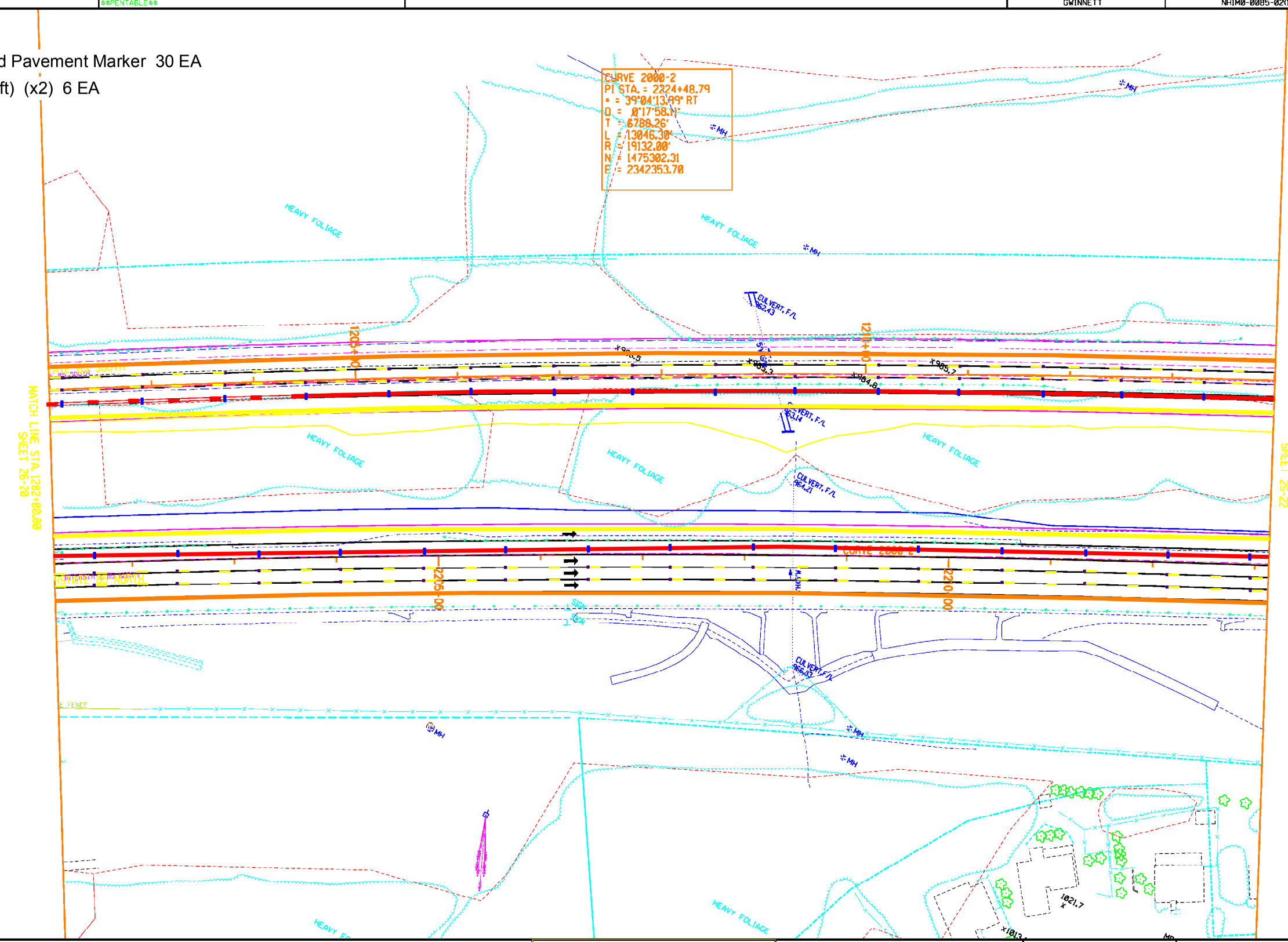
SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO. 26-20

5" Skip White Line (10 ft) 120 EA
Type 3 (Clear/Red) Raised Pavement Marker 60 EA
Double 8" Solid White Line (x2) 2,152 LF
5" Solid Yellow Line 2,390 LF
5" Solid White Line 2,391 LF
Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA
Double 8" Skip White Line (10ft) (x2) 6 EA

PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$$PENTABLE$$		GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:
SIGNING AND MARKING PLANS

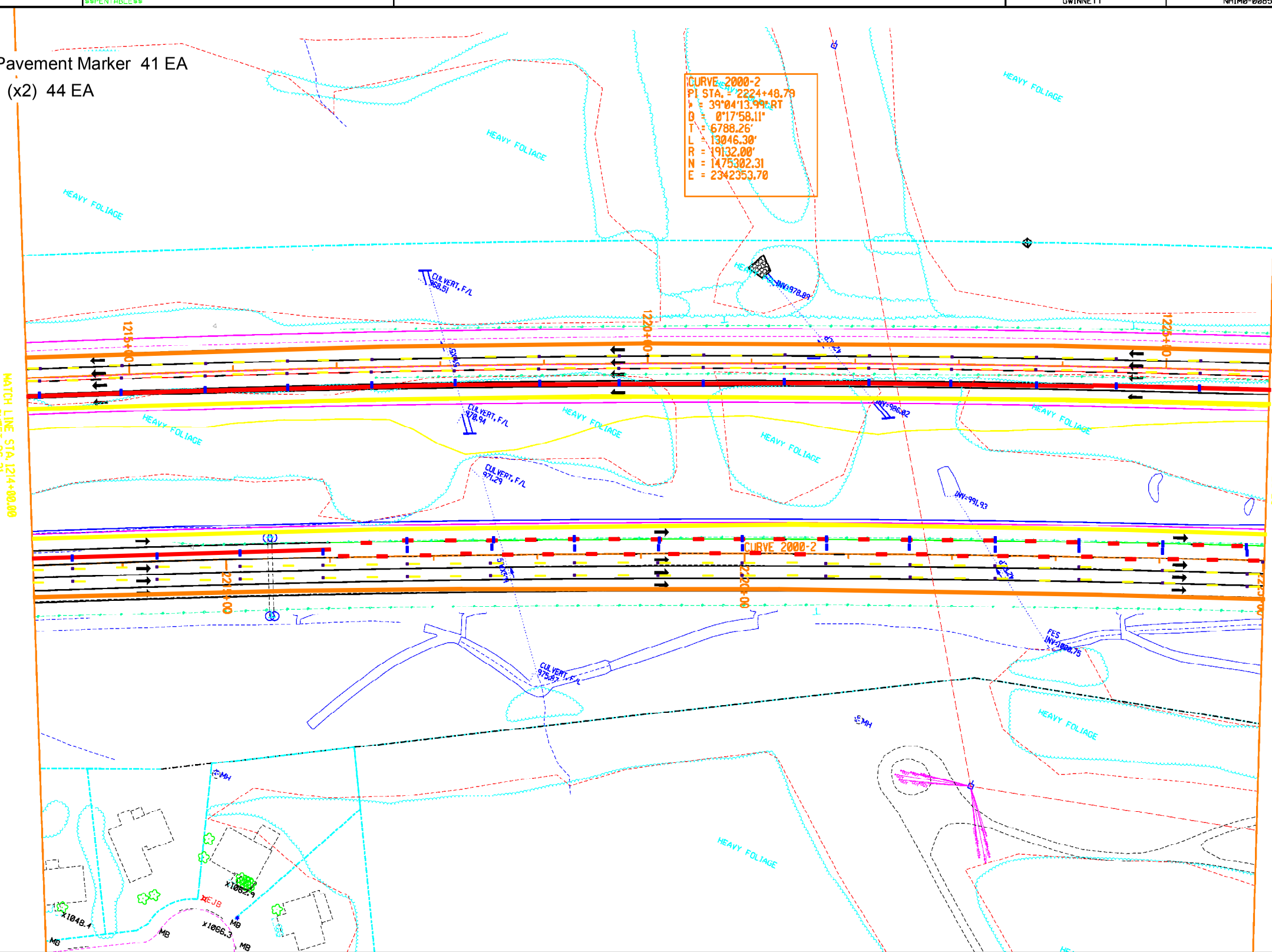
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-21

5" Skip White Line (10 ft) 120 EA
Type 3 (Clear/Red) Raised Pavement Marker 61 EA
Double 8" Solid White Line (x2) 1,487 LF
5" Solid Yellow Line 2,390 LF
5" Solid White Line 2,391 LF
Type 3 (#x3) DW Line - Raised Pavement Marker 41 EA
Double 8" Skip White Line (10ft) (x2) 44 EA

PRF
$$PENTABLE$$
DGN

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

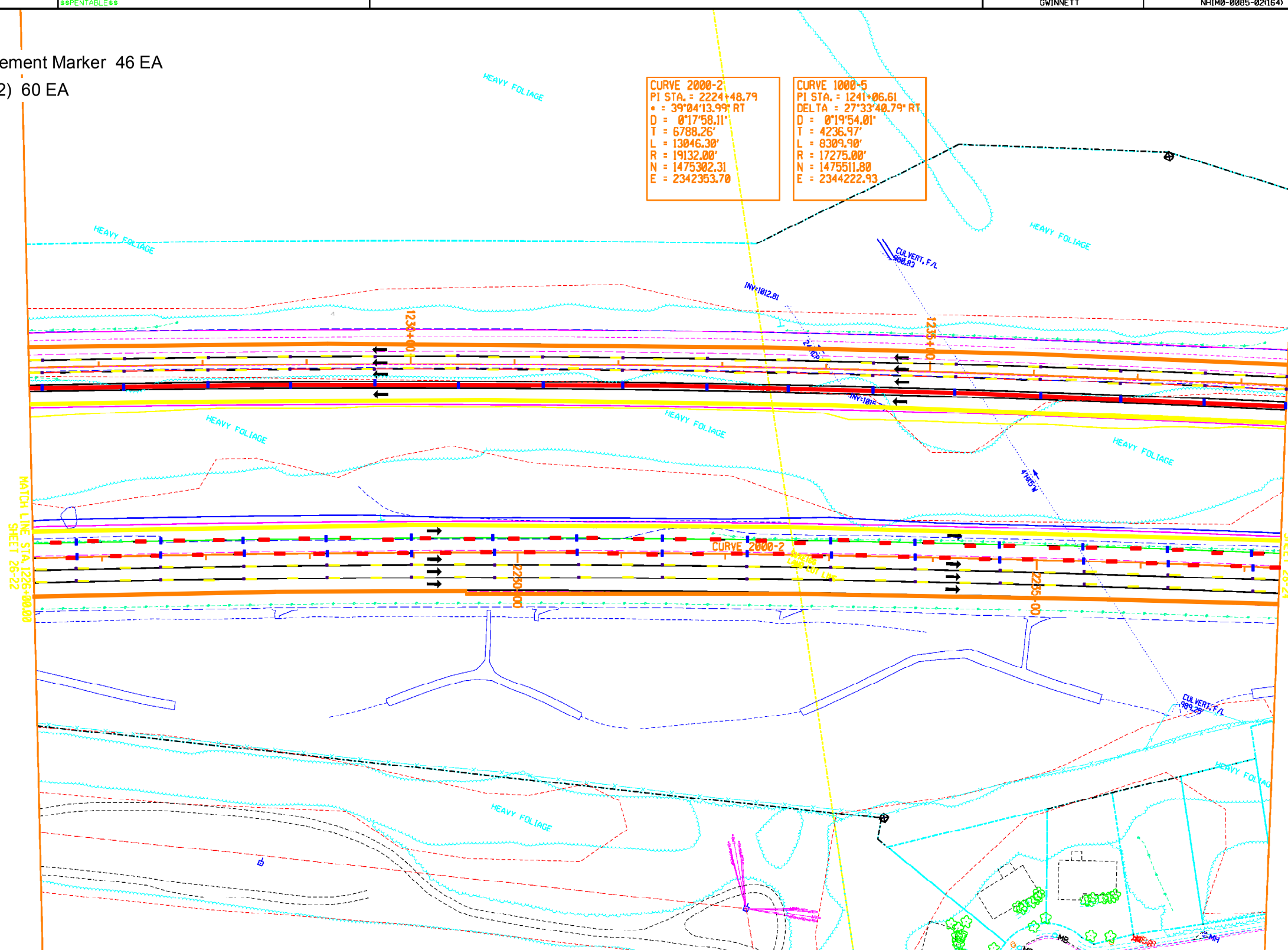
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:
SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-22

5" Skip White Line (10 ft) 122 EA
Type 3 (Clear/Red) Raised Pavement Marker 62 EA
Double 8" Solid White Line (x2) 1,209 LF
5" Solid Yellow Line 2,409 LF
5" Solid White Line 2,413 LF
Type 3 (#x3) DW Line - Raised Pavement Marker 46 EA
Double 8" Skip White Line (10ft) (x2) 60 EA

PRF $$PENTABLE$$	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		GWINNETT	NHIM0-0085-02(164)		



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COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-23

5" Skip White Line (10 ft) 120 EA

Type 3 (Clear/Red) Raised Pavement Marker 60 EA

Double 8" Solid White Line (x2) 2,384 LF

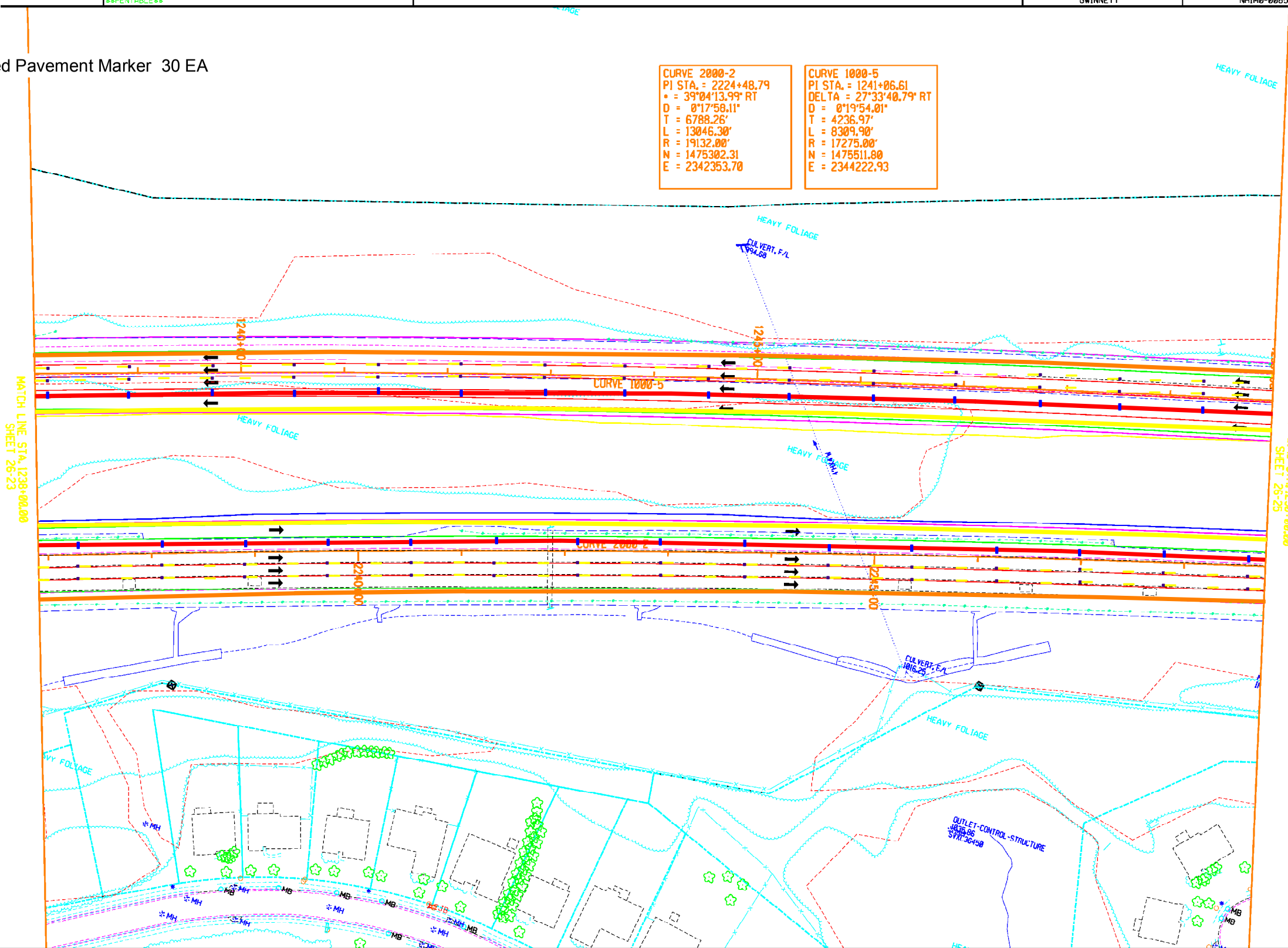
5" Solid Yellow Line 2,386 LF

5" Solid White Line 2,388 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

PRF
$$PENTABLE$$
DGN

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
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REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

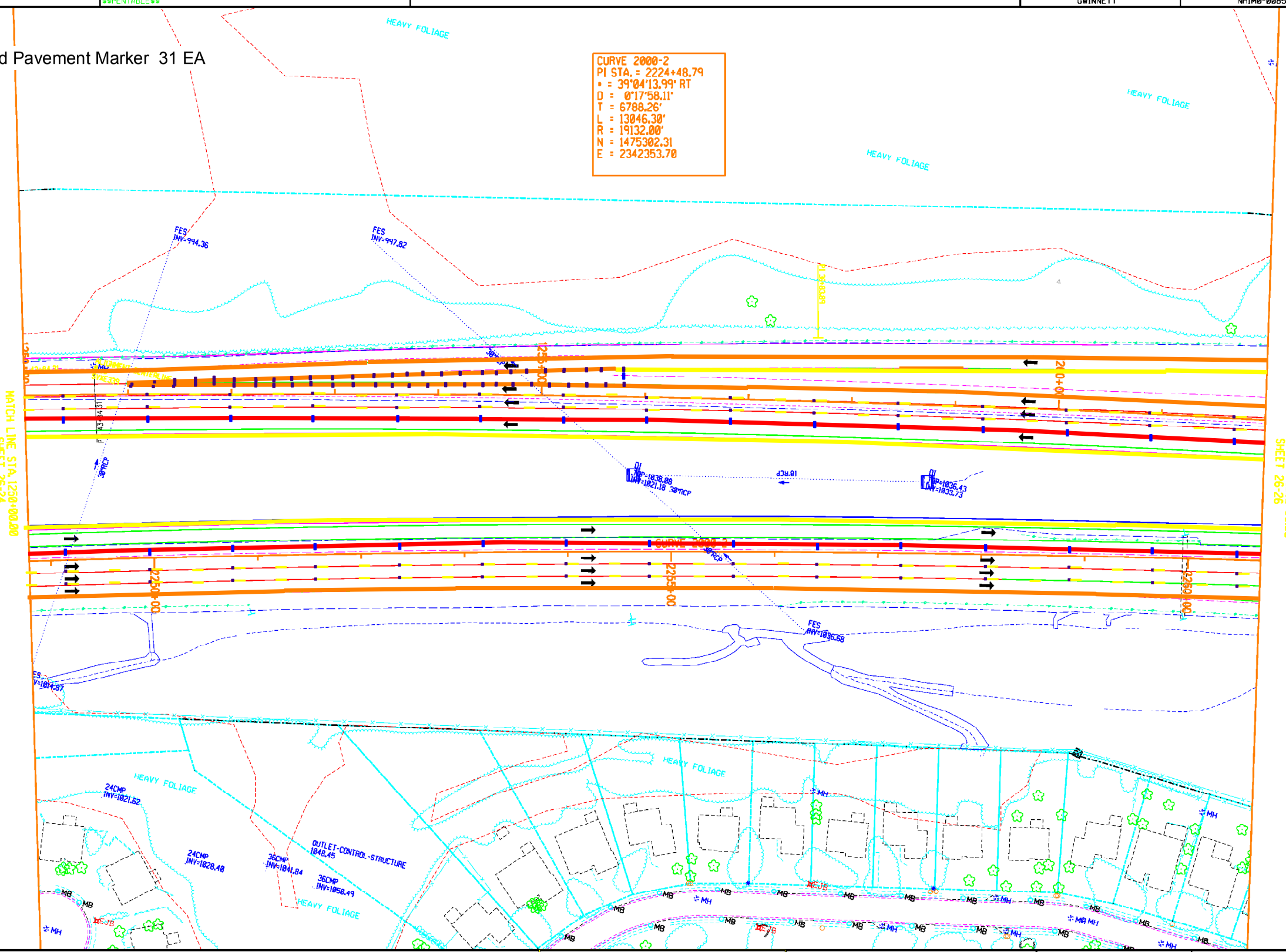
SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO.
26-24

5" Skip White Line (10 ft) 120 EA
Type 3 (Clear/Red) Raised Pavement Marker 166 EA
Double 8" Solid White Line (x2) 2,391 LF
5" Solid Yellow Line 3,022 LF
5" Solid White Line 4,024 LF
Type 3 (#x3) DW Line - Raised Pavement Marker 31 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:
SIGNING AND MARKING PLANS

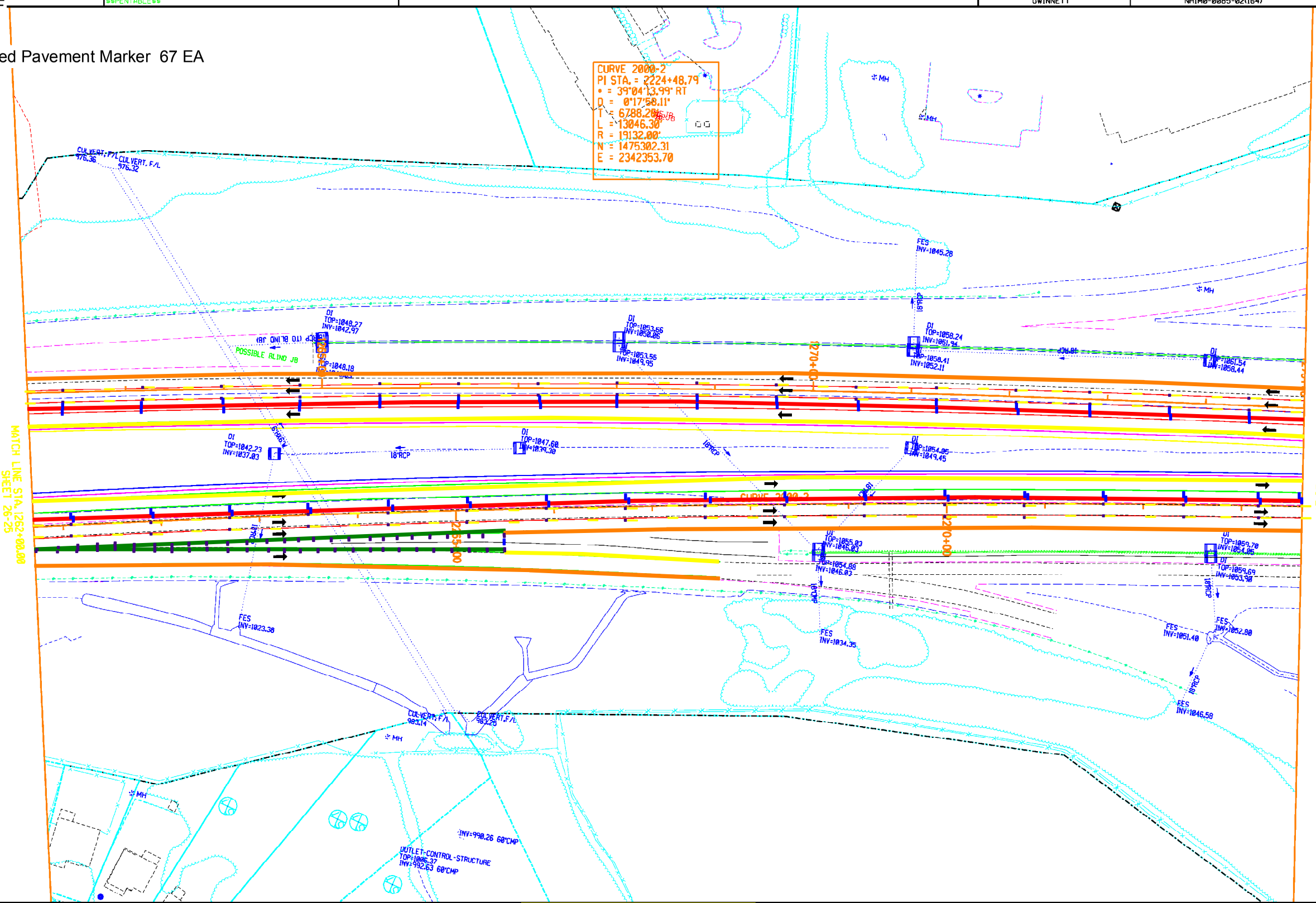
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-25

5" Skip White Line (10 ft) 132 EA
Type 3 (Clear/Red) Raised Pavement Marker 170 EA
Double 8" Solid White Line (x2) 2,590 LF
5" Solid Yellow Line 2,810 LF
5" Solid White Line 2,810 LF
Type 3 (#x3) DW Line - Raised Pavement Marker 67 EA
10" Solid White Line 954 LF

PRF
$$PENTABLE$$
DGN

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:
SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO.
26-26

5" Skip White Line (10 ft) 60 EA

Type 3 (Clear/Red) Raised Pavement Marker 30 EA

Double 8" Solid White Line (x2) 2,394 LF

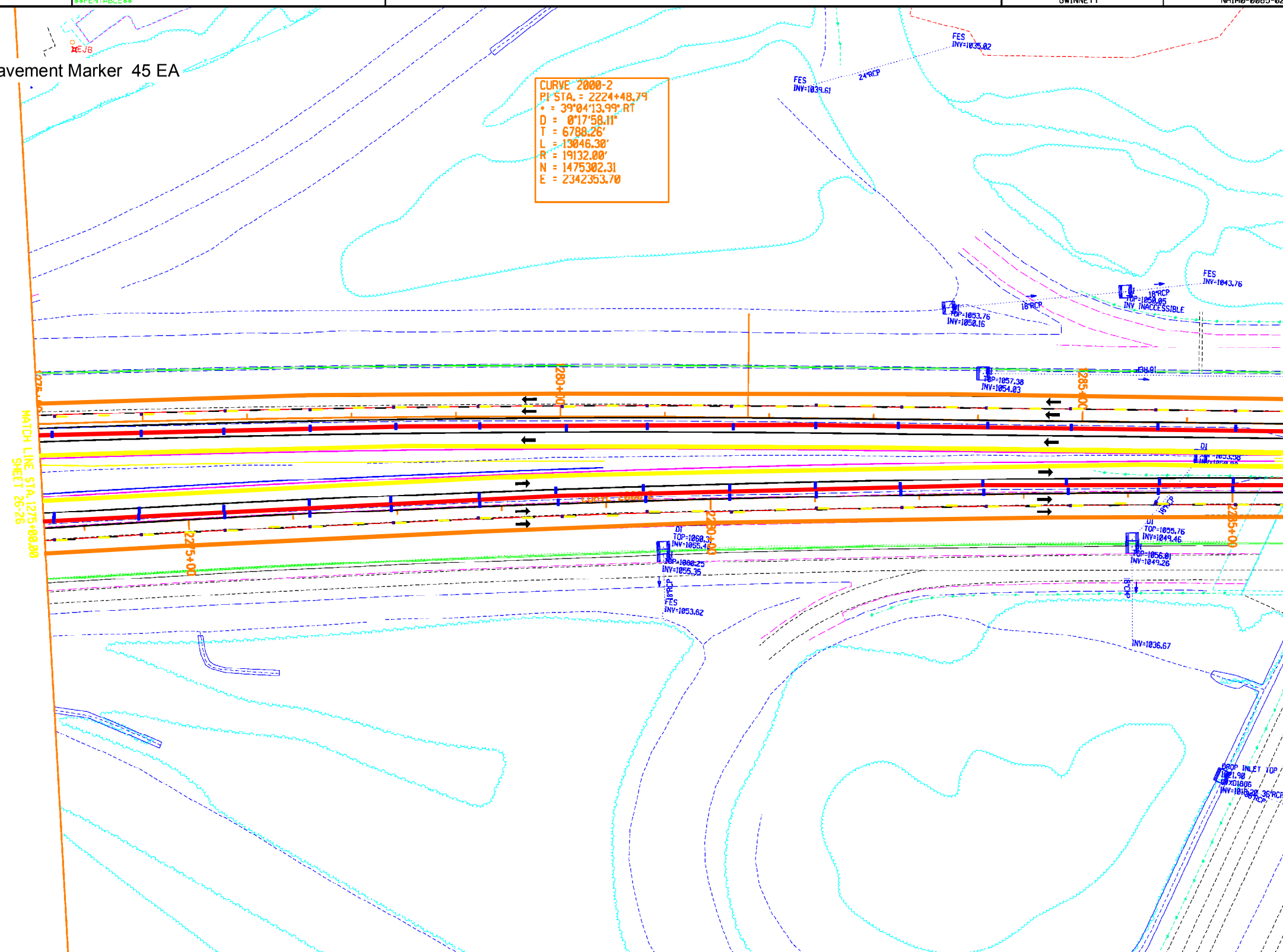
5" Solid Yellow Line 2,393 LF

5" Solid White Line 2,395 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 45 EA

PRF
$$PENTABLE$$
DGN

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO.
26-27

5" Skip White Line (10 ft) 60 EA

Type 3 (Clear/Red) Raised Pavement Marker 30 EA

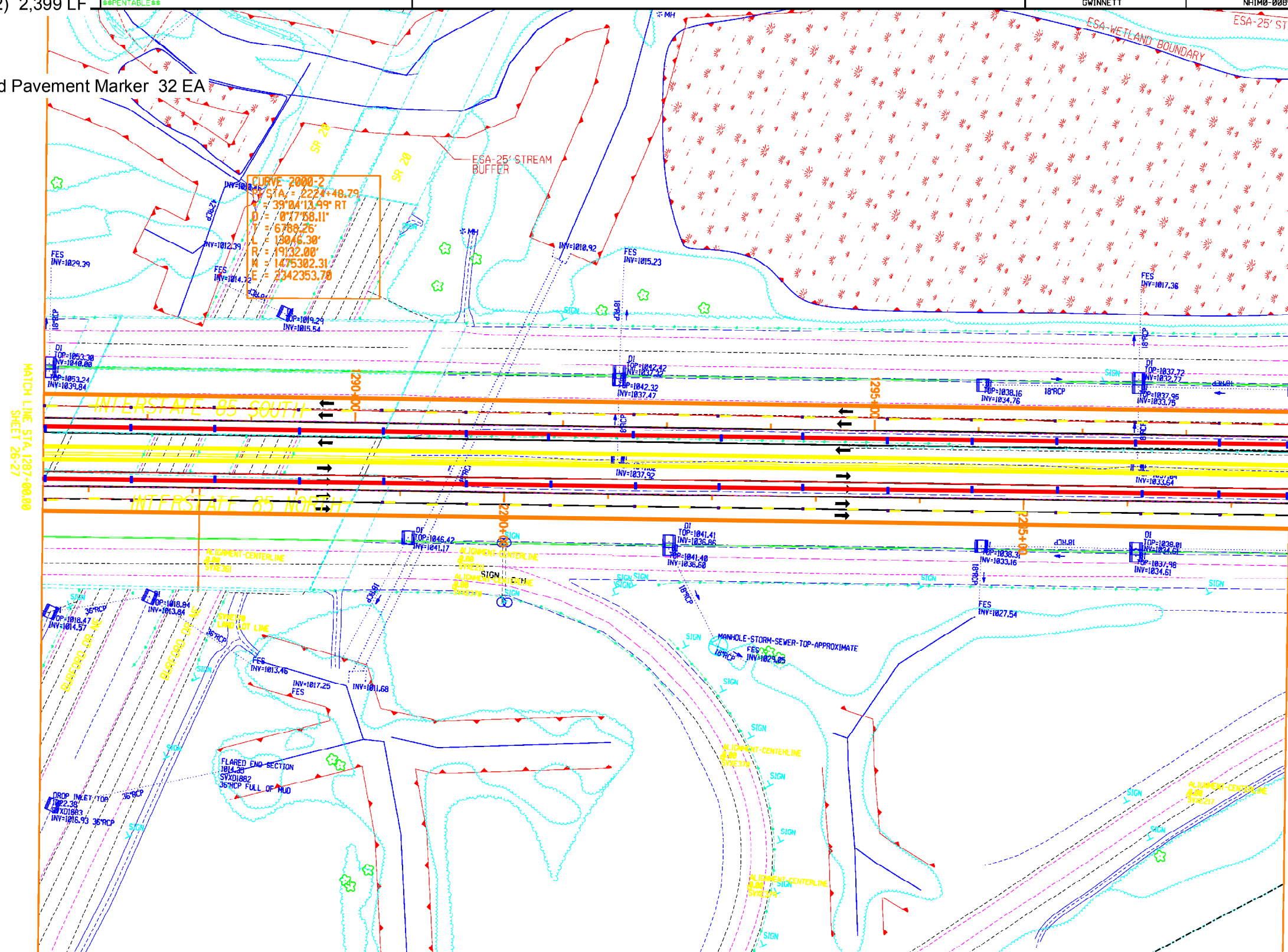
Double 8" Solid White Line (x2) 2,399 LF

5" Solid Yellow Line 2,400 LF

5" Solid White Line 2,401 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 32 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-28

5" Skip White Line (10 ft) 60 EA

Type 3 (Clear/Red) Raised Pavement Marker 30 EA

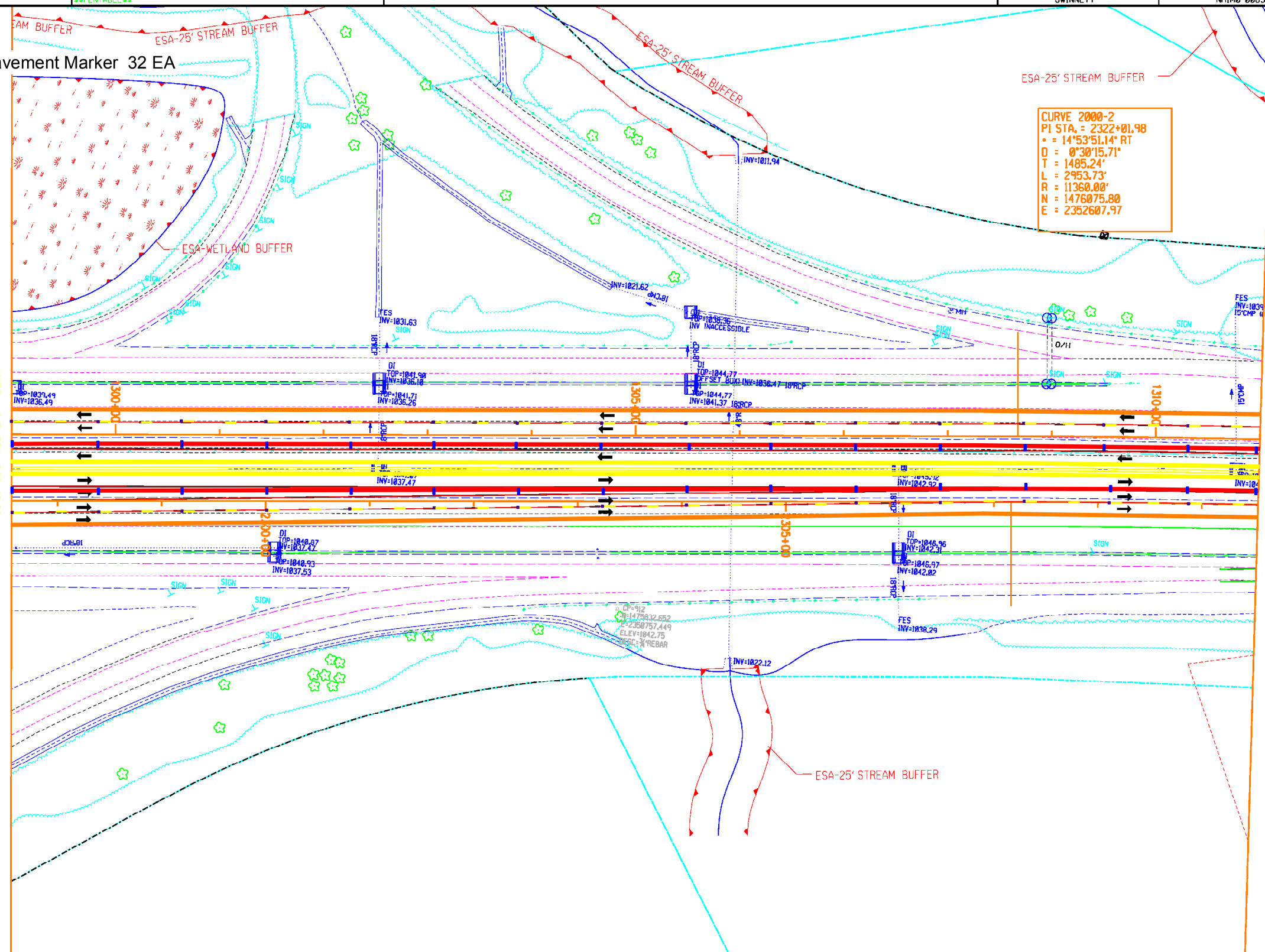
Double 8" Solid White Line (x2) 2,398 LF

5" Solid Yellow Line 2,399 LF

5" Solid White Line 2,398 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 32 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 26-29

5" Skip White Line (10 ft) 61 EA

Type 3 (Clear/Red) Raised Pavement Marker 64 EA

Double 8" Solid White Line (x2) 2,394 LF

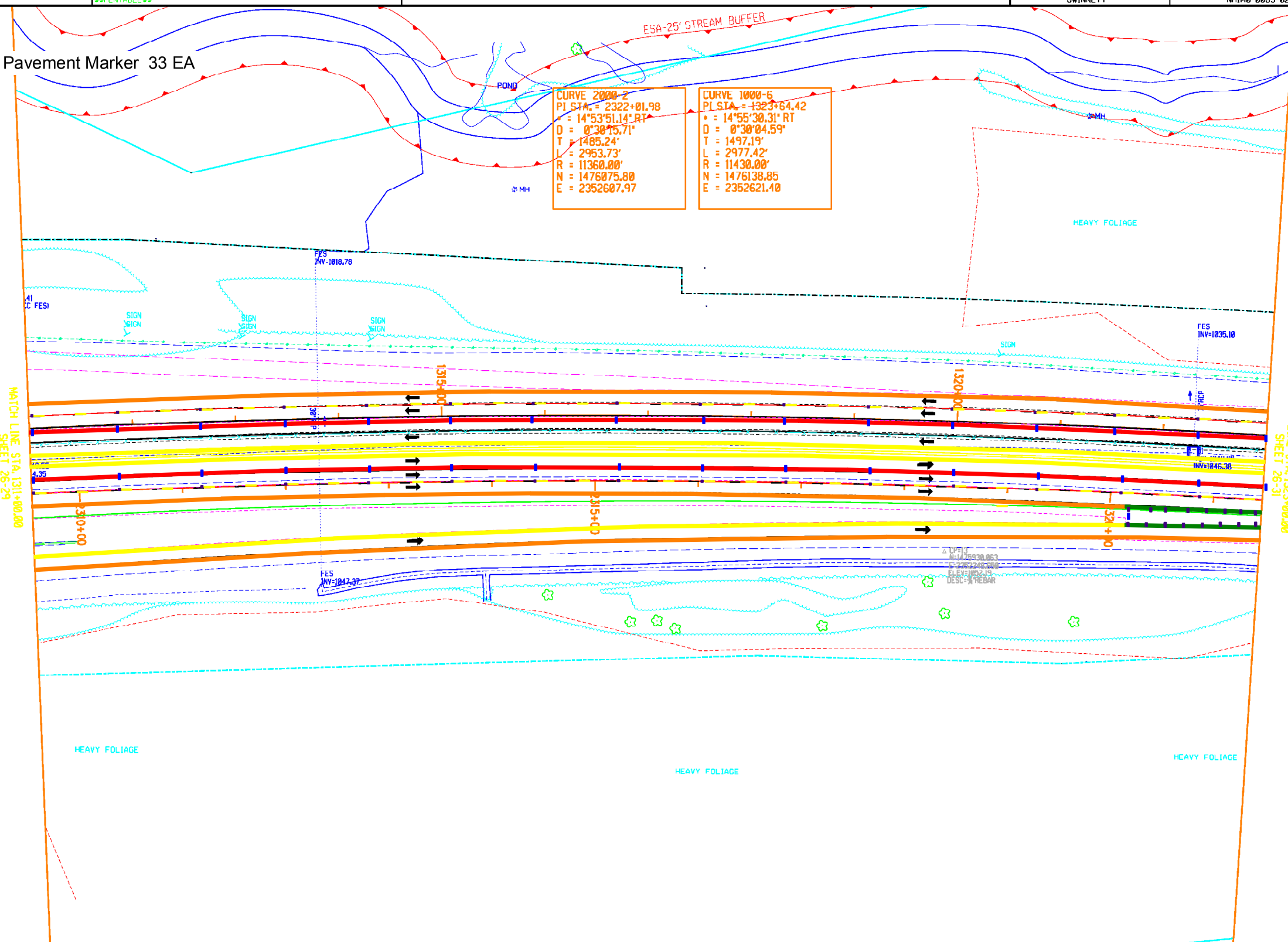
5" Solid Yellow Line 3,453 LF

5" Solid White Line 3,453 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 33 EA

10" Solid White Line 263 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-30

5" Skip White Line (10 ft) 78 EA

Type 3 (Clear/Red) Raised Pavement Marker 117 EA

Double 8" Solid White Line (x2) 2,394 LF

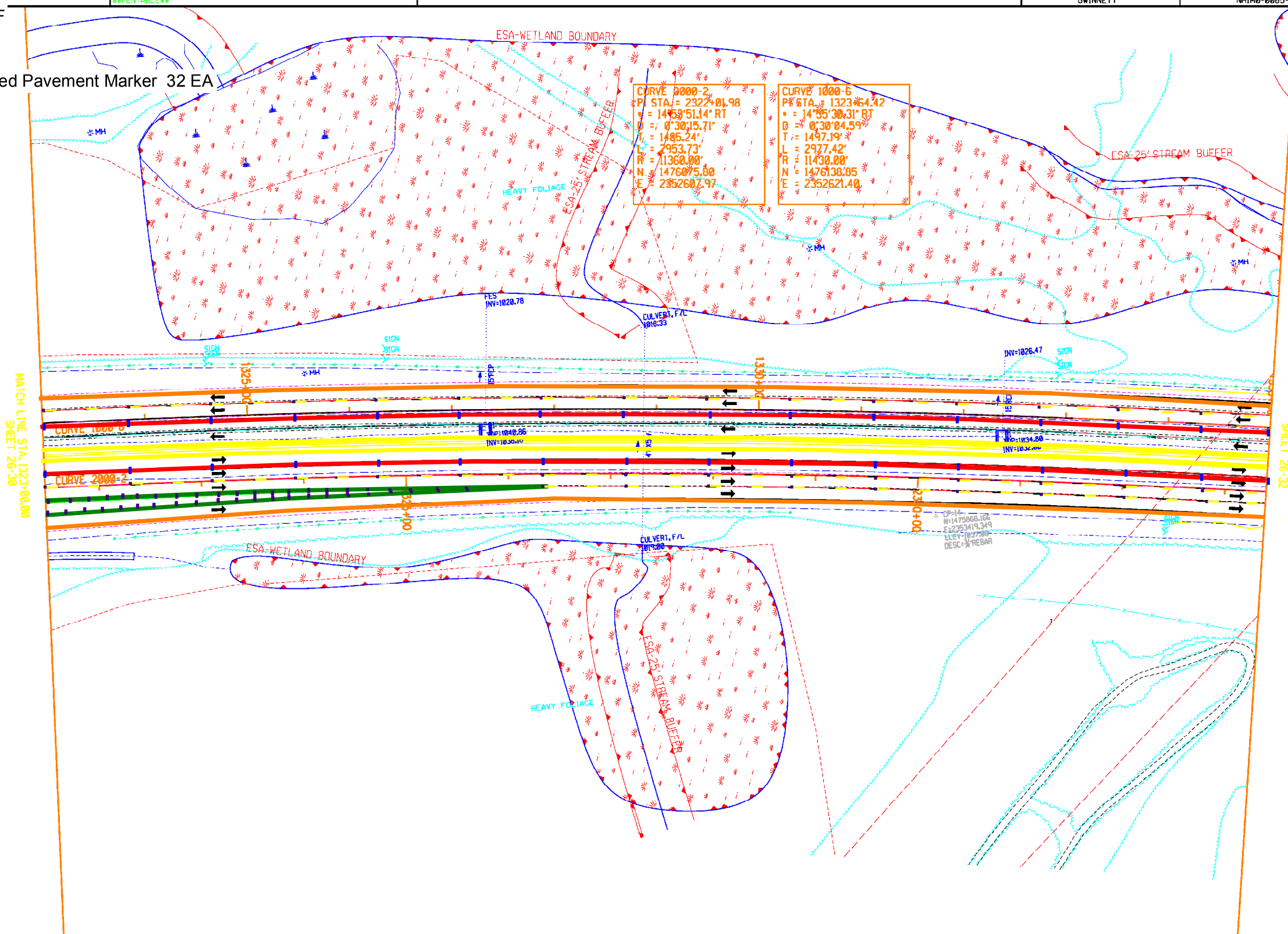
5" Solid Yellow Line 2,395 LF

5" Solid White Line 2,394 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 32 EA

10" Solid White Line 981 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

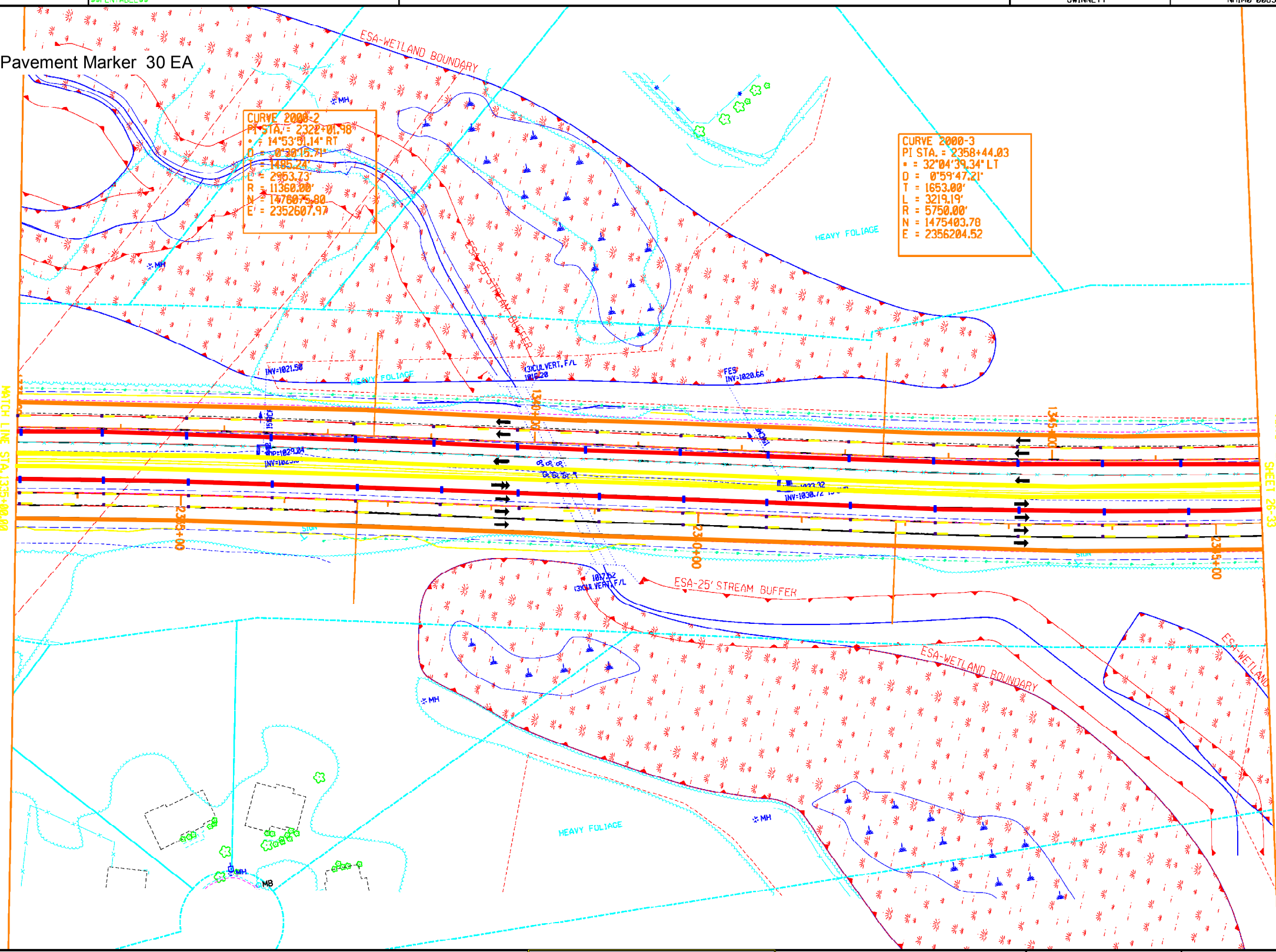
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-31

5" Skip White Line (10 ft) 90 EA
Type 3 (Clear/Red) Raised Pavement Marker 45 EA
Double 8" Solid White Line (x2) 2,404 LF
5" Solid Yellow Line 2,403 LF
5" Solid White Line 2,406 LF
Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

PRF
$$PENTABLE$$
DGN

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
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REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:
SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO.
26-32

5" Skip White Line (10 ft) 90 EA

Type 3 (Clear/Red) Raised Pavement Marker 45 EA

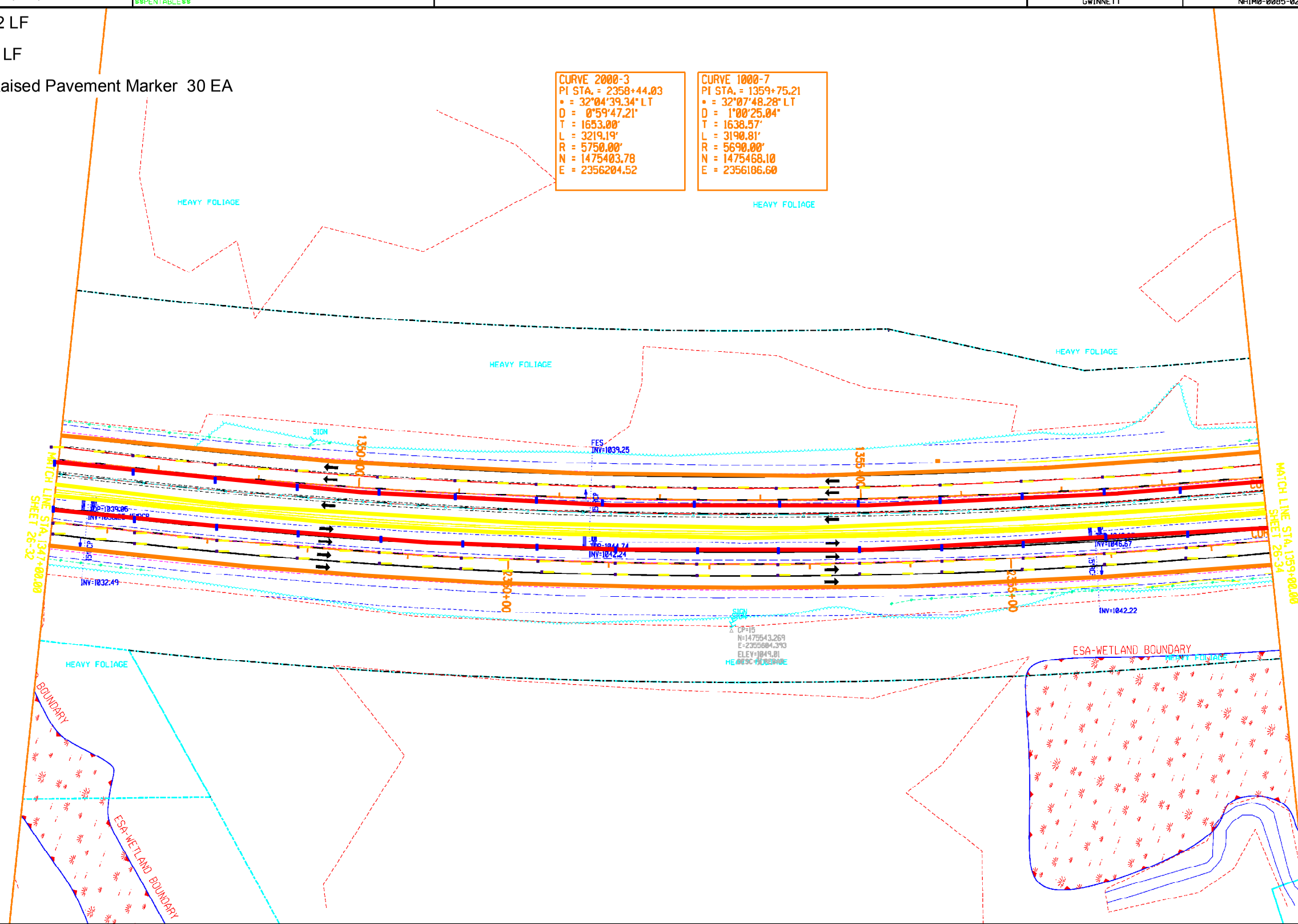
Double 8" Solid White Line (x2) 2,416 LF

5" Solid Yellow Line 2,412 LF

5" Solid White Line 2,417 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

PRF $$PENTABLE$$	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-33

5" Skip White Line (10 ft) 90 EA

Type 3 (Clear/Red) Raised Pavement Marker 45 EA

Double 8" Solid White Line (x2) 2,416 LF

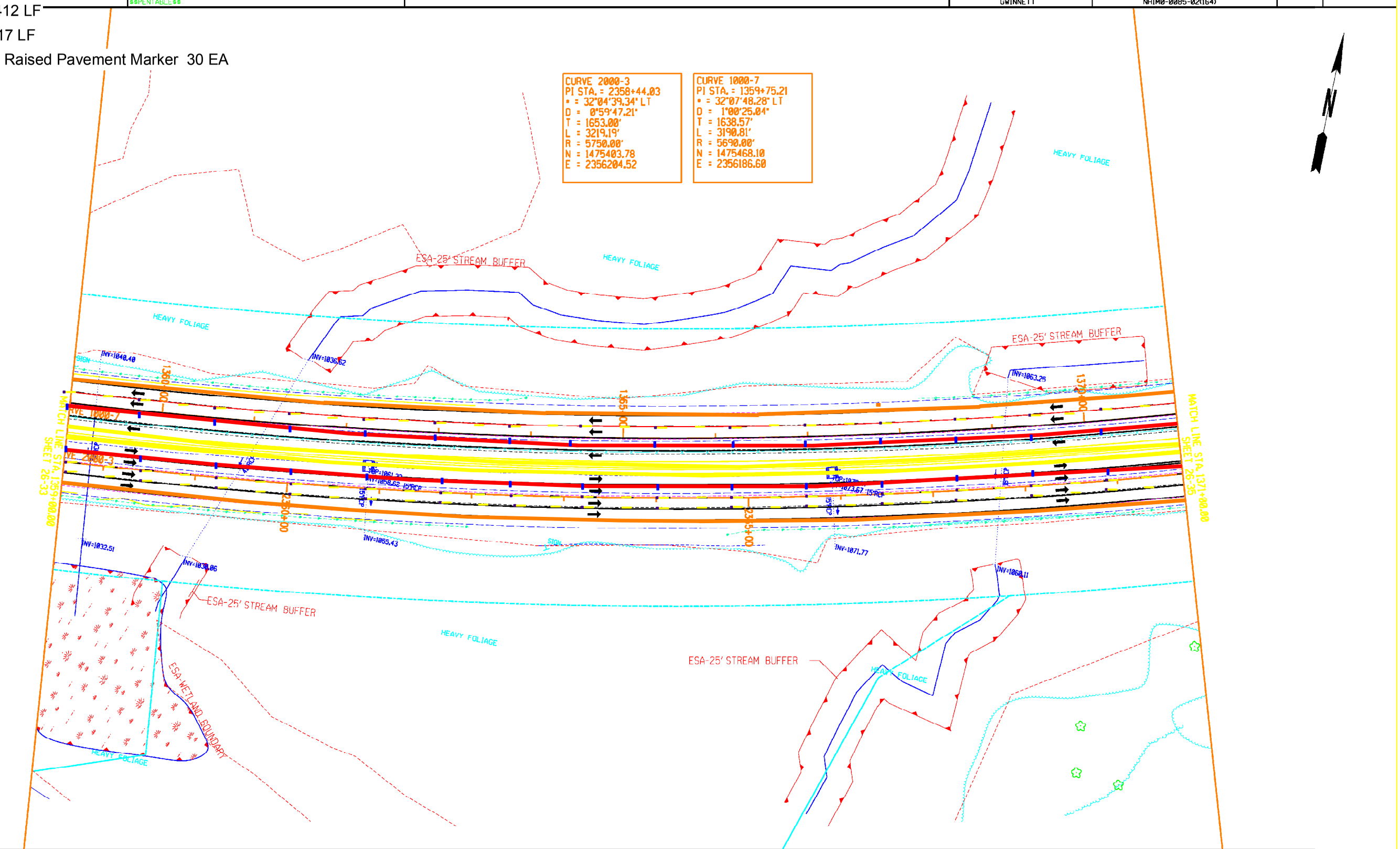
5" Solid Yellow Line 2,412 LF

5" Solid White Line 2,417 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

PRF
$$PENTABLE$$
DGN

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
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SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO.
26-34

5" Skip White Line (10 ft) 90 EA

Type 3 (Clear/Red) Raised Pavement Marker 45 EA

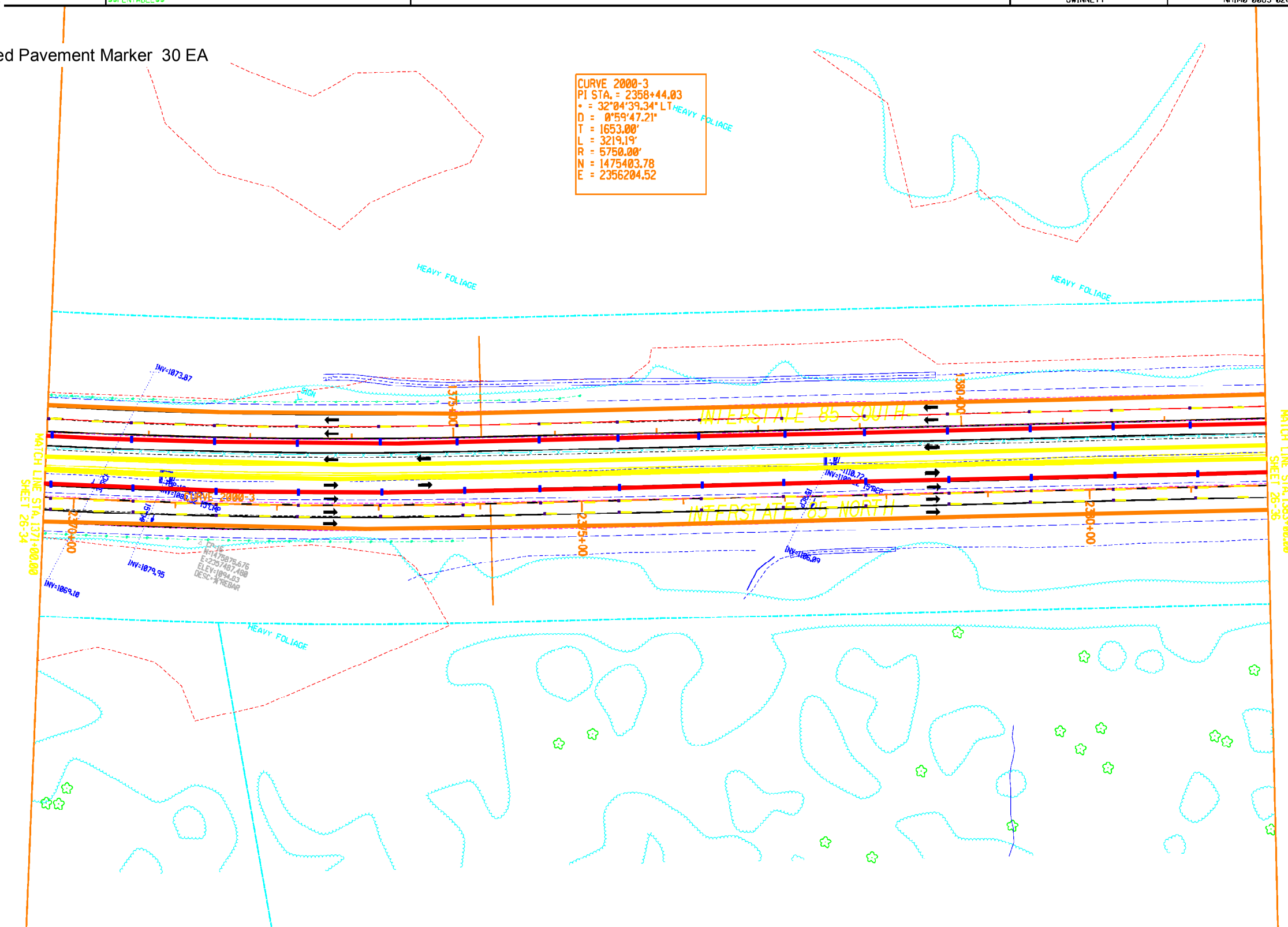
Double 8" Solid White Line (x2) 2,404 LF

5" Solid Yellow Line 2,405 LF

5" Solid White Line 2,404 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$$PENTABLE$$		GWINNETT	NHIM0-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

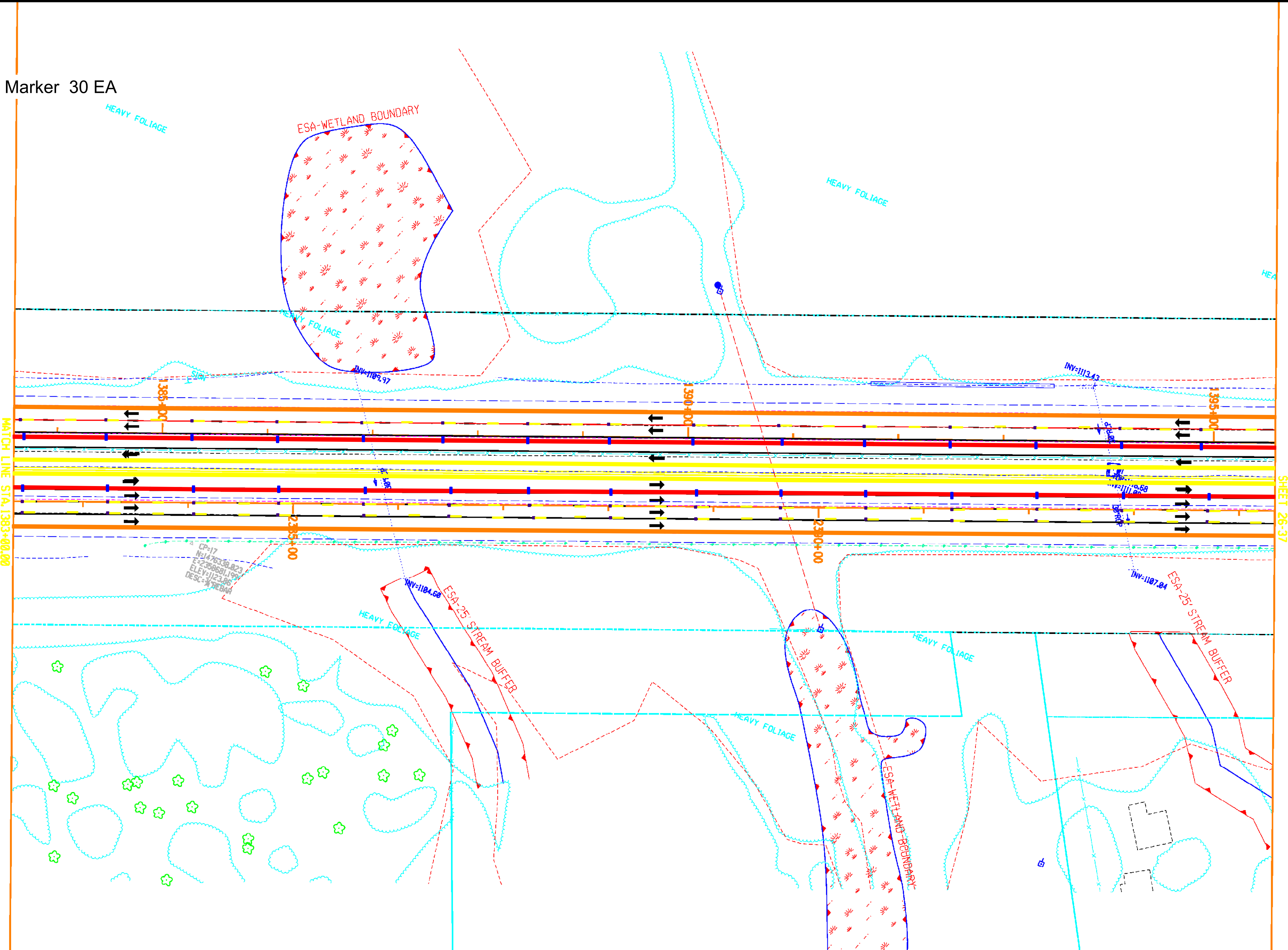
SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-35

5" Skip White Line (10 ft) 90 EA
Type 3 (Clear/Red) Raised Pavement Marker 45 EA
Double 8" Solid White Line (x2) 2,401 LF
5" Solid Yellow Line 2,400 LF
5" Solid White Line 2,402 LF
Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:
SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-36

5" Skip White Line (10 ft) 90 EA

Type 3 (Clear/Red) Raised Pavement Marker 45 EA

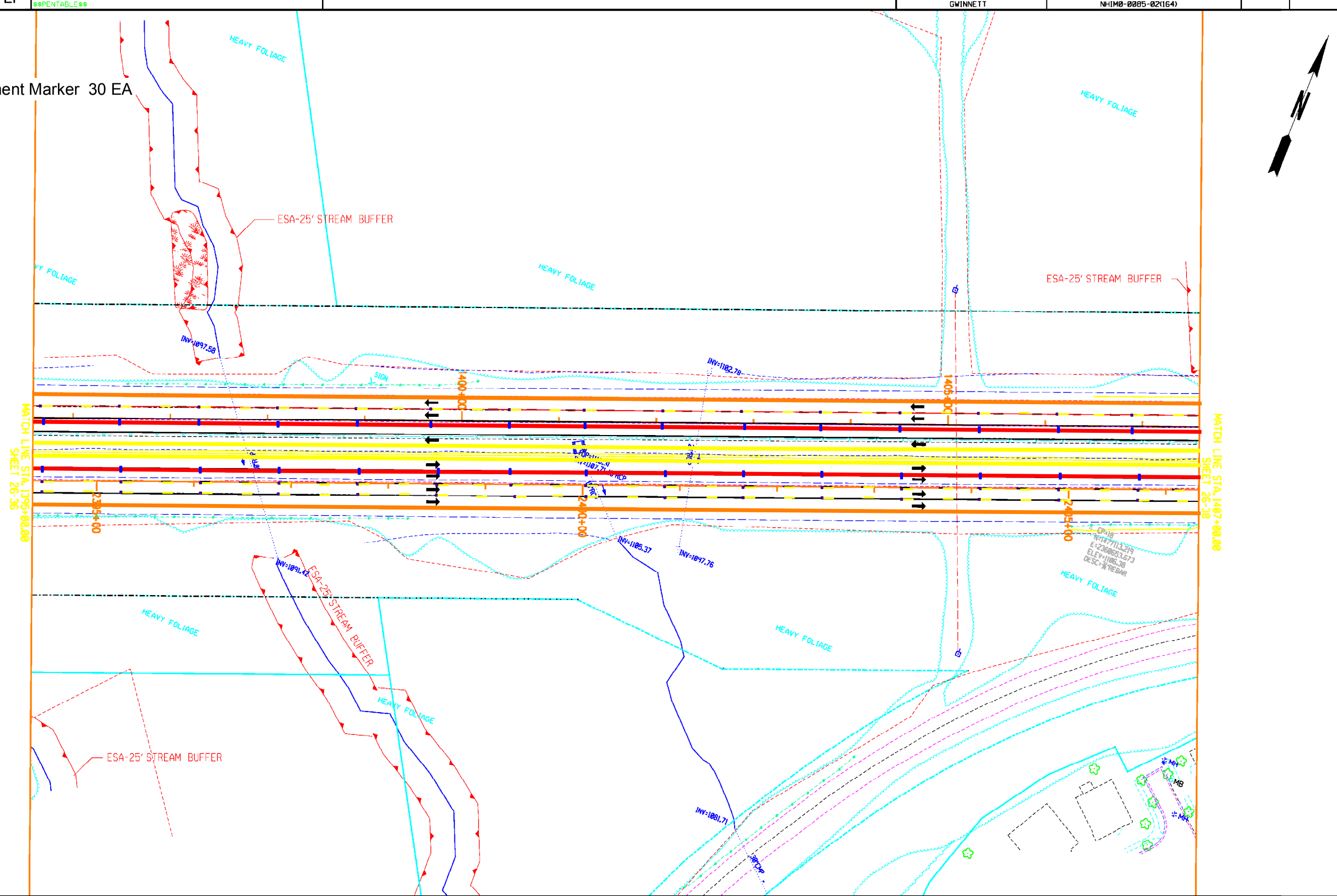
Double 8" Solid White Line (x2) 2,401 LF

5" Solid Yellow Line 2,400 LF

5" Solid White Line 2,402 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

PRF $$PENTABLE$$	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		GWINNETT	NHIM0-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-37

5" Skip White Line (10 ft) 88 EA

Type 3 (Clear/Red) Raised Pavement Marker 57 EA

Double 8" Solid White Line (x2) 2,601 LF

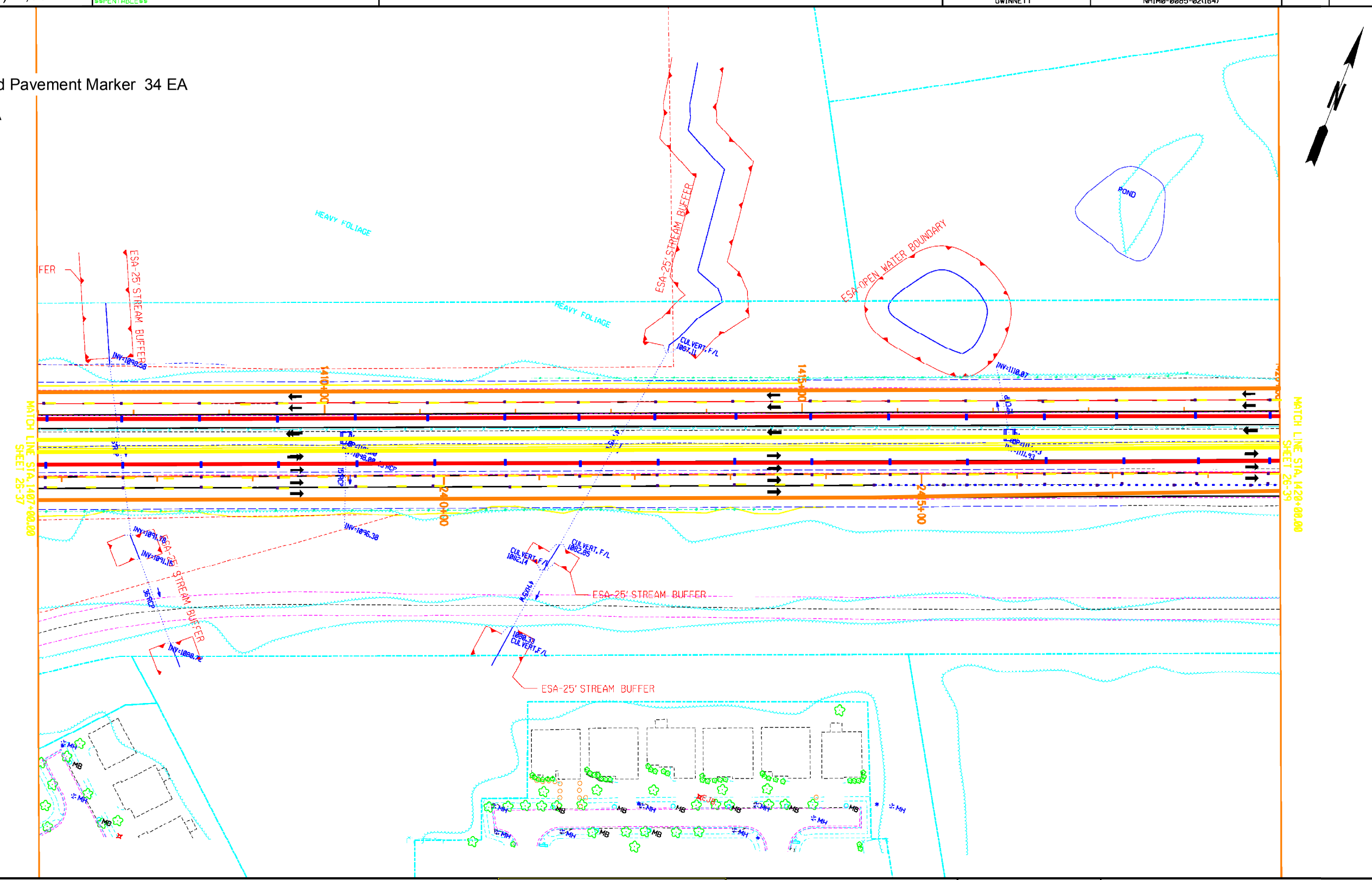
5" Solid Yellow Line 2,601 LF

5" Solid White Line 2,601 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 34 EA

5" Skip White Line (2 ft) 53 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-38

5" Skip White Line (10 ft) 56 EA

Type 3 (Clear/Red) Raised Pavement Marker 39 EA

Double 8" Solid White Line (x2) 2,203 LF

5" Solid Yellow Line 2,203 LF

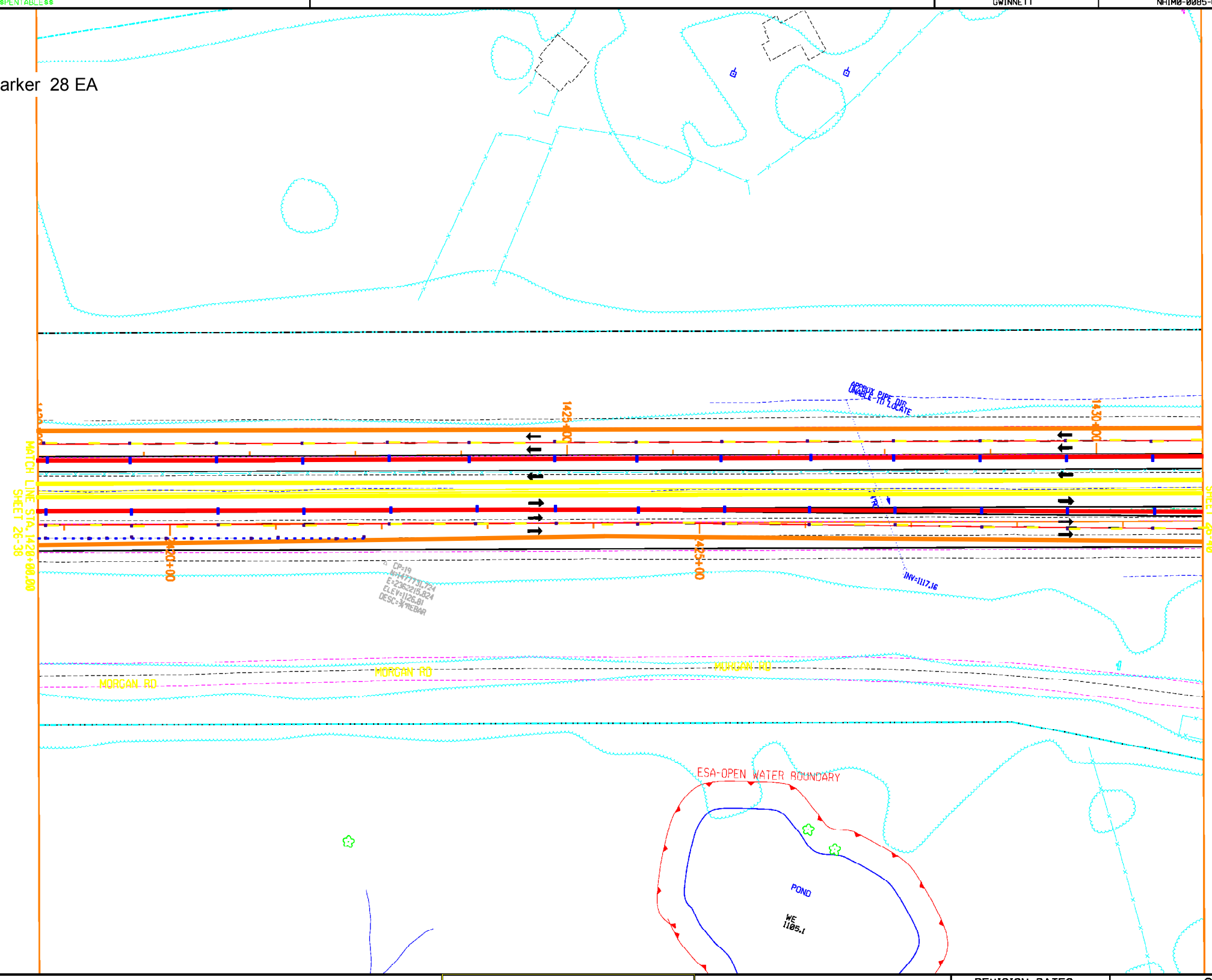
5" Solid White Line 2,202 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 28 EA

5" Skip White Line (2 ft) 40 EA

$USER$ PRF $PENTABLE$ DGN

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

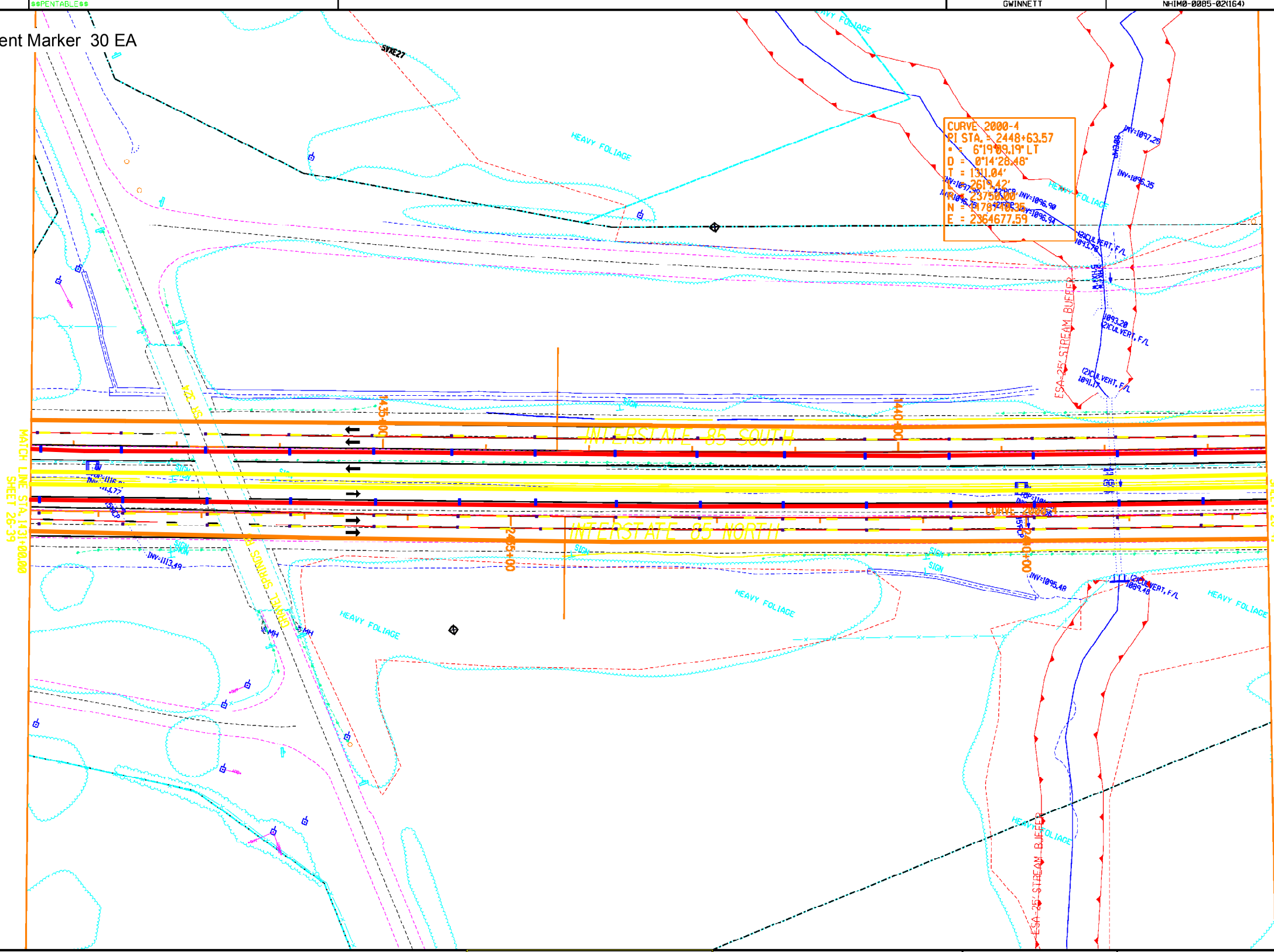
SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 26-39

5" Skip White Line (10 ft) 90 EA
Type 3 (Clear/Red) Raised Pavement Marker 45 EA
Double 8" Solid White Line (x2) 2,398 LF
5" Solid Yellow Line 2,399 LF
5" Solid White Line 2,400 LF
Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

TIME$$$ PRF $$PENTABLE$$	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
		GWINNETT	NHIM0-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES		

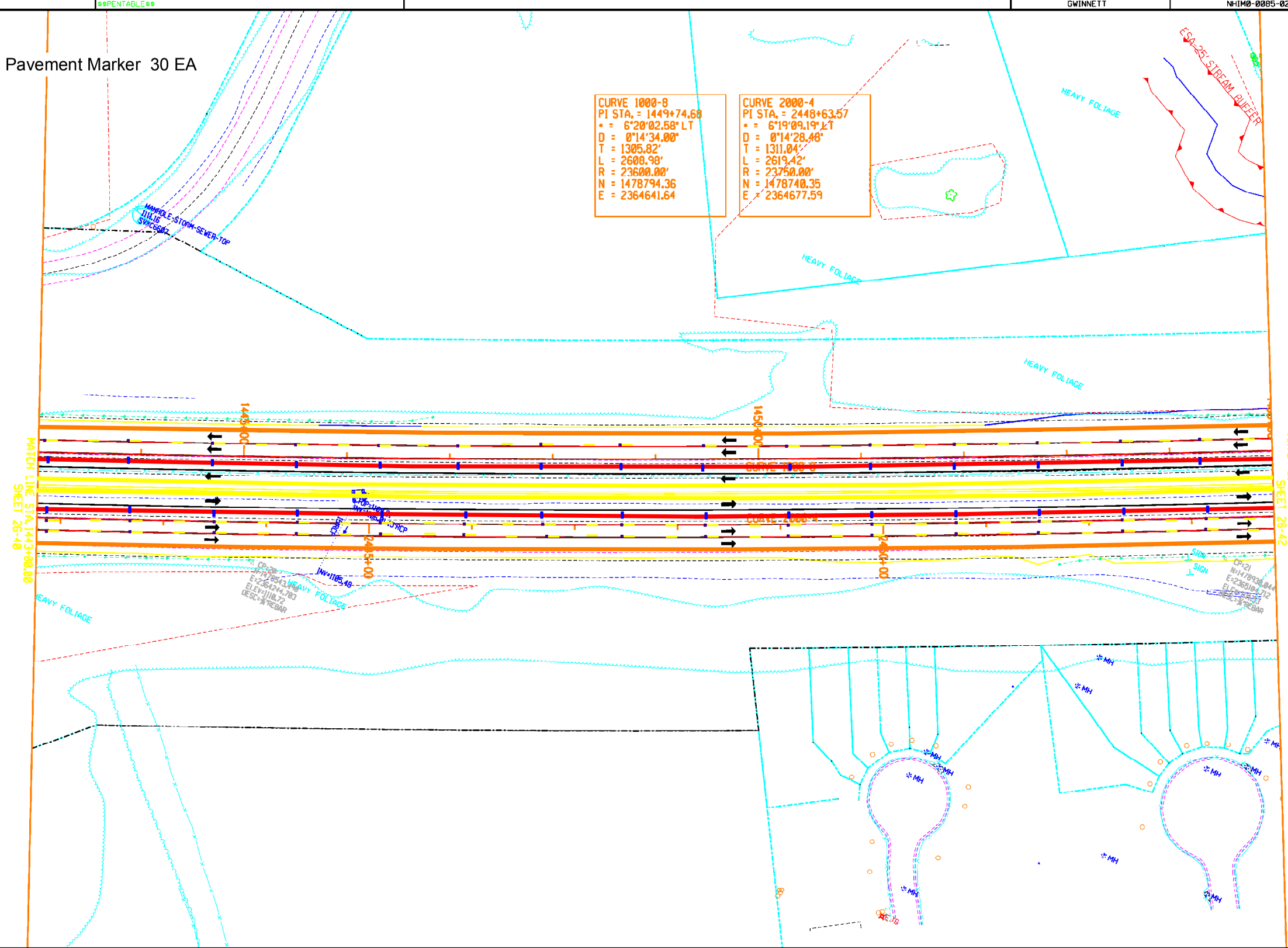
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:
SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO. 26-40

5" Skip White Line (10 ft) 90 EA
Type 3 (Clear/Red) Raised Pavement Marker 45 EA
Double 8" Solid White Line (x2) 2,402 LF
5" Solid Yellow Line 2,403 LF
5" Solid White Line 2,401 LF
Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES		

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-41

5" Skip White Line (10 ft) 91 EA

Type 3 (Clear/Red) Raised Pavement Marker 45 EA

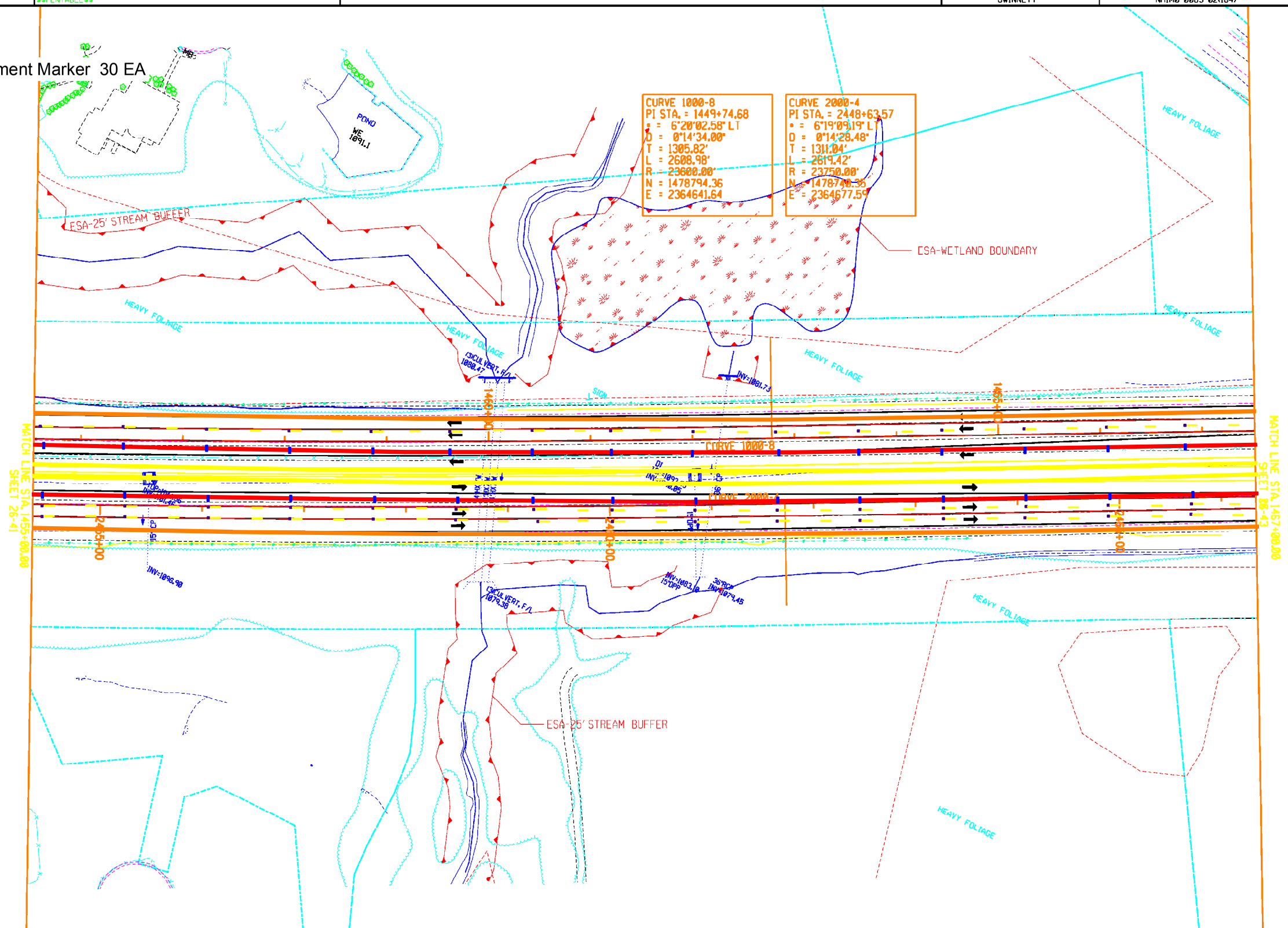
Double 8" Solid White Line (x2) 2,402 LF

5" Solid Yellow Line 2,403 LF

5" Solid White Line 2,401 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

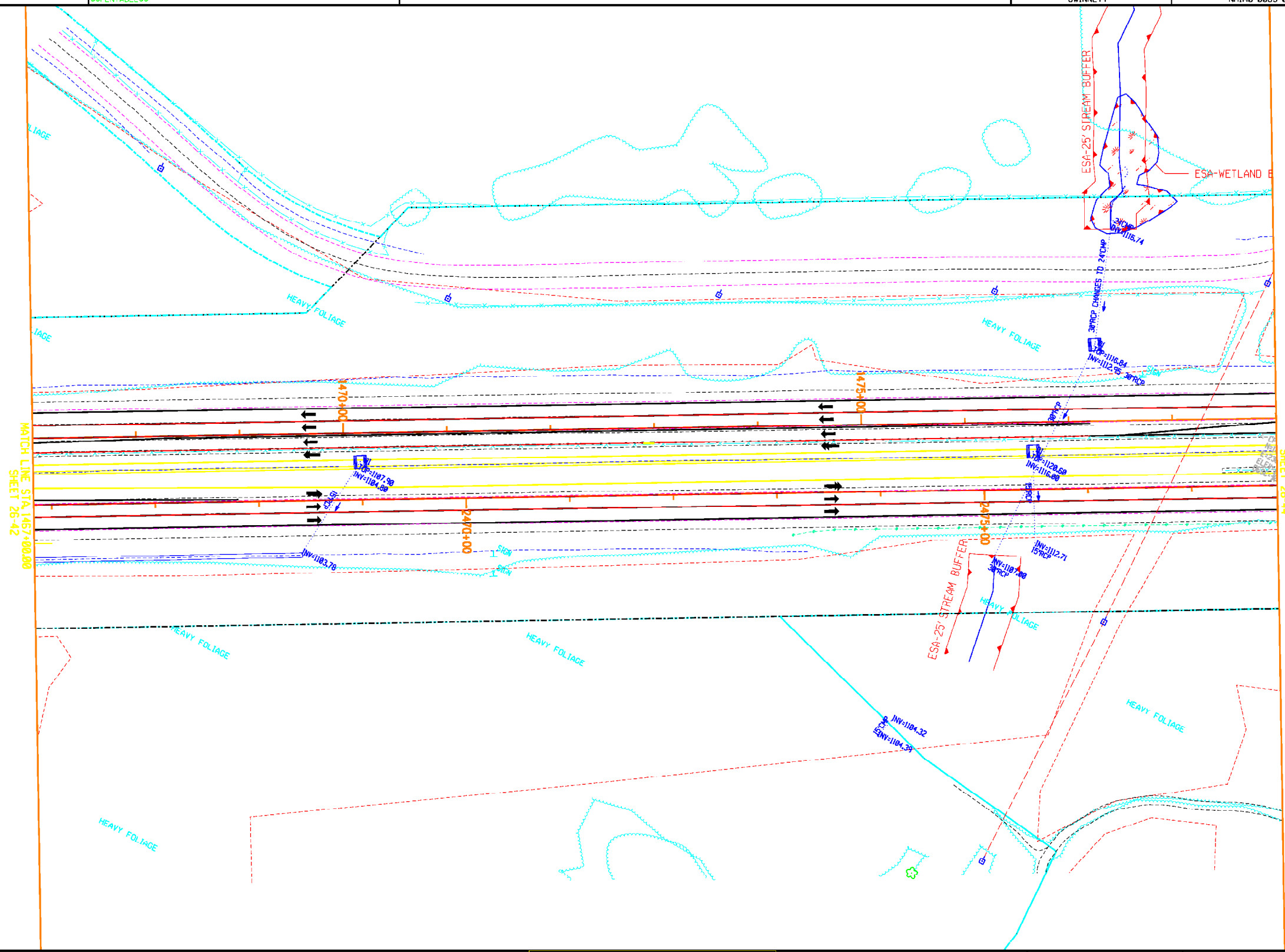
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO. 26-42

5" Skip White Line (10 ft) 2 EA

DATETIME$$$ TIME$$$ PRF DGN
$USER$ $$PENTABLE$$

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO.
26-43

5" Skip White Line (10 ft) 90 EA

Type 3 (Clear/Red) Raised Pavement Marker 45 EA

Double 8" Solid White Line (x2) 2,401 LF

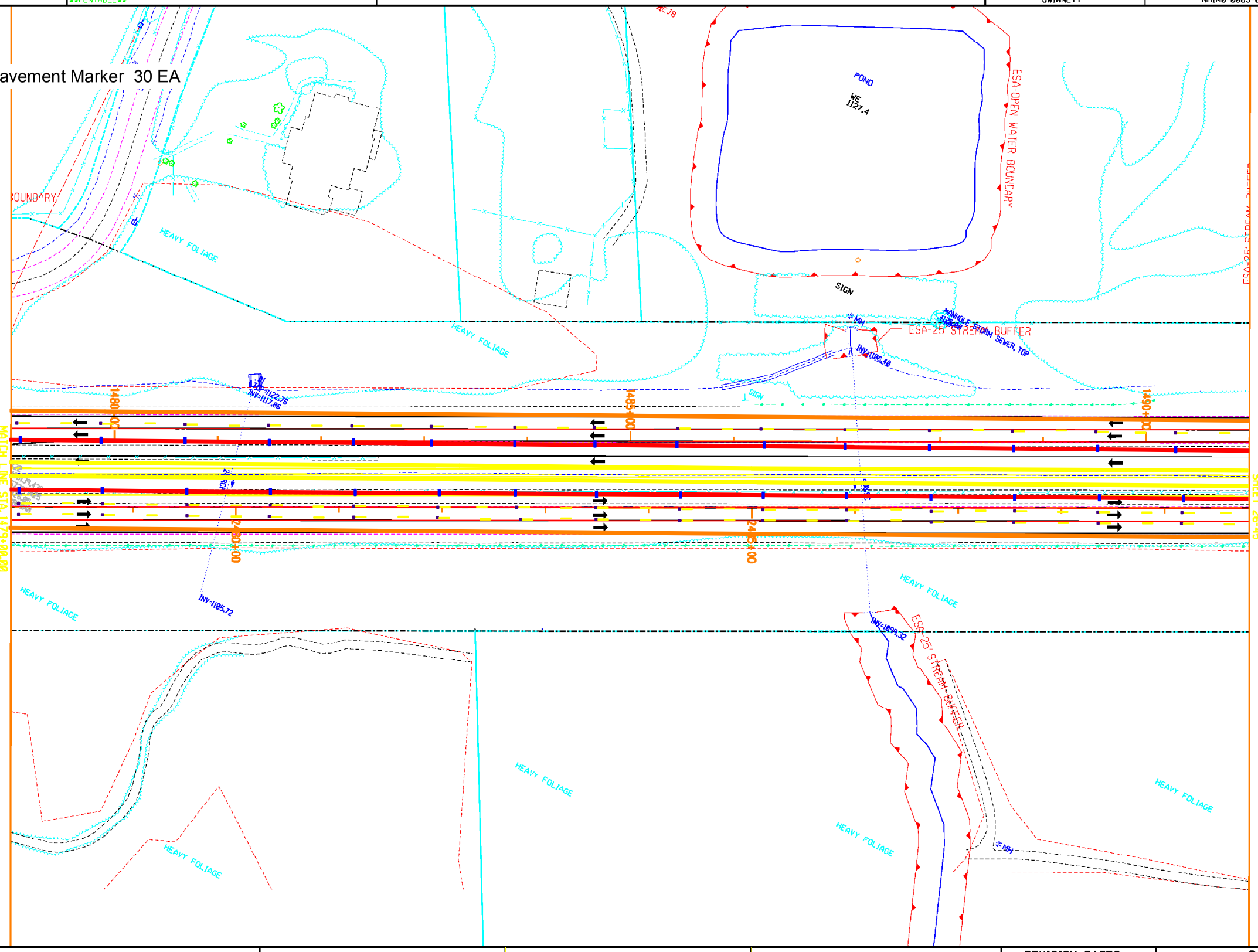
5" Solid Yellow Line 2,400 LF

5" Solid White Line 2,402 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

PRF
$$PENTABLE$$
DGN

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



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3715 NORTHSIDE PARKWAY, NW
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ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT **STAGE 2**

DRAWING NO. 26-44

5" Skip White Line (10 ft) 90 EA

Type 3 (Clear/Red) Raised Pavement Marker 45 EA

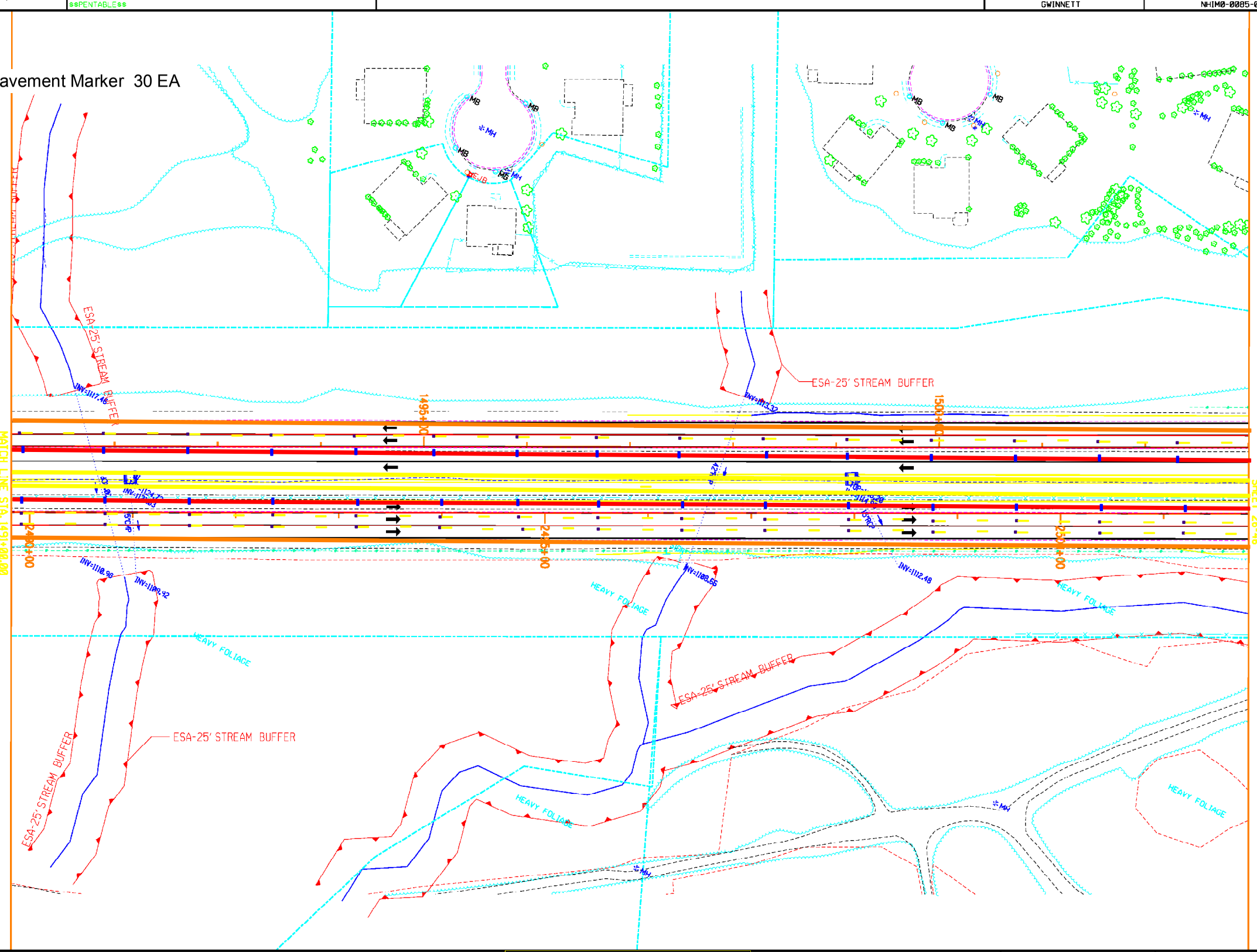
Double 8" Solid White Line (x2) 2,401 LF

5" Solid Yellow Line 2,400 LF

5" Solid White Line 2,402 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 26-45

5" Skip White Line (10 ft) 90 EA

Type 3 (Clear/Red) Raised Pavement Marker 45 EA

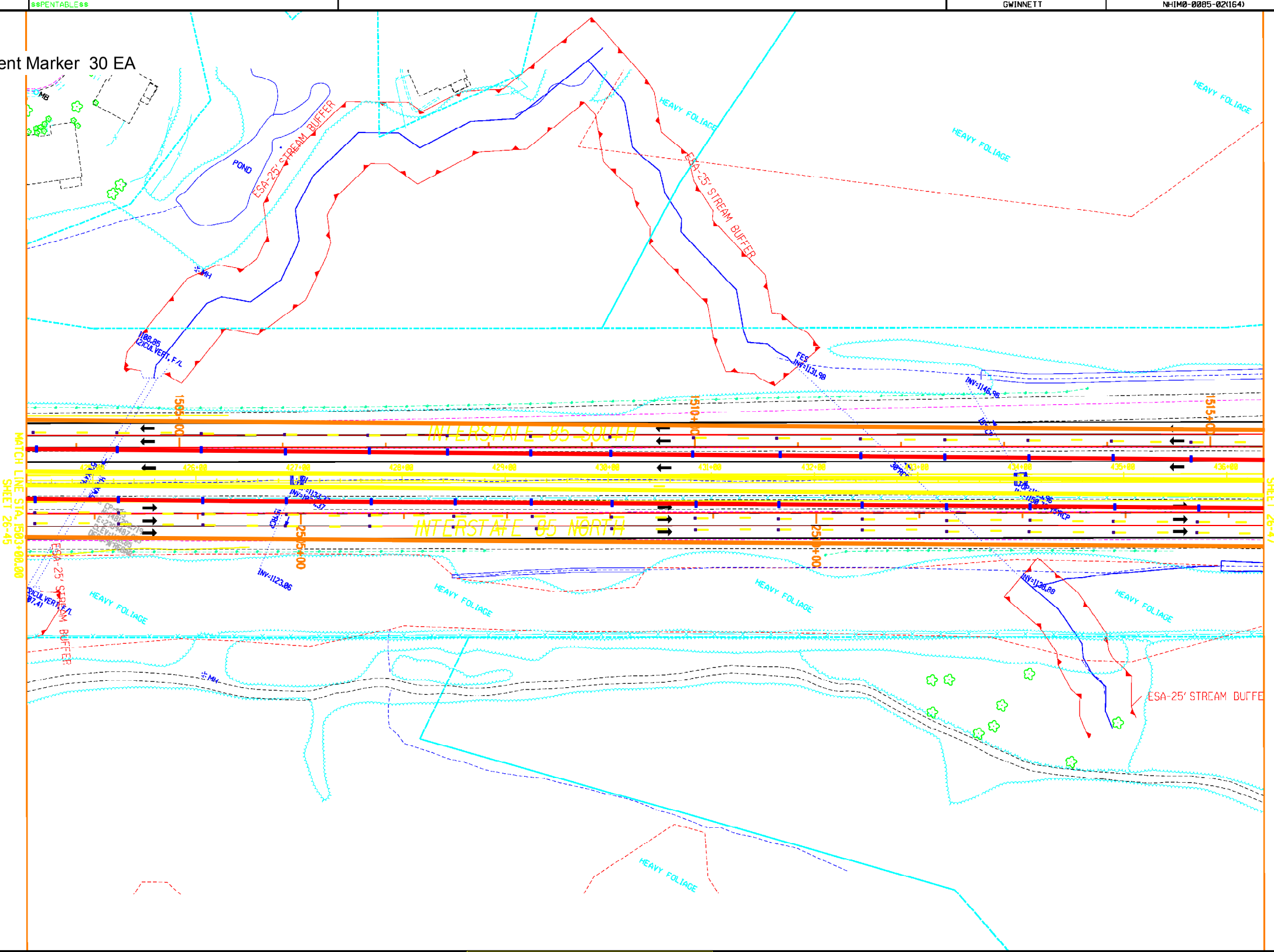
Double 8" Solid White Line (x2) 2,401 LF

5" Solid Yellow Line 2,400 LF

5" Solid White Line 2,402 LF

Type 3 (#x3) DW Line - Raised Pavement Marker 30 EA

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES		

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

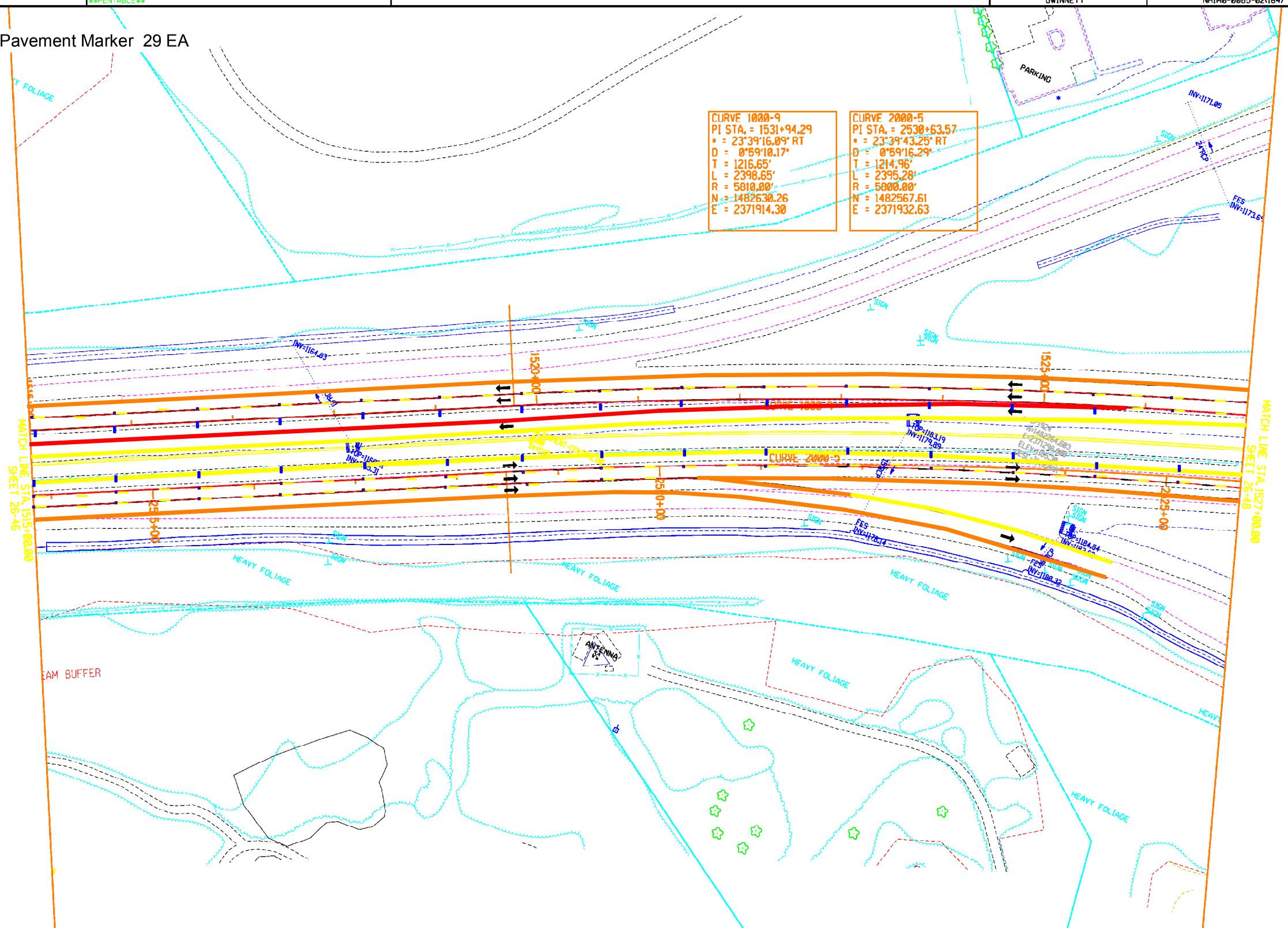
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
26-46

5" Skip White Line (10 ft) 79 EA
Type 3 (Clear/Red) Raised Pavement Marker 39 EA
Double 8" Solid White Line (x2) 1,081 LF
5" Solid Yellow Line 2,657 LF
5" Solid White Line 2,943 LF
Type 3 (#x3) DW Line - Raised Pavement Marker 29 EA

TIME$$ PRF $$PENTABLE$$ DGN

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:
SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 26-47

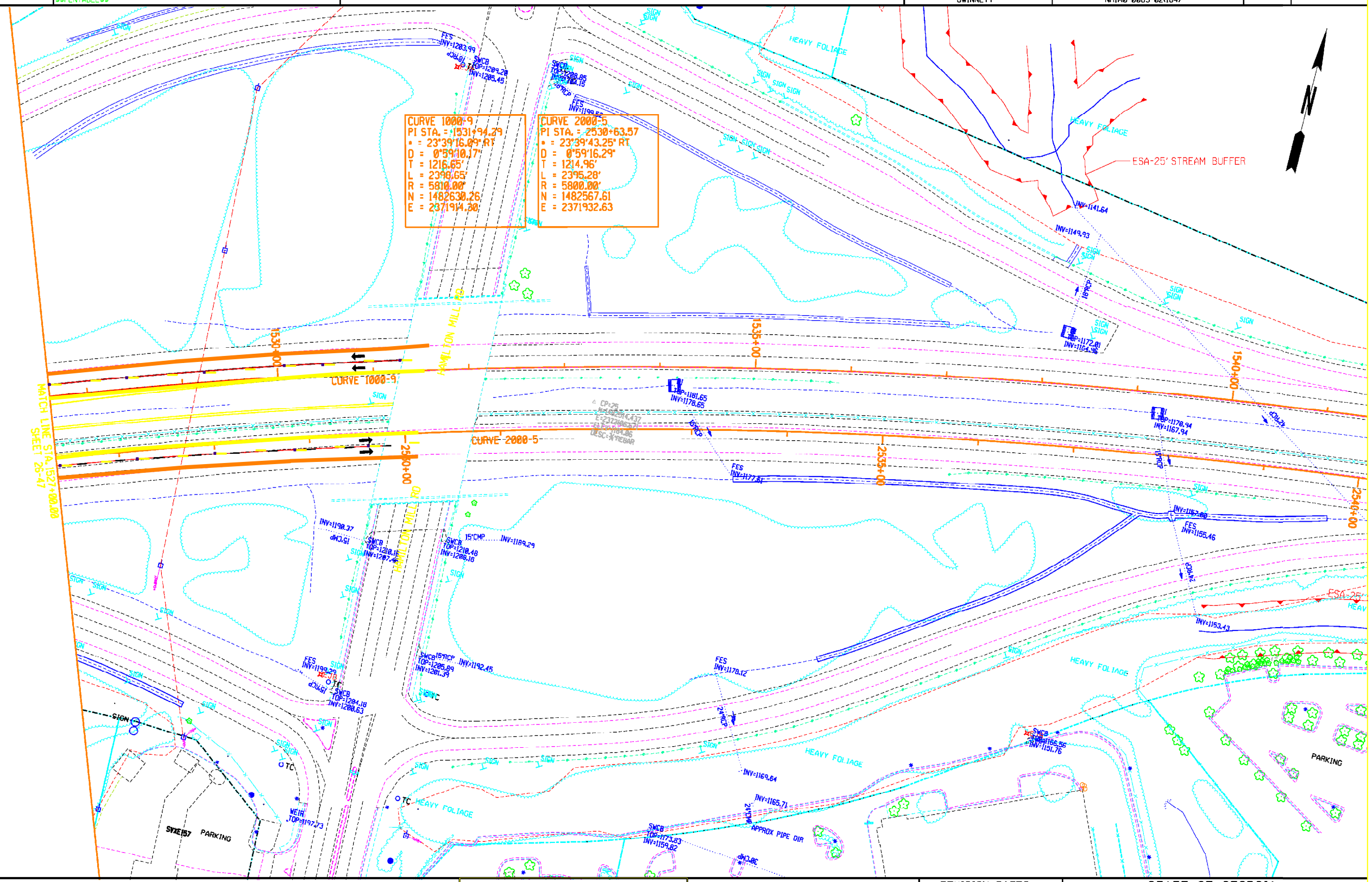
5" Skip White Line (10 ft) 21 EA

Type 3 (Clear/Red) Raised Pavement Marker 11 EA

5" Solid Yellow Line 773 LF

5" Solid White Line 775 LF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHIM0-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

SIGNING AND MARKING PLANS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO.
26-48

Takeoff Tab

I-85 Managed lanes GANTRY's & SIGNS

Bid No. 24

No.	Name	Height	Quantity1	UOM1	Quantity2	UOM2	Quantity3	UOM3
DUCT BANK								
(unassigned)								
1	Type 2 Duct Bank	0"	98,633	LF	0		0	
2	CROSS EXISITNG ROADWAYS OR BORING NEEDED	0"	4,499	LF	29	EA	0	
27	DUCT BANK COMPARISON [Type 1 Vs Type 2]	0"	22,931	LF	0		0	
28	DUCT BANK COMPARISON [BORING]	0"	628	LF	0		0	
Overhead Structures/Gantry's								
(unassigned)								
3	Toll Rate Sign on 115 ft Gantry (4 Rates)	0"	7	EA	0		0	
7	Toll Rate Sign on 95 ft Gantry (2 Rates)	0"	3	EA	0		0	
9	Overhead Bridge w/signs (Over Northbound Lanes 95 ft)	0"	12	EA	0		0	
10	CMS Overhead Sign/Stand Alone Gantry (Southbound)	0"	3	EA	0		0	
11	Overhead Bridge w/signs (Over Northbound Lanes 140ft)	0"	1	EA	0		0	
12	Overhead Bridge w/signs (Over Southbound Lanes 95 ft)	0"	14	EA	0		0	
13	Overhead Bridge w/signs (Over Southbound Lanes 140 ft)	0"	3	EA	0		0	
14	CL Toll Gantry (pink) 40 ft	0"	22	EA	0		0	
15	Overhead Bridge w/signs (Over Northbound Lanes 110ft)	0"	7	EA	0		0	
16	Overhead Bridge w/signs (Over Southbound Lanes 110 ft)	0"	5	EA	0		0	
17	CL Toll Gantry (pink) 80 ft	0"	1	EA	0		0	
18	CMS Overhead Sign/Stand Alone Gantry (Northbound)	0"	1	EA	0		0	
20	Install (1) Signs On Existing CL Structure	0"	1	EA	0		0	
21	Remove (1) Existing Sign On CL Structure	0"	3	EA	0		0	
22	Post Mounted Exit Sign	0"	4	EA	0		0	

Takeoff Tab

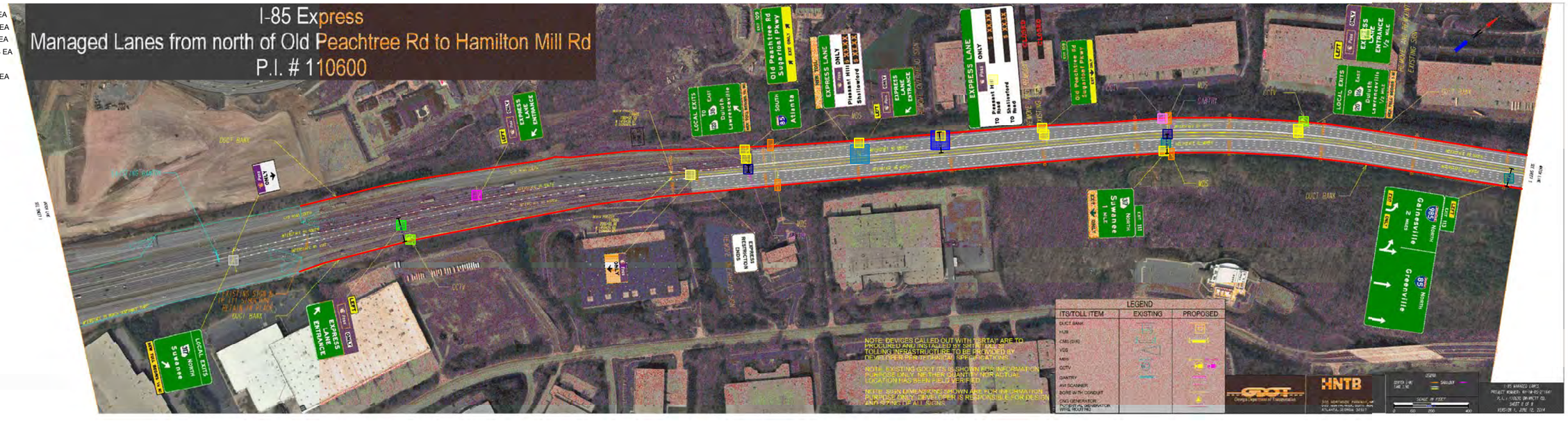
I-85 Managed lanes GANTRY's & SIGNS

Bid No. 24

No.	Name	Height	Quantity1	UOM1	Quantity2	UOM2	Quantity3	UOM3
23	Remove Existing Overhead Bridge Sign (southbound)	0"	8	EA	0		0	
24	Remove Existing Overhead Bridge Sign (Northbound)	0"	10	EA	0		0	
25	Remove Existing Cantelever Sign (CL)	0"	2	EA	0		0	
26	Remove Existing Shoulder Sign (Southbound)	0"	1	EA	0		0	
(unassigned)								
(unassigned)								
4	CCTV/Pole (Green)	0"	28	EA	0		0	
5	CCTV/Pole (Pink)	0"	8	EA	0		0	
6	MDS w/Loop Detector (Green)	0"	55	EA	0		0	
8	HUB Shack	0"	1	EA	0		0	

Toll Rate Sign on 115 ft Gantry (4 Rates) 1 EA
CCTV/Pole (Green) 2 EA
CCTV/Pole (Pink) 1 EA
Toll Rate Sign on 95 ft Gantry (2 Rates) 1 EA
Overhead Bridge w/signs (Over Northbound Lanes 95 ft) 1 EA
CMS Overhead Sign/Stand Alone Gantry (Southbound) 1 EA
CMS Overhead Sign/Stand Alone Gantry (Northbound) 1 EA

- Type 2 Duct Bank 13,289 LF
- Toll Rate Sign on 115 ft Gantry (4 Rates) 1 EA
- CCTV/Pole (Green) 2 EA
- CCTV/Pole (Pink) 1 EA
- MDS w/Loop Detector (Green) 4 EA
- Toll Rate Sign on 95 ft Gantry (2 Rates) 1 EA
- Overhead Bridge w/signs (Over Northbound Lanes 95 ft) 1 EA
- Overhead Bridge w/signs (Over Northbound Lanes 140ft) 1 EA
- Overhead Bridge w/signs (Over Southbound Lanes 95 ft) 1 EA
- Overhead Bridge w/signs (Over Southbound Lanes 140 ft) 3 EA
- CL Toll Gantry (pink) 40 ft 2 EA
- Overhead Bridge w/signs (Over Northbound Lanes 110ft) 2 EA
- Install (1) Signs On Existing CL Structure 1 EA
- Remove (1) Existing Sign On CL Structure 3 EA
- Remove Existing Overhead Bridge Sign (southbound) 5 EA
- Remove Existing Overhead Bridge Sign (Northbound) 1 EA



Type 2 Duct Bank 18,399 LF
CROSS EXISITNG ROADWAYS OR BORING NEEDED 1,333 LF
Toll Rate Sign on 115 ft Gantry (4 Rates) 1 EA
CCTV/Pole (Green) 4 EA
CCTV/Pole (Pink) 2 EA
MDS w/Loop Detector (Green) 9 EA
Toll Rate Sign on 95 ft Gantry (2 Rates) 1 EA
Overhead Bridge w/signs (Over Northbound Lanes 95 ft) 1 EA
Overhead Bridge w/signs (Over Southbound Lanes 95 ft) 1 EA
CL Toll Gantry (pink) 40 ft 3 EA
Overhead Bridge w/signs (Over Northbound Lanes 110ft) 4 EA
Overhead Bridge w/signs (Over Southbound Lanes 110 ft) 3 EA
Post Mounted Exit Sign 2 EA
Remove Existing Overhead Bridge Sign (southbound) 3 EA
Remove Existing Overhead Bridge Sign (Northbound) 5 EA

Type 2 Duct Bank 18,410 LF

CROSS EXISITNG ROADWAYS OR BORING NEEDED 732 LF

Toll Rate Sign on 115 ft Gantry (4 Rates) 1 EA

CCTV/Pole (Green) 6 EA

CCTV/Pole (Pink) 2 EA

MDS w/Loop Detector (Green) 8 EA

Overhead Bridge w/signs (Over Northbound Lanes 95 ft) 4 EA

Overhead Bridge w/signs (Over Southbound Lanes 95 ft) 4 EA

CL Toll Gantry (pink) 40 ft 6 EA

Overhead Bridge w/signs (Over Northbound Lanes 110ft) 1 EA

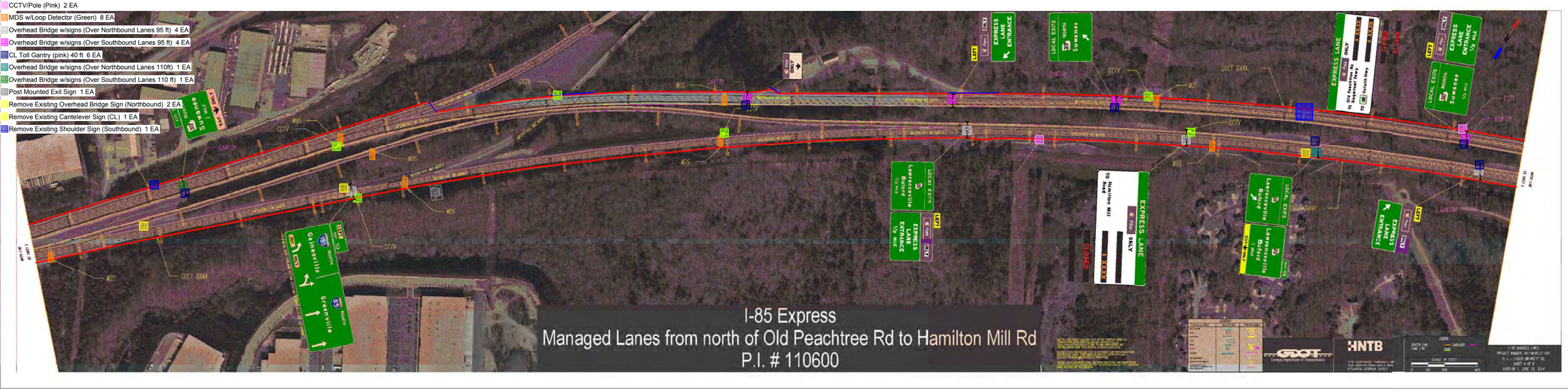
Overhead Bridge w/signs (Over Southbound Lanes 110 ft) 1 EA

Post Mounted Exit Sign 1 EA

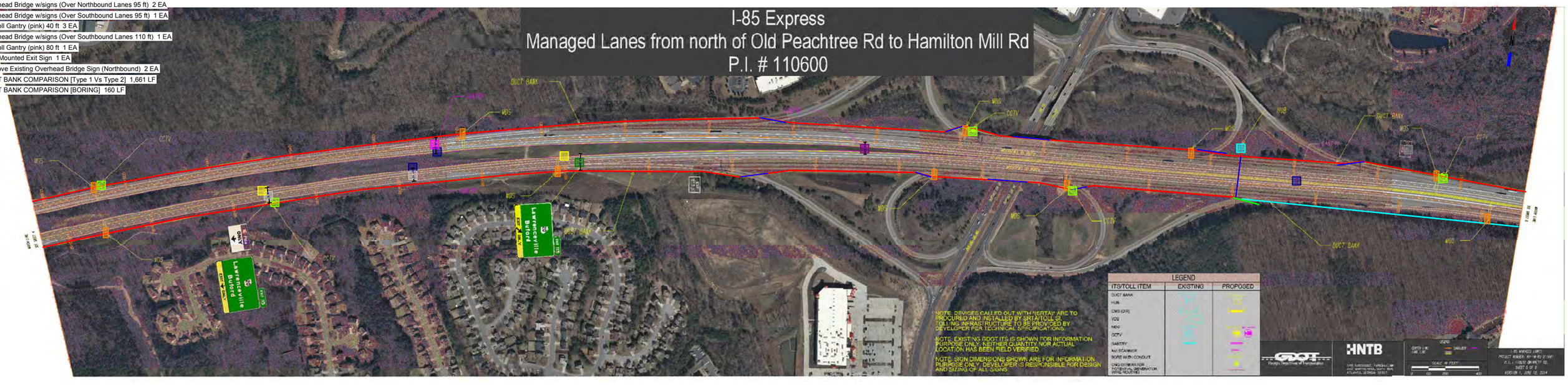
Remove Existing Overhead Bridge Sign (Northbound) 2 EA

Remove Existing Cantelever Sign (CL) 1 EA

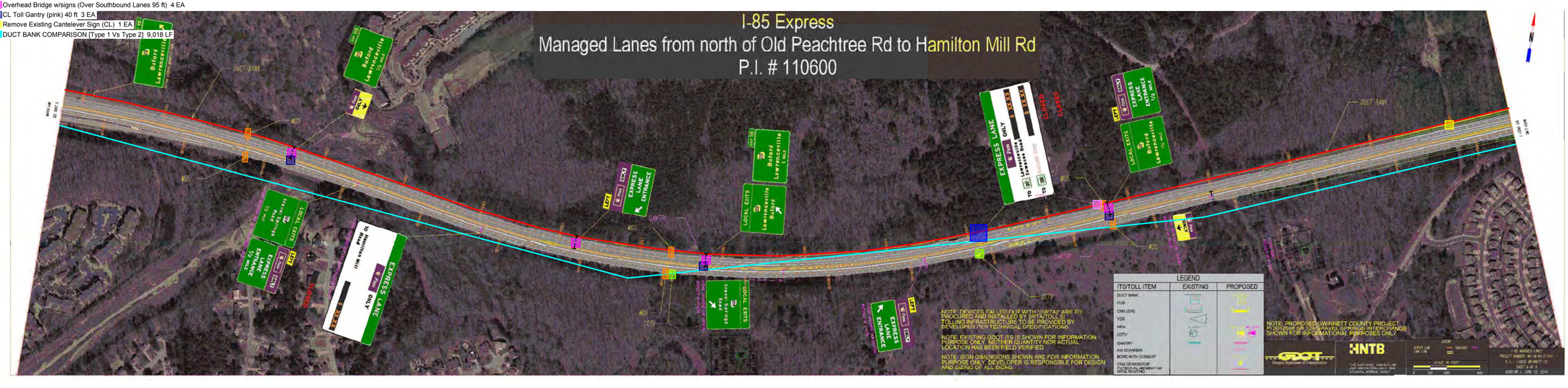
Remove Existing Shoulder Sign (Southbound) 1 EA



Type 2 Duct Bank 16,514 LF
CROSS EXISITNG ROADWAYS OR BORING NEEDED 1,687 LF
CCTV/Pole (Green) 5 EA
MDS w/Loop Detector (Green) 10 EA
HUB Shack 1 EA
Overhead Bridge w/signs (Over Northbound Lanes 95 ft) 2 EA
Overhead Bridge w/signs (Over Southbound Lanes 95 ft) 1 EA
CL Toll Gantry (pink) 40 ft 3 EA
Overhead Bridge w/signs (Over Southbound Lanes 110 ft) 1 EA
CL Toll Gantry (pink) 80 ft 1 EA
Post Mounted Exit Sign 1 EA
Remove Existing Overhead Bridge Sign (Northbound) 2 EA
DUCT BANK COMPARISON [Type 1 Vs Type 2] 1,661 LF
DUCT BANK COMPARISON [BORING] 160 LF

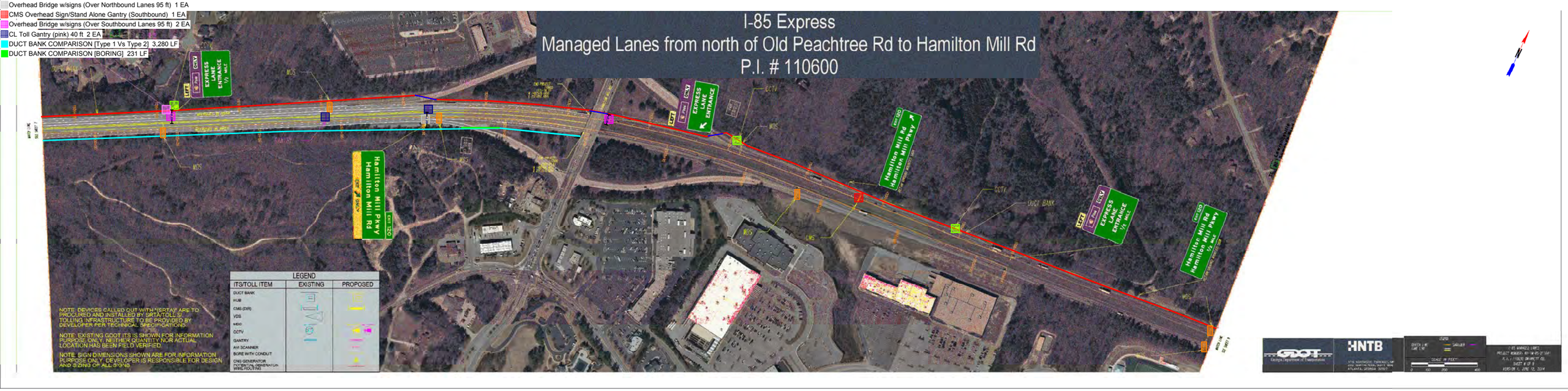


Type 2 Duct Bank 8,987 LF
Toll Rate Sign on 115 ft Gantry (4 Rates) 1 EA
CCTV/Pole (Green) 2 EA
CCTV/Pole (Pink) 1 EA
MDS w/Loop Detector (Green) 6 EA
Overhead Bridge w/signs (Over Southbound Lanes 95 ft) 4 EA
CL Toll Gantry (pink) 40 ft 3 EA
Remove Existing Cantelever Sign (CL) 1 EA
DUCT BANK COMPARISON [Type 1 Vs Type 2] 9,018 LF

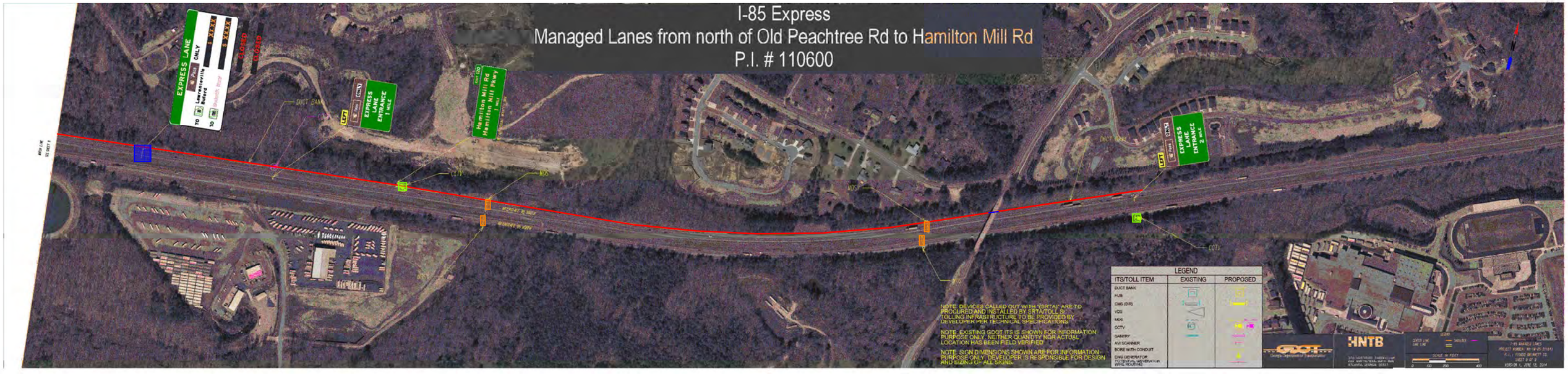


Type 2 Duct Bank 8,991 LF
CROSS EXISITNG ROADWAYS OR BORING NEEDED 351 LF
Toll Rate Sign on 115 ft Gantry (4 Rates) 1 EA
CCTV/Pole (Green) 2 EA
MDS w/Loop Detector (Green) 8 EA
Overhead Bridge w/signs (Over Northbound Lanes 95 ft) 2 EA
CMS Overhead Sign/Stand Alone Gantry (Southbound) 1 EA
Overhead Bridge w/signs (Over Southbound Lanes 95 ft) 1 EA
CL Toll Gantry (pink) 40 ft 3 EA
DUCT BANK COMPARISON [Type 1 Vs Type 2] 8,972 LF
DUCT BANK COMPARISON [BORING] 237 LF

Type 2 Duct Bank 7,426 LF
CROSS EXISITNG ROADWAYS OR BORING NEEDED 337 LF
CCTV/Pole (Green) 3 EA
CCTV/Pole (Pink) 1 EA
MDS w/Loop Detector (Green) 6 EA
Overhead Bridge w/signs (Over Northbound Lanes 95 ft) 1 EA
CMS Overhead Sign/Stand Alone Gantry (Southbound) 1 EA
Overhead Bridge w/signs (Over Southbound Lanes 95 ft) 2 EA
CL Toll Gantry (pink) 40 ft 2 EA
DUCT BANK COMPARISON [Type 1 Vs Type 2] 3,280 LF
DUCT BANK COMPARISON [BORING] 231 LF



Type 2 Duct Bank 6,616 LF
CROSS EXISITNG ROADWAYS OR BORING NEEDED 60 LF
Toll Rate Sign on 115 ft Gantry (4 Rates) 1 EA
CCTV/Pole (Green) 2 EA
MDS w/Loop Detector (Green) 4 EA



I-85 Managed Lanes
Design Build Estimate & Proposal Schedule

Structure Takeoff

HNTB

Bridge Takeoff

SR 20 Bridges

Structure Excavation	Column Footings	Column Footing Excavation	432	lvcy	6 ea. Column footings @ 18' x 18' x 6' = 432 c/y
		Place Structural Backfill	310	cvcy	Footing excavation less 122 c/y concrete placed = 310 c/y
	End Piers	End Pier Excavation	77	lvcy	4 ea. End pier excavation @ 4' x 7' x 18.5' = 77 c/y
		Place Structure Backfill	48	cvcy	Footing excavation less 29 c/y concrete placed = 48 c/y
Sawcut Concrete for Removal	Saw Concrete Deck	Sawcut control joints, slab on grade	610	lf	Sawcut bridge deck for existing bridge rail removal @ 305' x 2 = 610 l/f
Bridge Demo	Demo Concrete Rail	Concrete Dump Fee	6	load	53 c/y @ 2 tn/cy = 106 tons = 6 loads
		Remove Rail	610	lf	Remove 305' of existing railing x 2 = 610'
		Hauling, truck per hour, no loading equipment	6	hr	6 loads @ 1 hr per load = 6 hrs.
	Demo End Walls	Concrete Dump Fee	3	load	28 c/y @ 2 tn/cy = 56 tons = 3 loads
		Demo Structural Concrete	28	cy	Remove 4 ea. End walls @ 7 c/y ea. = 28 c/y
		Hauling, truck per hour, no loading equipment	3	hr	3 loads @ 1 hr per load = 3 hrs.
Approach Slab	Bridge Approach Slab	Place Structural Concrete Approaches	55	cy	4 ea. Approach slabs @ 18.5' x 20' x 12" = 55 c/y
		Concrete Vibrator Approaches	14	hr	1 ea. @ .25 hr/cy = 14 hr
		ESM Approaches	308	sf	4 ea. @ 18.5 x 20 x 12" = 308 s/f
		Cure Concrete Approaches	55	cy	55 cy of concrete placed
Mob Pile Driver (Piers)	Mob Pile Driver	Mobilization, 150 ton, set up and remove crane, with pile leads and pile hammer	1	ls	Mob pile driver for bridge piers = 1 ls
Test Pile	Furnish & Drive Test Pile	F & I Test Pile - 14" x 73" Temporary Pile	200	lf	5 ea. Test pile @ 40' = 200 lf
Pile Points	Pile Points	Weld Shoes on Permanent Pile	96	EA	Pile Tips @ 7 ea./footing (12) & 5 ea./end pier (2) = 52 ea.
Pile Splice	Pile Splice	Splice H-Pile	96	EA	Pile Splice @ 7 ea./footing (12) & 5 ea./end pier (2) = 52 ea.
Piling	Furnish & Drive Piling	F & I Pile 12" x 74" - Permanent Pile for the column footings	3240	lf	81 ea. @ 40' = 3240 l/f
Pile Caps	Pile Caps	11.5 x 11.5 x 3.75 ESM Pile Cap	2100	sf	12 ea. @ 11.67' x 11.67' x 3.75' = 2100 sf
		Rebar for Pile Caps F & I	45600	lbs	rebar @ 200#/cy = 45600 lbs
		Hoisting for Rebar Contractor	45600	lbs	rebar @ 200#/cy = 45600 lbs
		Place Structural Concrete	228	cy	12 ea. @ 11.67' x 11.67' x 3.75' = 228 cy
		Finish Concrete	3542	sf	2100 sf of walls + 1442 sf of top = 3542 sf
		Concrete Vibrator	57	hr	1 ea. @ .25 hr/cy = 57 hr
		Cure Concrete	228	cy	228 cy of concrete placed
Columns	Columns	Prep Construction Joint	192	sf	12 ea. @ 16 sf = 192 sf
		ESM Column Forms	5376	sf	12 ea. @ 4' x 4' x 28' = 5376 sf
		Rebar for 6' & 7' Dia Columns F & I	40000	lbs	rebar @ 200#/cy = 40000 lbs
		Hoisting for Rebar Contractor	40000	lbs	rebar @ 200#/cy = 40000 lbs
		Place Structural Concrete	200	cy	12 ea. @ 4' x 4' x 28' = 200 cy
		Finish Concrete	5376	sf	12 ea. @ 4' x 4' x 28' = 5376 sf
		Concrete Vibrator	50	hr	1 ea. @ .25 hr/cy = 50 hr
		Cure Concrete	200	cy	200 cy of concrete placed
End Piers		Mobilization, 150 ton, set up and remove crane, with pile leads and pile hammer	2	ea	Mob pile driver for bridge piers = 2 ea.
		F & I Pile at Abutments	400	lf	10 Ea. @ 40' ea. = 400 lf
		Rebar F & I	4640	lbs	rebar @ 160#/cy = 4640 lbs
		Hoisting for Rebar Contractor	4640	lbs	rebar @160#/cy = 4640 lbs
		ESM Abutment	493	sf	4 ea @ 3' x 2.25' x 18 5' = 333 sf = 80 sf per end wall (2) = 493 sf
		Place Structural Concrete	29	cy	4 ea @ 3' x 2.25' x 18 5' = 19 cy = 5 cy ea. Per end wall (2) = 29 c/y
		Finish Concrete	493	sf	4 ea @ 3' x 2.25' x 18 5' = 333 sf = 80 sf per end wall (2) = 493 sf
		Concrete Vibrator	8	hr	1 ea. @ .25 hr/cy = 8 hr
		Cure Concrete	29	cy	29 cy of concrete placed
Superstructure	Superstructure	Fab Superstructure Form	1488	sf	6 ea @ 5.5' x 4' x 18 5 ' = 1488 sf
		ESM End Diaphram Abutments 1 & 5	432	sf	12 ea. @ 6' x 3' = 432 sf
		ESM Interior Diaphram All Spans	2808	sf	78 ea @ 6' x 3' = 2808 sf
		Rebar F & I	12000	lbs	rebar @ 200#/cy = 12000 lbs
		Hoisting for Rebar Contractor	12000	lbs	rebar @ 200#/cy =12000 lbs
		Place Structural Concrete	60	cy	90 ea @ 6' x 3' x 12" = 60 cy
		Concrete Vibrator	15	hr	1 ea. @ .25 hr/cy = 15 hr
		Cure Concrete	60	cy	60 cy of concrete placed
Crane Mob	Crane Mob	Crane Mats	1	ls	Crane Mats = 1 ls
		Mobilization, set up and remove	1	ls	Mob crane for beam erection = 1 ls
Furnich & Install Girders	Large Girders	Erect Prestress Girders	12	ea	12 ea. Large girder
		Furnish Prestressed Concrete Girders	1152	lf	12 ea @ 96 lf = 1152 lf
		Set / Grout Elastomeric Bearing Pads	24	ea	12 ea beam @ 2/ beam = 24 ea
		F & I Bearings	24	ea	12 ea beam @ 2/ beam = 24 ea
		F & I Fall Protection	1152	lf	1152' of beam placed
	Small Girders	Erect Prestress Girders	12	ea	12 ea. Small girder
		Furnish Prestressed Concrete Girders	636	lf	12 ea @ 53' lf = 636 lf
		Set / Grout Elastomeric Bearing Pads	24	ea	12 ea beam @ 2/ beam = 24 ea
		F & I Bearings	24	ea	12 ea beam @ 2/ beam = 24 ea
		F & I Fall Protection	636	lf	636' of beam placed
Bridge Deck		Stay-in-Place Forms	10085	sf	Bridge Deck 305' x 18.5' x 2 = 11285 sf less soffit forms = 10085 sf
		ESM Overhang Soffit	1220	sf	2 ea. @ 305' x 2' = 1220 sf
		ESM Edge of Deck	610	sf	2 ea @ 305' = 610 sf
		ESM Safety Hand Rail @ Edge of Deck	610	lf	2 ea @ 305' = 610 lf
		Prep Construction Joint	409	sf	2 ea @ 305' x 8" = 409 sf
		Finish Concrete	11285	sf	Bridge Deck 305' x 18.5' x 2 = 11285 sf
		Cure Concrete	285	cy	285 cy of concrete placed
		Place Deck Concrete	285	cy	Bridge Deck 305' x 18.5' x 8" x 2 = 285 cy
		Set & Grade Bidwell	2	ea	Set bidwell & Place Concrete
		Strip Seal Forms	185	lf	10 ea @ 18.5' = 185 lf
		F & I Strip Seal	185	lf	10 ea @ 18.5' = 185 lf
		Joint Seal Blockout Pourback	3	cy	
		Rebar F & I	62700	lbs	rebar @ 220#/cy = 67200 lbs
		Hoisting for Rebar Contractor	62700	lbs	rebar @ 220#/cy =67200 lbs
		Grind Deck	1254	sy	11285 sf / 9 = 1254 sy
Bridge Barrier	Bridge Barrier Rail	ESM Concrete Barrier In-Place	610	lf	2 ea @ 305' = 610 lf
		Rebar F & I	8800	lbs	rebar @ 160#/cy = 12000 lbs
		Hoisting for Rebar Contractor	8800	lbs	rebar @ 160#/cy =12000 lbs
		Finish Concrete	3965	sf	610 lf @ 6.5 sf/ft = 3965 sf
		Cure Concrete	55	cy	610 lf @ .09 cy/ft = 55 cy
		Place Structural Concrete	55	cy	55 cy of concrete placed

HNTB

Bridge Takeoff

I-85 SB Bridge

Structure Excavation	Column Footings	Column Footing Excavation	910	lvcy	16 ea. Column footings @ 16' x 16' x 6' = 910 c/y
		Place Structural Backfill	836	cvcy	Footing excavation less 72 c/y concrete placed = 836 c/y
	End Piers	End Pier Excavation	236	lvcy	2 ea. End pier excavation @ 4' x 7' x 114' = 236c/y
		Place Structure Backfill	181	cvcy	Footing excavation less 55 c/y concrete placed = 181 c/y
Approach Slab	Bridge Approach Slab	Place Structural Concrete Approaches	108	cy	2 ea. Approach slabs @ 73' x 20' x 12" = 108 c/y
		Concrete Vibrator Approaches	27	hr	1 ea. @ .25 hr/cy = 27 hr
		ESM Approaches	372	sf	2 ea. @ 73 x 20 x 12" = 372 sf
		Cure Concrete Approaches	108	cy	108 cy of concrete placed
Mob Pile Driver (Piers)	Mob Pile Driver	Mobilization, 150 ton, set up and remove crane, with pile leads and pile hammer	1	ls	Mob pile driver for bridge piers = 1 ls
Test Pile	Furnish & Drive Test Pile	F & I Test Pile - 14" x 73" Temporary Pile	180	lf	4 ea. Test pile @ 45' = 180 lf
Pile Points	Pile Points	Weld Shoes on Permanent Pile	130	EA	Pile Tips @ 5 ea./footing (16) & 25 ea./end pier (2) = 130 ea.
Pile Splice	Pile Splice	Splice H-Pile	130	EA	Pile Splice @ 5 ea./footing (16) & 25 ea./end pier (2) = 130 ea.
Piling	Furnish & Drive Piling	F & I Pile 12" x 74" - Permanent Pile for the column footings	3420	lf	76 ea. @ 45' = 5760 l/f
Pile Caps	Pile Caps	11.5 x 11.5 x 3.75 ESM Pile Cap	1536	sf	16 ea. @ 8' x 8' x 3' = 1536 sf
		Rebar for Pile Caps F & I	22800	lbs	rebar @ 200#/cy =22800 lbs
		Hoisting for Rebar Contractor	22800	lbs	rebar @ 200#/cy = 22800 lbs
		Place Structural Concrete	114	cy	16 ea. @ 8' x 8' x3' = 114 cy
		Finish Concrete	2416	sf	1536 sf of walls + 880 sf of top = 2416 sf
		Concrete Vibrator	29	hr	1 ea. @ .25 hr/cy = 29 hr
		Cure Concrete	114	cy	114 cy of concrete placed
Columns	Columns	Prep Construction Joint	144	sf	16 ea. @ 9 sf = 144 sf
		ESM Column Forms	3351	sf	8 ea. @3' x 3' x 18.8' = 1805 sf + 8 ea. @ 3' x 3' x 16.1 = 1546 sf = 3351 sf
		Rebar for 6' & 7' Dia Columns F & I	18600	lbs	rebar @ 200#/cy =18600 lbs
		Hoisting for Rebar Contractor	18600	lbs	rebar @ 200#/cy = 18600 lbs
		Place Structural Concrete	93	cy	8 ea. @3' x 3' x 18.8' = 50 cy + 8 ea. @ 3' x 3' x 16.1 = 43cy = 93 cy
		Finish Concrete	3351	sf	8 ea. @3' x 3' x 18.8' = 1805 sf + 8 ea. @ 3' x 3' x 16.1 = 1546 sf = 3351 sf
		Concrete Vibrator	23	hr	1 ea. @ .25 hr/cy = 23 hr
		Cure Concrete	93	cy	93 cy of concrete placed
End Piers		Mobilization, 150 ton, set up and remove crane, with pile leads and pile hammer	2	ea	Mob pile driver for bridge piers = 2 ea.
		F & I Pile at Abutments	2250	lf	50 ea. @ 45 lf = 2250 lf
		Rebar F & I	10720	lbs	rebar @ 160#/cy = 10720 lbs
		Hoisting for Rebar Contractor	10720	lbs	rebar @160#/cy = 10720 lbs
		ESM Abutment	1678	sf	2 ea @ 3' x 2.25' x 114' =1038 + 160 sf for each end wall(4) = 1678 sf
		Place Structural Concrete	67	cy	2 ea @ 3' x 2.25' x 114' = 57 cy = 5 cy ea. Per end wall (2) = 67 c/y
		Finish Concrete	1678	sf	2 ea @ 3' x 2.25' x 114' =1038 + 160 sf for each end wall(4) = 1678 sf
		Concrete Vibrator	17	hr	1 ea. @ .25 hr/cy = 17 hr
		Cure Concrete	67	cy	67 cy of concrete placed
Superstructure	Superstructure	Fab Superstructure Form	1856	sf	2 ea @ 2.5' x 4' x 114 ' = 1856 sf
		ESM End Diaphram Abutments 1 & 4	576	sf	16 ea. @ 6' x 3' = 576 sf
		ESM Interior Diaphram All Spans	2592	sf	72 ea @ 6' x 3' = 2592 sf
		Rebar F & I	11800	lbs	rebar @ 200#/cy = 11800 lbs
		Hoisting for Rebar Contractor	11800	lbs	rebar @ 200#/cy =11800 lbs
		Place Structural Concrete	59	cy	88 ea @ 6' x 3' x 12" = 59 cy
		Concrete Vibrator	15	hr	1 ea. @ .25 hr/cy = 15 hr
		Cure Concrete	59	cy	59 cy of concrete placed
Crane Mob	Crane Mob	Crane Mats	1	ls	Crane Mats = 1 ls
		Mobilization, set up and remove	1	ls	Mob crane for beam erection = 1 ls
Furnich & Install Girders	Large Girders	Erect Prestress Girders	27	ea	27 ea. Large girder
		Furnish Prestressed Concrete Girders	2736	lf	9 ea. @ 150' + 18 ea @ 77' = 2736
		Set / Grout Elastomeric Bearing Pads	54	ea	27 ea beam @ 2/ beam = 54 ea
		F & I Bearings	54	ea	27 ea beam @ 2/ beam = 54 ea
		F & I Fall Protection	2736	lf	2736' of beam placed
Bridge Deck		Stay-in-Place Forms	21045	sf	Bridge Deck 305' x 73 = 22265 sf less soffit forms = 10085 sf
		ESM Overhang Soffit	1220	sf	2 ea. @ 305' x 2' = 1220 sf
		ESM Edge of Deck	610	sf	2 ea @ 305' = 610 sf
		ESM Safety Hand Rail @ Edge of Deck	610	lf	2 ea @ 305' = 610 lf
		Finish Concrete	22265	sf	Bridge Deck 305' x 73 = 22265 sf
		Cure Concrete	553	cy	553 cy of concrete placed
		Place Deck Concrete	553	cy	Bridge Deck 305' x 114' x 8" x 2 = 553 cy
		Set & Grade Bidwell	2	ea	Set bidwell & Place Concrete
		Strip Seal Forms	456	lf	4 ea @ 114' = 456 lf
		F & I Strip Seal	456	lf	4 ea @ 114' = 456 lf
		Joint Seal Blockout Pourback	3	cy	
		Rebar F & I	121660	lbs	rebar @ 220#/cy = 121660 lbs
		Hoisting for Rebar Contractor	121660	lbs	rebar @ 220#/cy =121660 lbs
		Grind Deck	2474	sy	22265 sf / 9 = 2474 sy
Bridge Barrier	Bridge Barrier Rail	ESM Concrete Barrier In-Place	610	lf	2 ea @ 305' = 610 lf
		Rebar F & I	8800	lbs	rebar @ 160#/cy = 12000 lbs
		Hoisting for Rebar Contractor	8800	lbs	rebar @ 160#/cy =12000 lbs
		Finish Concrete	3965	sf	610 lf @ 6.5 sf/ft = 3965 sf
		Cure Concrete	55	cy	610 lf @ .09 cy/ft = 55 cy
		Place Structural Concrete	55	cy	55 cy of concrete placed

HNTB

Bridge Takeoff

HOT Lane Bridge

Structure Excavation	Column Footings	Column Footing Excavation	341	lvcy	6 ea. Column footings @ 16' x 16' x 6' = 341 c/y
		Place Structural Backfill	292	cvcy	Footing excavation less 49 c/y concrete placed = 292 c/y
	End Piers	End Pier Excavation	104	lvcy	2 ea. End pier excavation @ 4' x 7' x 50' = 104c/y
		Place Structure Backfill	79	cvcy	Footing excavation less 25 c/y concrete placed = 181 c/y
Approach Slab	Bridge Approach Slab	Place Structural Concrete Approaches	48	cy	2 ea. Approach slabs @ 32' x 20' x 12" = 48 c/y
		Concrete Vibrator Approaches	12	hr	1 ea. @ .25 hr/cy = 12 hr
		ESM Approaches	208	sf	2 ea. @ 32 x 20 x 12" = 208 sf
		Cure Concrete Approaches	48	cy	48 cy of concrete placed
Mob Pile Driver (Piers)	Mob Pile Driver	Mobilization, 150 ton, set up and remove crane, with pile leads and pile hammer	1	ls	Mob pile driver for bridge piers = 1 ls
Test Pile	Furnish & Drive Test Pile	F & I Test Pile - 14" x 73" Temporary Pile	180	lf	4 ea. Test pile @ 45' = 180 lf
Pile Points	Pile Points	Weld Shoes on Permanent Pile	54	EA	Pile Tips @ 5 ea./footing (6) & 12 ea./end pier (2) = 54 ea.
Pile Splice	Pile Splice	Splice H-Pile	54	EA	Pile Splice @ 5 ea./footing (6) & 12 ea./end pier (2) = 54 ea.
Piling	Furnish & Drive Piling	F & I Pile 12" x 74" - Permanent Pile for the column footings	1170	lf	26 ea. @ 45' = 1170 l/f
Pile Caps	Pile Caps	11.5 x 11.5 x 3.75 ESM Pile Cap	576	sf	6 ea. @ 8' x 8' x 3' = 576 sf
		Rebar for Pile Caps F & I	8600	lbs	rebar @ 200#/cy = 8600 lbs
		Hoisting for Rebar Contractor	8600	lbs	rebar @ 200#/cy =8600 lbs
		Place Structural Concrete	43	cy	6 ea. @ 8' x 8' x3' = 43 cy
		Finish Concrete	906	sf	576 sf of walls + 330 sf of top = 906 sf
		Concrete Vibrator	11	hr	1 ea. @ .25 hr/cy = 11 hr
		Cure Concrete	43	cy	43 cy of concrete placed
Columns	Columns	Prep Construction Joint	54	sf	6 ea. @ 9 sf = 144 sf
		ESM Column Forms	1257	sf	3 ea. @3' x 3' x 18.8' = 677 sf + 3 ea. @ 3' x 3' x 16.1 = 580 sf = 1257 sf
		Rebar for 6' & 7' Dia Columns F & I	7000	lbs	rebar @ 200#/cy =7000 lbs
		Hoisting for Rebar Contractor	7000	lbs	rebar @ 200#/cy = 7000 lbs
		Place Structural Concrete	35	cy	3 ea. @3' x 3' x 18.8' = 19 cy + 3 ea. @ 3' x 3' x 16.1 = 16cy = 35 cy
		Finish Concrete	1257	sf	3 ea. @3' x 3' x 18.8' = 677 sf + 3 ea. @ 3' x 3' x 16.1 = 580 sf = 1257 sf
		Concrete Vibrator	9	hr	1 ea. @ .25 hr/cy = 9 hr
		Cure Concrete	35	cy	35 cy of concrete placed
End Piers		Mobilization, 150 ton, set up and remove crane, with pile leads and pile hammer	2	ea	Mob pile driver for bridge piers = 2 ea.
		F & I Pile at Abutments	1080	lf	24 ea. @ 45 lf = 1080 lf
		Rebar F & I	5600	lbs	rebar @ 160#/cy = 5600 lbs
		Hoisting for Rebar Contractor	5600	lbs	rebar @160#/cy = 5600 lbs
		ESM Abutment	1114	sf	2 ea @ 3' x 2.25' x 50' =474 + 160 sf for each end wall(4) = 1114 sf
		Place Structural Concrete	35	cy	2 ea @ 3' x 2.25' x 50' = 25 cy = 5 cy ea. Per end wall (2) = 35 c/y
		Finish Concrete	1114	sf	2 ea @ 3' x 2.25' x 50' =474 + 160 sf for each end wall(4) = 1114 sf
		Concrete Vibrator	9	hr	1 ea. @ .25 hr/cy = 9 hr
		Cure Concrete	35	cy	35 cy of concrete placed
Superstructure	Superstructure	Fab Superstructure Form	832	sf	2 ea @ 2.5' x 4' x 50 ' = 832 sf
		ESM End Diaphram Abutments 1 & 4	216	sf	6 ea. @ 6' x 3' = 216 sf
		ESM Interior Diaphram All Spans	972	sf	27 ea @ 6' x 3' = 972 sf
		Rebar F & I	11800	lbs	rebar @ 200#/cy = 11800 lbs
		Hoisting for Rebar Contractor	11800	lbs	rebar @ 200#/cy =11800 lbs
		Place Structural Concrete	22	cy	33 ea @ 6' x 3' x 12" = 22 cy
		Concrete Vibrator	6	hr	1 ea. @ .25 hr/cy = 6 hr
		Cure Concrete	22	cy	22 cy of concrete placed
Crane Mob	Crane Mob	Crane Mats	1	ls	Crane Mats = 1 ls
		Mobilization, set up and remove	1	ls	Mob crane for beam erection = 1 ls
Furnich & Install Girders	Large Girders	Erect Prestress Girders	12	ea	12 ea. Large girder
		Furnish Prestressed Concrete Girders	912	lf	3 ea. @ 150' + 6 ea @ 77' = 912
		Set / Grout Elastomeric Bearing Pads	24	ea	12 ea beam @ 2/ beam = 24 ea
		F & I Bearings	24	ea	12 ea beam @ 2/ beam = 24 ea
		F & I Fall Protection	912	lf	912' of beam placed
Bridge Deck		Stay-in-Place Forms	8540	sf	Bridge Deck 305' x 32 = 9760 sf less soffit forms = 8540 sf
		ESM Overhang Soffit	1220	sf	2 ea. @ 305' x 2' = 1220 sf
		ESM Edge of Deck	610	sf	2 ea @ 305' = 610 sf
		ESM Safety Hand Rail @ Edge of Deck	610	lf	2 ea @ 305' = 610 lf
		Finish Concrete	9760	sf	Bridge Deck 305' x 73 = 9760 sf
		Cure Concrete	242	cy	242 cy of concrete placed
		Place Deck Concrete	242	cy	Bridge Deck 305' x 32' x 8" x 2 = 242 cy
		Set & Grade Bidwell	2	ea	Set bidwell & Place Concrete
		Strip Seal Forms	200	lf	4 ea @ 50' =200 lf
		F & I Strip Seal	200	lf	4 ea @ 50' = 200 lf
		Joint Seal Blockout Pourback	3	cy	
		Rebar F & I	53240	lbs	rebar @ 220#/cy = 53240 lbs
		Hoisting for Rebar Contractor	53240	lbs	rebar @ 220#/cy =53240 lbs
		Grind Deck	1084	sy	9760 sf / 9 = 1084 sy
Bridge Barrier	Bridge Barrier Rail	ESM Concrete Barrier In-Place	610	lf	2 ea @ 305' = 610 lf
		Rebar F & I	8800	lbs	rebar @ 160#/cy = 12000 lbs
		Hoisting for Rebar Contractor	8800	lbs	rebar @ 160#/cy =12000 lbs
		Finish Concrete	3965	sf	610 lf @ 6.5 sf/ft = 3965 sf
		Cure Concrete	55	cy	610 lf @ .09 cy/ft = 55 cy
		Place Structural Concrete	55	cy	55 cy of concrete placed

HNTB

Bridge Takeoff

SR 20 Bridges

Structure Excavation	Column Footings	Column Footing Excavation	432	lvcy	6 ea. Column footings @ 18' x 18' x 6' = 432 c/y
		Place Structural Backfill	310	cvcy	Footing excavation less 122 c/y concrete placed = 310 c/y
	End Piers	End Pier Excavation	77	lvcy	4 ea. End pier excavation @ 4' x 7' x 18.5' = 77 c/y
		Place Structure Backfill	48	cvcy	Footing excavation less 29 c/y concrete placed = 48 c/y
Sawcut Concrete for Removal	Saw Concrete Deck	Sawcut control joints, slab on grade	610	lf	Sawcut bridge deck for existing bridge rail removal @ 305' x 2 = 610 l/f
Bridge Demo	Demo Concrete Rail	Concrete Dump Fee	6	load	53 c/y @ 2 tn/cy = 106 tons = 6 loads
		Remove Rail	610	lf	Remove 305' of existing railing x 2 = 610'
		Hauling, truck per hour, no loading equipment	6	hr	6 loads @ 1 hr per load = 6 hrs.
	Demo End Walls	Concrete Dump Fee	3	load	28 c/y @ 2 tn/cy = 56 tons = 3 loads
		Demo Structural Concrete	28	cy	Remove 4 ea. End walls @ 7 c/y ea. = 28 c/y
		Hauling, truck per hour, no loading equipment	3	hr	3 loads @ 1 hr per load = 3 hrs.
Approach Slab	Bridge Approach Slab	Place Structural Concrete Approaches	55	cy	4 ea. Approach slabs @ 18.5' x 20' x 12" = 55 c/y
		Concrete Vibrator Approaches	14	hr	1 ea. @ .25 hr/cy = 14 hr
		ESM Approaches	308	sf	4 ea. @ 18.5 x 20 x 12" = 308 s/f
		Cure Concrete Approaches	55	cy	55 cy of concrete placed
Mob Pile Driver (Piers)	Mob Pile Driver	Mobilization, 150 ton, set up and remove crane, with pile leads and pile hammer	1	ls	Mob pile driver for bridge piers = 1 ls
Test Pile	Furnish & Drive Test Pile	F & I Test Pile - 14" x 73" Temporary Pile	200	lf	5 ea. Test pile @ 40' = 200 lf
Pile Points	Pile Points	Weld Shoes on Permanent Pile	96	EA	Pile Tips @ 7 ea./footing (12) & 5 ea./end pier (2) = 52 ea.
Pile Splice	Pile Splice	Splice H-Pile	96	EA	Pile Splice @ 7 ea./footing (12) & 5 ea./end pier (2) = 52 ea.
Piling	Furnish & Drive Piling	F & I Pile 12" x 74" - Permanent Pile for the column footings	3240	lf	81 ea. @ 40' = 3240 l/f
Pile Caps	Pile Caps	11.5 x 11.5 x 3.75 ESM Pile Cap	2100	sf	12 ea. @ 11.67' x 11.67' x 3.75' = 2100 sf
		Rebar for Pile Caps F & I	45600	lbs	rebar @ 200#/cy = 45600 lbs
		Hoisting for Rebar Contractor	45600	lbs	rebar @ 200#/cy = 45600 lbs
		Place Structural Concrete	228	cy	12 ea. @ 11.67' x 11.67' x 3.75' = 228 cy
		Finish Concrete	3542	sf	2100 sf of walls + 1442 sf of top = 3542 sf
		Concrete Vibrator	57	hr	1 ea. @ .25 hr/cy = 57 hr
		Cure Concrete	228	cy	228 cy of concrete placed
Columns	Columns	Prep Construction Joint	192	sf	12 ea. @ 16 sf = 192 sf
		ESM Column Forms	5376	sf	12 ea. @ 4' x 4' x 28' = 5376 sf
		Rebar for 6' & 7' Dia Columns F & I	40000	lbs	rebar @ 200#/cy = 40000 lbs
		Hoisting for Rebar Contractor	40000	lbs	rebar @ 200#/cy = 40000 lbs
		Place Structural Concrete	200	cy	12 ea. @ 4' x 4' x 28' = 200 cy
		Finish Concrete	5376	sf	12 ea. @ 4' x 4' x 28' = 5376 sf
		Concrete Vibrator	50	hr	1 ea. @ .25 hr/cy = 50 hr
		Cure Concrete	200	cy	200 cy of concrete placed
End Piers		Mobilization, 150 ton, set up and remove crane, with pile leads and pile hammer	2	ea	Mob pile driver for bridge piers = 2 ea.
		F & I Pile at Abutments	400	lf	10 Ea. @ 40' ea. = 400 lf
		Rebar F & I	4640	lbs	rebar @ 160#/cy = 4640 lbs
		Hoisting for Rebar Contractor	4640	lbs	rebar @160#/cy = 4640 lbs
		ESM Abutment	493	sf	4 ea @ 3' x 2.25' x 18 5' = 333 sf = 80 sf per end wall (2) = 493 sf
		Place Structural Concrete	29	cy	4 ea @ 3' x 2.25' x 18 5' = 19 cy = 5 cy ea. Per end wall (2) = 29 c/y
		Finish Concrete	493	sf	4 ea @ 3' x 2.25' x 18 5' = 333 sf = 80 sf per end wall (2) = 493 sf
		Concrete Vibrator	8	hr	1 ea. @ .25 hr/cy = 8 hr
		Cure Concrete	29	cy	29 cy of concrete placed
Superstructure	Superstructure	Fab Superstructure Form	1488	sf	6 ea @ 5.5' x 4' x 18 5 ' = 1488 sf
		ESM End Diaphram Abutments 1 & 5	432	sf	12 ea. @ 6' x 3' = 432 sf
		ESM Interior Diaphram All Spans	2808	sf	78 ea @ 6' x 3' = 2808 sf
		Rebar F & I	12000	lbs	rebar @ 200#/cy = 12000 lbs
		Hoisting for Rebar Contractor	12000	lbs	rebar @ 200#/cy =12000 lbs
		Place Structural Concrete	60	cy	90 ea @ 6' x 3' x 12" = 60 cy
		Concrete Vibrator	15	hr	1 ea. @ .25 hr/cy = 15 hr
		Cure Concrete	60	cy	60 cy of concrete placed
Crane Mob	Crane Mob	Crane Mats	1	ls	Crane Mats = 1 ls
		Mobilization, set up and remove	1	ls	Mob crane for beam erection = 1 ls
Furnich & Install Girders	Large Girders	Erect Prestress Girders	12	ea	12 ea. Large girder
		Furnish Prestressed Concrete Girders	1152	lf	12 ea @ 96 lf = 1152 lf
		Set / Grout Elastomeric Bearing Pads	24	ea	12 ea beam @ 2/ beam = 24 ea
		F & I Bearings	24	ea	12 ea beam @ 2/ beam = 24 ea
		F & I Fall Protection	1152	lf	1152' of beam placed
	Small Girders	Erect Prestress Girders	12	ea	12 ea. Small girder
		Furnish Prestressed Concrete Girders	636	lf	12 ea @ 53' lf = 636 lf
		Set / Grout Elastomeric Bearing Pads	24	ea	12 ea beam @ 2/ beam = 24 ea
		F & I Bearings	24	ea	12 ea beam @ 2/ beam = 24 ea
		F & I Fall Protection	636	lf	636' of beam placed
Bridge Deck		Stay-in-Place Forms	10085	sf	Bridge Deck 305' x 18.5' x 2 = 11285 sf less soffit forms = 10085 sf
		ESM Overhang Soffit	1220	sf	2 ea. @ 305' x 2' = 1220 sf
		ESM Edge of Deck	610	sf	2 ea @ 305' = 610 sf
		ESM Safety Hand Rail @ Edge of Deck	610	lf	2 ea @ 305' = 610 lf
		Prep Construction Joint	409	sf	2 ea @ 305' x 8" = 409 sf
		Finish Concrete	11285	sf	Bridge Deck 305' x 18.5' x 2 = 11285 sf
		Cure Concrete	285	cy	285 cy of concrete placed
		Place Deck Concrete	285	cy	Bridge Deck 305' x 18.5' x 8" x 2 = 285 cy
		Set & Grade Bidwell	2	ea	Set bidwell & Place Concrete
		Strip Seal Forms	185	lf	10 ea @ 18.5' = 185 lf
		F & I Strip Seal	185	lf	10 ea @ 18.5' = 185 lf
		Joint Seal Blockout Pourback	3	cy	
		Rebar F & I	62700	lbs	rebar @ 220#/cy = 67200 lbs
		Hoisting for Rebar Contractor	62700	lbs	rebar @ 220#/cy =67200 lbs
		Grind Deck	1254	sy	11285 sf / 9 = 1254 sy
Bridge Barrier	Bridge Barrier Rail	ESM Concrete Barrier In-Place	610	lf	2 ea @ 305' = 610 lf
		Rebar F & I	8800	lbs	rebar @ 160#/cy = 12000 lbs
		Hoisting for Rebar Contractor	8800	lbs	rebar @ 160#/cy =12000 lbs
		Finish Concrete	3965	sf	610 lf @ 6.5 sf/ft = 3965 sf
		Cure Concrete	55	cy	610 lf @ .09 cy/ft = 55 cy
		Place Structural Concrete	55	cy	55 cy of concrete placed

HNTB

Bridge Takeoff

I-85 SB Bridge

Structure Excavation	Column Footings	Column Footing Excavation	910	lvcy	16 ea. Column footings @ 16' x 16' x 6' = 910 c/y
		Place Structural Backfill	836	cvcy	Footing excavation less 72 c/y concrete placed = 836 c/y
	End Piers	End Pier Excavation	236	lvcy	2 ea. End pier excavation @ 4' x 7' x 114' = 236c/y
		Place Structure Backfill	181	cvcy	Footing excavation less 55 c/y concrete placed = 181 c/y
Approach Slab	Bridge Approach Slab	Place Structural Concrete Approaches	108	cy	2 ea. Approach slabs @ 73' x 20' x 12" = 108 c/y
		Concrete Vibrator Approaches	27	hr	1 ea. @ .25 hr/cy = 27 hr
		ESM Approaches	372	sf	2 ea. @ 73 x 20 x 12" = 372 sf
		Cure Concrete Approaches	108	cy	108 cy of concrete placed
Mob Pile Driver (Piers)	Mob Pile Driver	Mobilization, 150 ton, set up and remove crane, with pile leads and pile hammer	1	ls	Mob pile driver for bridge piers = 1 ls
Test Pile	Furnish & Drive Test Pile	F & I Test Pile - 14" x 73" Temporary Pile	180	lf	4 ea. Test pile @ 45' = 180 lf
Pile Points	Pile Points	Weld Shoes on Permanent Pile	130	EA	Pile Tips @ 5 ea./footing (16) & 25 ea./end pier (2) = 130 ea.
Pile Splice	Pile Splice	Splice H-Pile	130	EA	Pile Splice @ 5 ea./footing (16) & 25 ea./end pier (2) = 130 ea.
Piling	Furnish & Drive Piling	F & I Pile 12" x 74" - Permanent Pile for the column footings	3420	lf	76 ea. @ 45' = 5760 l/f
Pile Caps	Pile Caps	11.5 x 11.5 x 3.75 ESM Pile Cap	1536	sf	16 ea. @ 8' x 8' x 3' = 1536 sf
		Rebar for Pile Caps F & I	22800	lbs	rebar @ 200#/cy =22800 lbs
		Hoisting for Rebar Contractor	22800	lbs	rebar @ 200#/cy = 22800 lbs
		Place Structural Concrete	114	cy	16 ea. @ 8' x 8' x3' = 114 cy
		Finish Concrete	2416	sf	1536 sf of walls + 880 sf of top = 2416 sf
		Concrete Vibrator	29	hr	1 ea. @ .25 hr/cy = 29 hr
		Cure Concrete	114	cy	114 cy of concrete placed
Columns	Columns	Prep Construction Joint	144	sf	16 ea. @ 9 sf = 144 sf
		ESM Column Forms	3351	sf	8 ea. @3' x 3' x 18.8' = 1805 sf + 8 ea. @ 3' x 3' x 16.1 = 1546 sf = 3351 sf
		Rebar for 6' & 7' Dia Columns F & I	18600	lbs	rebar @ 200#/cy =18600 lbs
		Hoisting for Rebar Contractor	18600	lbs	rebar @ 200#/cy = 18600 lbs
		Place Structural Concrete	93	cy	8 ea. @3' x 3' x 18.8' = 50 cy + 8 ea. @ 3' x 3' x 16.1 = 43cy = 93 cy
		Finish Concrete	3351	sf	8 ea. @3' x 3' x 18.8' = 1805 sf + 8 ea. @ 3' x 3' x 16.1 = 1546 sf = 3351 sf
		Concrete Vibrator	23	hr	1 ea. @ .25 hr/cy = 23 hr
		Cure Concrete	93	cy	93 cy of concrete placed
End Piers		Mobilization, 150 ton, set up and remove crane, with pile leads and pile hammer	2	ea	Mob pile driver for bridge piers = 2 ea.
		F & I Pile at Abutments	2250	lf	50 ea. @ 45 lf = 2250 lf
		Rebar F & I	10720	lbs	rebar @ 160#/cy = 10720 lbs
		Hoisting for Rebar Contractor	10720	lbs	rebar @160#/cy = 10720 lbs
		ESM Abutment	1678	sf	2 ea @ 3' x 2.25' x 114' =1038 + 160 sf for each end wall(4) = 1678 sf
		Place Structural Concrete	67	cy	2 ea @ 3' x 2.25' x 114' = 57 cy = 5 cy ea. Per end wall (2) = 67 c/y
		Finish Concrete	1678	sf	2 ea @ 3' x 2.25' x 114' =1038 + 160 sf for each end wall(4) = 1678 sf
		Concrete Vibrator	17	hr	1 ea. @ .25 hr/cy = 17 hr
		Cure Concrete	67	cy	67 cy of concrete placed
Superstructure	Superstructure	Fab Superstructure Form	1856	sf	2 ea @ 2.5' x 4' x 114 ' = 1856 sf
		ESM End Diaphram Abutments 1 & 4	576	sf	16 ea. @ 6' x 3' = 576 sf
		ESM Interior Diaphram All Spans	2592	sf	72 ea @ 6' x 3' = 2592 sf
		Rebar F & I	11800	lbs	rebar @ 200#/cy = 11800 lbs
		Hoisting for Rebar Contractor	11800	lbs	rebar @ 200#/cy =11800 lbs
		Place Structural Concrete	59	cy	88 ea @ 6' x 3' x 12" = 59 cy
		Concrete Vibrator	15	hr	1 ea. @ .25 hr/cy = 15 hr
		Cure Concrete	59	cy	59 cy of concrete placed
Crane Mob	Crane Mob	Crane Mats	1	ls	Crane Mats = 1 ls
		Mobilization, set up and remove	1	ls	Mob crane for beam erection = 1 ls
Furnich & Install Girders	Large Girders	Erect Prestress Girders	27	ea	27 ea. Large girder
		Furnish Prestressed Concrete Girders	2736	lf	9 ea. @ 150' + 18 ea @ 77' = 2736
		Set / Grout Elastomeric Bearing Pads	54	ea	27 ea beam @ 2/ beam = 54 ea
		F & I Bearings	54	ea	27 ea beam @ 2/ beam = 54 ea
		F & I Fall Protection	2736	lf	2736' of beam placed
Bridge Deck		Stay-in-Place Forms	21045	sf	Bridge Deck 305' x 73 = 22265 sf less soffit forms = 10085 sf
		ESM Overhang Soffit	1220	sf	2 ea. @ 305' x 2' = 1220 sf
		ESM Edge of Deck	610	sf	2 ea @ 305' = 610 sf
		ESM Safety Hand Rail @ Edge of Deck	610	lf	2 ea @ 305' = 610 lf
		Finish Concrete	22265	sf	Bridge Deck 305' x 73 = 22265 sf
		Cure Concrete	553	cy	553 cy of concrete placed
		Place Deck Concrete	553	cy	Bridge Deck 305' x 114' x 8" x 2 = 553 cy
		Set & Grade Bidwell	2	ea	Set bidwell & Place Concrete
		Strip Seal Forms	456	lf	4 ea @ 114' = 456 lf
		F & I Strip Seal	456	lf	4 ea @ 114' = 456 lf
		Joint Seal Blockout Pourback	3	cy	
		Rebar F & I	121660	lbs	rebar @ 220#/cy = 121660 lbs
		Hoisting for Rebar Contractor	121660	lbs	rebar @ 220#/cy =121660 lbs
		Grind Deck	2474	sy	22265 sf / 9 = 2474 sy
Bridge Barrier	Bridge Barrier Rail	ESM Concrete Barrier In-Place	610	lf	2 ea @ 305' = 610 lf
		Rebar F & I	8800	lbs	rebar @ 160#/cy = 12000 lbs
		Hoisting for Rebar Contractor	8800	lbs	rebar @ 160#/cy =12000 lbs
		Finish Concrete	3965	sf	610 lf @ 6.5 sf/ft = 3965 sf
		Cure Concrete	55	cy	610 lf @ .09 cy/ft = 55 cy
		Place Structural Concrete	55	cy	55 cy of concrete placed

HNTB

Bridge Takeoff

HOT Lane Bridge

Structure Excavation	Column Footings	Column Footing Excavation	341	lvcy	6 ea. Column footings @ 16' x 16' x 6' = 341 c/y
		Place Structural Backfill	292	cvcy	Footing excavation less 49 c/y concrete placed = 292 c/y
	End Piers	End Pier Excavation	104	lvcy	2 ea. End pier excavation @ 4' x 7' x 50' = 104c/y
		Place Structure Backfill	79	cvcy	Footing excavation less 25 c/y concrete placed = 181 c/y
Approach Slab	Bridge Approach Slab	Place Structural Concrete Approaches	48	cy	2 ea. Approach slabs @ 32' x 20' x 12" = 48 c/y
		Concrete Vibrator Approaches	12	hr	1 ea. @ .25 hr/cy = 12 hr
		ESM Approaches	208	sf	2 ea. @ 32 x 20 x 12" = 208 sf
		Cure Concrete Approaches	48	cy	48 cy of concrete placed
Mob Pile Driver (Piers)	Mob Pile Driver	Mobilization, 150 ton, set up and remove crane, with pile leads and pile hammer	1	ls	Mob pile driver for bridge piers = 1 ls
Test Pile	Furnish & Drive Test Pile	F & I Test Pile - 14" x 73" Temporary Pile	180	lf	4 ea. Test pile @ 45' = 180 lf
Pile Points	Pile Points	Weld Shoes on Permanent Pile	54	EA	Pile Tips @ 5 ea./footing (6) & 12 ea./end pier (2) = 54 ea.
Pile Splice	Pile Splice	Splice H-Pile	54	EA	Pile Splice @ 5 ea./footing (6) & 12 ea./end pier (2) = 54 ea.
Piling	Furnish & Drive Piling	F & I Pile 12" x 74" - Permanent Pile for the column footings	1170	lf	26 ea. @ 45' = 1170 l/f
Pile Caps	Pile Caps	11.5 x 11.5 x 3.75 ESM Pile Cap	576	sf	6 ea. @ 8' x 8' x 3' = 576 sf
		Rebar for Pile Caps F & I	8600	lbs	rebar @ 200#/cy = 8600 lbs
		Hoisting for Rebar Contractor	8600	lbs	rebar @ 200#/cy =8600 lbs
		Place Structural Concrete	43	cy	6 ea. @ 8' x 8' x3' = 43 cy
		Finish Concrete	906	sf	576 sf of walls + 330 sf of top = 906 sf
		Concrete Vibrator	11	hr	1 ea. @ .25 hr/cy = 11 hr
		Cure Concrete	43	cy	43 cy of concrete placed
Columns	Columns	Prep Construction Joint	54	sf	6 ea. @ 9 sf = 144 sf
		ESM Column Forms	1257	sf	3 ea. @3' x 3' x 18.8' = 677 sf + 3 ea. @ 3' x 3' x 16.1 = 580 sf = 1257 sf
		Rebar for 6' & 7' Dia Columns F & I	7000	lbs	rebar @ 200#/cy =7000 lbs
		Hoisting for Rebar Contractor	7000	lbs	rebar @ 200#/cy = 7000 lbs
		Place Structural Concrete	35	cy	3 ea. @3' x 3' x 18.8' = 19 cy + 3 ea. @ 3' x 3' x 16.1 = 16cy = 35 cy
		Finish Concrete	1257	sf	3 ea. @3' x 3' x 18.8' = 677 sf + 3 ea. @ 3' x 3' x 16.1 = 580 sf = 1257 sf
		Concrete Vibrator	9	hr	1 ea. @ .25 hr/cy = 9 hr
		Cure Concrete	35	cy	35 cy of concrete placed
End Piers		Mobilization, 150 ton, set up and remove crane, with pile leads and pile hammer	2	ea	Mob pile driver for bridge piers = 2 ea.
		F & I Pile at Abutments	1080	lf	24 ea. @ 45 lf = 1080 lf
		Rebar F & I	5600	lbs	rebar @ 160#/cy = 5600 lbs
		Hoisting for Rebar Contractor	5600	lbs	rebar @160#/cy = 5600 lbs
		ESM Abutment	1114	sf	2 ea @ 3' x 2.25' x 50' =474 + 160 sf for each end wall(4) = 1114 sf
		Place Structural Concrete	35	cy	2 ea @ 3' x 2.25' x 50' = 25 cy = 5 cy ea. Per end wall (2) = 35 c/y
		Finish Concrete	1114	sf	2 ea @ 3' x 2.25' x 50' =474 + 160 sf for each end wall(4) = 1114 sf
		Concrete Vibrator	9	hr	1 ea. @ .25 hr/cy = 9 hr
		Cure Concrete	35	cy	35 cy of concrete placed
Superstructure	Superstructure	Fab Superstructure Form	832	sf	2 ea @ 2.5' x 4' x 50 ' = 832 sf
		ESM End Diaphram Abutments 1 & 4	216	sf	6 ea. @ 6' x 3' = 216 sf
		ESM Interior Diaphram All Spans	972	sf	27 ea @ 6' x 3' = 972 sf
		Rebar F & I	11800	lbs	rebar @ 200#/cy = 11800 lbs
		Hoisting for Rebar Contractor	11800	lbs	rebar @ 200#/cy =11800 lbs
		Place Structural Concrete	22	cy	33 ea @ 6' x 3' x 12" = 22 cy
		Concrete Vibrator	6	hr	1 ea. @ .25 hr/cy = 6 hr
		Cure Concrete	22	cy	22 cy of concrete placed
Crane Mob	Crane Mob	Crane Mats	1	ls	Crane Mats = 1 ls
		Mobilization, set up and remove	1	ls	Mob crane for beam erection = 1 ls
Furnich & Install Girders	Large Girders	Erect Prestress Girders	12	ea	12 ea. Large girder
		Furnish Prestressed Concrete Girders	912	lf	3 ea. @ 150' + 6 ea @ 77' = 912
		Set / Grout Elastomeric Bearing Pads	24	ea	12 ea beam @ 2/ beam = 24 ea
		F & I Bearings	24	ea	12 ea beam @ 2/ beam = 24 ea
		F & I Fall Protection	912	lf	912' of beam placed
Bridge Deck		Stay-in-Place Forms	8540	sf	Bridge Deck 305' x 32 = 9760 sf less soffit forms = 8540 sf
		ESM Overhang Soffit	1220	sf	2 ea. @ 305' x 2' = 1220 sf
		ESM Edge of Deck	610	sf	2 ea @ 305' = 610 sf
		ESM Safety Hand Rail @ Edge of Deck	610	lf	2 ea @ 305' = 610 lf
		Finish Concrete	9760	sf	Bridge Deck 305' x 73 = 9760 sf
		Cure Concrete	242	cy	242 cy of concrete placed
		Place Deck Concrete	242	cy	Bridge Deck 305' x 32' x 8" x 2 = 242 cy
		Set & Grade Bidwell	2	ea	Set bidwell & Place Concrete
		Strip Seal Forms	200	lf	4 ea @ 50' =200 lf
		F & I Strip Seal	200	lf	4 ea @ 50' = 200 lf
		Joint Seal Blockout Pourback	3	cy	
		Rebar F & I	53240	lbs	rebar @ 220#/cy = 53240 lbs
		Hoisting for Rebar Contractor	53240	lbs	rebar @ 220#/cy =53240 lbs
		Grind Deck	1084	sy	9760 sf / 9 = 1084 sy
Bridge Barrier	Bridge Barrier Rail	ESM Concrete Barrier In-Place	610	lf	2 ea @ 305' = 610 lf
		Rebar F & I	8800	lbs	rebar @ 160#/cy = 12000 lbs
		Hoisting for Rebar Contractor	8800	lbs	rebar @ 160#/cy =12000 lbs
		Finish Concrete	3965	sf	610 lf @ 6.5 sf/ft = 3965 sf
		Cure Concrete	55	cy	610 lf @ .09 cy/ft = 55 cy
		Place Structural Concrete	55	cy	55 cy of concrete placed

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Wall Quantity Take-Off

CIP Wall Type 2A

Station Left	Distance LF	Wall Excavation SF	Wall Backfill SF	Drainage Agg SF	Drain Tile LF	Height FT	Stem Conc CY/FT	Ftg Conc CY/FT	Rebar LBS/FT	Wall Face LF		Length LF	Wall Excavation CY	Wall Backfill CY	Drainage Agg CY	Drain Tile LF	Height LF	Side Wall 2A Stem Conc CY	Ftg Conc CY	Rebar LBS	Wall Face SF
1081+50		24	14	1	0	6	0.36	0.186	50	12											
1082+00	50	24	14	1	50	6	0.36	0.186	50	12		50	44	26	2	50	6	18	9	2500	600
1083+00	100	46	32	1	100	8	0.492	0.222	60	16		100	130	85	4	100	7	43	20	5500	1400
											Totals	150	174	111	6	150	13	61	30	8000	2000

MSE Wall

Station Left	Distance LF	Wall Excavation SF	Gen Backfill SF	Str Backfill SF	Drainage Agg SF	Drain Tile LF	Strap LF	Wall Ftg LF	Wall Face FT	Wall Stem CY/FT	Mom Slab CY/FT	Rebar LBS/FT	Wall Face SF		Distance LF	Wall Excav CY	Gen Backfill CY	Str Backfill CY	Drainage Agg CY	Drain Tile LF	MSE Wall Strap LF	MSE Wall Ftg LF	MSE Wall Wall Face SF	Coping Wall Wall Stem CY	Mom Slab CY	Rebar LBS	Wall Face SF
1083+00		373	104	279	1	0	11	0	11	0.296	0.44	72	10														
1084+00	100	373	104	279	1	100	11	100	11	0.296	0.44	72	10		100	1381	385	1033	4	100	1936	100	2200	30	44	7200	2000
1085+00	100	564	168	390	1	100	23	100	15	0.296	0.44	72	10		100	1735	504	1239	4	100	3536	100	2600	30	44	7200	2000
1085+45	45	564	168	390	1	45	23	100	15	0.296	0.44	72	10		45	940	280	650	2	45	2484	45	1350	13	20	3240	900
														Totals	245	4057	1169	2922	9	245	7956	245	6150	73	108	17640	4900

MSE Wall

Station Right	Distance LF	Wall Excavation SF	Gen Backfill SF	Str Backfill SF	Drainage Agg SF	Drain Tile LF	Strap LF	Wall Ftg LF	Wall Face FT	Wall Stem CY/FT	Mom Slab CY/FT	Rebar LBS/FT	Wall Face SF		Distance LF	Wall Excav CY	Gen Backfill CY	Str Backfill CY	Drainage Agg CY	Drain Tile LF	MSE Wall Strap LF	MSE Wall Ftg LF	MSE Wall Wall Face SF	Coping Wall Wall Stem CY	Mom Slab CY	Rebar LBS	Wall Face SF
1081+50		277	76	207	1	0	10	0	10	0.296	0.44	72	10														
1082+00	50	277	76	207	1	50	10	50	10	0.296	0.44	72	10		50	513	141	383	2	50	800	50	1000	15	22	3600	1000
1083+00	100	433	118	315	1	100	14	100	14	0.296	0.44	72	10		100	1315	359	967	4	100	2304	100	2400	30	44	7200	2000
1084+00	100	763	206	573	1	100	27	100	18	0.296	0.44	72	10		100	2215	600	1644	4	100	4736	100	3200	30	44	7200	2000
1084+88	88	763	206	573	1	88	27	88	18	0.296	0.44	72	10		88	2487	671	1868	3	88	5196	88	3168	26	39	6336	1760
														Totals	338	6529	1771	4862	13	338	13036	338	9768	100	149	24336	6760

MSE Wall

Station Left	Distance LF	Wall Excavation SF	Gen Backfill SF	Str Backfill SF	Drainage Agg SF	Drain Tile LF	Strap LF	Wall Ftg LF	Wall Face FT	Wall Stem CY/FT	Mom Slab CY/FT	Rebar LBS/FT	Wall Face SF		Distance LF	Wall Excav CY	Gen Backfill CY	Str Backfill CY	Drainage Agg CY	Drain Tile LF	MSE Wall Strap LF	MSE Wall Ftg LF	MSE Wall Wall Face SF	Coping Wall Wall Stem CY	Mom Slab CY	Rebar LBS	Wall Face SF
1091+84		109	60	57	1	0	5	0	5	0.296	0.44	72	10														
1092+00	16	109	60	57	1	16	8	16	5	0.296	0.44	72	10		16	65	36	34	1	16	83	16	160	5	7	1152	320
1093+00	100	70	22	48	1	100	8	100	5	0.296	0.44	72	10		100	331	152	194	4	100	640	100	1000	30	44	7200	2000
														Totals	116	396	187	228	4	116	723	116	1160	34	51	8352	2320

MSE Wall

Station Right	Distance LF	Wall Excavation SF	Gen Backfill SF	Str Backfill SF	Drainage Agg SF	Drain Tile LF	Strap LF	Wall Ftg LF	Wall Face FT	Wall Stem CY/FT	Mom Slab CY/FT	Rebar LBS/FT	Wall Face SF		Distance LF	Wall Excav CY	Gen Backfill CY	Str Backfill CY	Drainage Agg CY	Drain Tile LF	MSE Wall Strap LF	MSE Wall Ftg LF	MSE Wall Wall Face SF	Coping Wall Wall Stem CY	Mom Slab CY	Rebar LBS	Wall Face SF
1091+84		724	186	540	1	0	18	0	18	0.296	0.44	72	10														
1092+00	16	724	186	540	1	16	18	50	18	0.296	0.44	72	10		16	429	110	320	1	16	829	16	576	5	7	1152	320
1093+00	100	423	108	333	1	100	13	100	13	0.296	0.44	72	10		100	2124	544	1617	4	100	3844	100	3100	30	44	7200	2000
1094+00	100	226	70	162	1	100	13	100	9	0.296	0.44	72	10		100	1202	330	917	4	100	2728	100	2200	30	44	7200	2000
1094+50	50	226	70	162	1	50	13	88	9	0.296	0.44	72	10		50	419	130	300	2	50	936	50	900	15	22	3600	1000
														Totals	266	4173	1114	3153	10	266	8337	266	6776	79	117	19152	5320

CIP Wall Type 2C

Station Right	Distance LF	Wall Excavation SF	Wall Backfill SF	Drainage Agg SF	Drain Tile LF	Height FT	Stem Conc CY/FT	Ftg Conc CY/FT	Rebar LBS/FT	Wall Face LF		Length LF	Wall Excavation CY	Wall Backfill CY	Drainage Agg CY	Drain Tile LF	Height LF	Side Wall 2C Stem Conc CY	Ftg Conc CY	Rebar LBS	Wall Face SF
1134+50		164	168	1	0	13	0.851	0.342	95	26											
1135+00	50	164	168	1	50	13	0.851	0.342	95	26		50	304	311	2	50	13	43	17	4750	1300
1136+00	100	132	170	1	100	13	0.851	0.186	95	26		100	548	626	4	100	13	85	26	9500	2600
1137+00	100	194	242	1	100	15	1.006	0.39	115	30		100	604	763	4	100	14	93	29	10500	2800
1138+00	100	230	280	1	100	14	0.928	0.366	106	28		100	785	967	4	100	15	97	38	11050	2900
1139+00	100	194	242	1	100	15	1.006	0.39	115	30		100	785	967	4	100	15	97	38	11050	2900
1140+00	100	136	156	1	100	13	0.851	0.342	45	26		100	611	737	4	100	14	93	37	8000	2800
1140+50	50	136	156	1	50	13	0.851	0.342	45	26		50	252	289	2	50	13	43	17	2250	1300
											Totals	600	3889	4659	22	600	96	549	202	57100	16600

Takeoff Tab

I-85 Managed Lanes Walls

Bid No. 21

No.	Name	Height	Quantity1	UOM1	Quantity2	UOM2	Quantity3	UOM3
Wall 1080L								
1082+00 L								
15	Wall Backfill - General	0"	7	SF	0		0	
16	CIP Wall 1080L Wall Height	0"	6	LF	0		0	
19	Wall Excavation	0"	12	SF	0		0	
1083+00 L								
15	Wall Backfill - General	0"	16	SF	0		0	
16	CIP Wall 1080L Wall Height	0"	8	LF	0		0	
19	Wall Excavation	0"	23	SF	0		0	
1085+00 R								
15	Wall Backfill - General	0"	7	SF	0		0	
16	CIP Wall 1080L Wall Height	0"	5	LF	0		0	
19	Wall Excavation	0"	13	SF	0		0	
1086+00 R								
15	Wall Backfill - General	0"	8	SF	0		0	
16	CIP Wall 1080L Wall Height	0"	5	LF	0		0	
19	Wall Excavation	0"	14	SF	0		0	
1086+00 L								
15	Wall Backfill - General	0"	7	SF	0		0	
16	CIP Wall 1080L Wall Height	0"	5	LF	0		0	
19	Wall Excavation	0"	13	SF	0		0	
1087+00 R								
15	Wall Backfill - General	0"	7	SF	0		0	
16	CIP Wall 1080L Wall Height	0"	5	LF	0		0	
19	Wall Excavation	0"	13	SF	0		0	
1090+00 L								
15	Wall Backfill - General	0"	5	SF	0		0	
16	CIP Wall 1080L Wall Height	0"	5	LF	0		0	
19	Wall Excavation	0"	15	SF	0		0	
1091+00 L								
15	Wall Backfill - General	0"	6	SF	0		0	
16	CIP Wall 1080L Wall Height	0"	6	LF	0		0	
19	Wall Excavation	0"	15	SF	0		0	
1095+00 R								
15	Wall Backfill - General	0"	16	SF	0		0	
16	CIP Wall 1080L Wall Height	0"	8	LF	0		0	

Takeoff Tab

I-85 Managed Lanes Walls

Bid No. 21

No.	Name	Height	Quantity1	UOM1	Quantity2	UOM2	Quantity3	UOM3
19	Wall Excavation	0"	21	SF	0		0	
1096+00 R								
15	Wall Backfill - General	0"	4	SF	0		0	
16	CIP Wall 1080L Wall Height	0"	6	LF	0		0	
19	Wall Excavation	0"	10	SF	0		0	
1097+00 R								
15	Wall Backfill - General	0"	10	SF	0		0	
16	CIP Wall 1080L Wall Height	0"	5	LF	0		0	
19	Wall Excavation	0"	18	SF	0		0	
1135+00 L								
15	Wall Backfill - General	0"	84	SF	0		0	
16	CIP Wall 1080L Wall Height	0"	13	LF	0		0	
19	Wall Excavation	0"	82	SF	0		0	
1136+00 L								
15	Wall Backfill - General	0"	85	SF	0		0	
16	CIP Wall 1080L Wall Height	0"	13	LF	0		0	
19	Wall Excavation	0"	66	SF	0		0	
1137+00 L								
15	Wall Backfill - General	0"	121	SF	0		0	
16	CIP Wall 1080L Wall Height	0"	15	LF	0		0	
19	Wall Excavation	0"	97	SF	0		0	
1138+00 L								
15	Wall Backfill - General	0"	140	SF	0		0	
16	CIP Wall 1080L Wall Height	0"	14	LF	0		0	
19	Wall Excavation	0"	115	SF	0		0	
1139+00 L								
15	Wall Backfill - General	0"	121	SF	0		0	
16	CIP Wall 1080L Wall Height	0"	15	LF	0		0	
19	Wall Excavation	0"	97	SF	0		0	
1140+00 L								
15	Wall Backfill - General	0"	78	SF	0		0	
16	CIP Wall 1080L Wall Height	0"	13	LF	0		0	
19	Wall Excavation	0"	68	SF	0		0	
Wall 1080R								
1082+00 R								
3	MSE Wall Structural Zone	0"	69	SF	0		0	
4	MSE Wall 1080R	0"	10	LF	0		0	

Takeoff Tab

I-85 Managed Lanes Walls

Bid No. 21

No.	Name	Height	Quantity1	UOM1	Quantity2	UOM2	Quantity3	UOM3
5	Wall Backfill - General	0"	38	SF	0		0	
9	MSE Wall 1080R - Strap Length	0"	6	LF	0		0	
10	Wall Excavation	0"	104	SF	0		0	
1083+00 R								
3	MSE Wall Structural Zone	0"	105	SF	0		0	
4	MSE Wall 1080R	0"	14	LF	0		0	
5	Wall Backfill - General	0"	59	SF	0		0	
9	MSE Wall 1080R - Strap Length	0"	7	LF	0		0	
10	Wall Excavation	0"	164	SF	0		0	
1084+00 R								
3	MSE Wall Structural Zone	0"	191	SF	0		0	
4	MSE Wall 1080R	0"	18	LF	0		0	
5	Wall Backfill - General	0"	103	SF	0		0	
9	MSE Wall 1080R - Strap Length	0"	10	LF	0		0	
10	Wall Excavation	0"	286	SF	0		0	
1084+00 L								
3	MSE Wall Structural Zone	0"	93	SF	0		0	
4	MSE Wall 1080R	0"	15	LF	0		0	
5	Wall Backfill - General	0"	52	SF	0		0	
9	MSE Wall 1080R - Strap Length	0"	8	LF	0		0	
10	Wall Excavation	0"	140	SF	0		0	
1085+00 L								
3	MSE Wall Structural Zone	0"	130	SF	0		0	
4	MSE Wall 1080R	0"	15	LF	0		0	
5	Wall Backfill - General	0"	84	SF	0		0	
9	MSE Wall 1080R - Strap Length	0"	8	LF	0		0	
10	Wall Excavation	0"	217	SF	0		0	
1092+00 R								
3	MSE Wall Structural Zone	0"	180	SF	0		0	
4	MSE Wall 1080R	0"	18	LF	0		0	
5	Wall Backfill - General	0"	93	SF	0		0	
9	MSE Wall 1080R - Strap Length	0"	9	LF	0		0	
10	Wall Excavation	0"	272	SF	0		0	
1092+00 L								
3	MSE Wall Structural Zone	0"	19	SF	0		0	
4	MSE Wall 1080R	0"	5	LF	0		0	
5	Wall Backfill - General	0"	30	SF	0		0	
9	MSE Wall 1080R - Strap Length	0"	3	LF	0		0	

Takeoff Tab

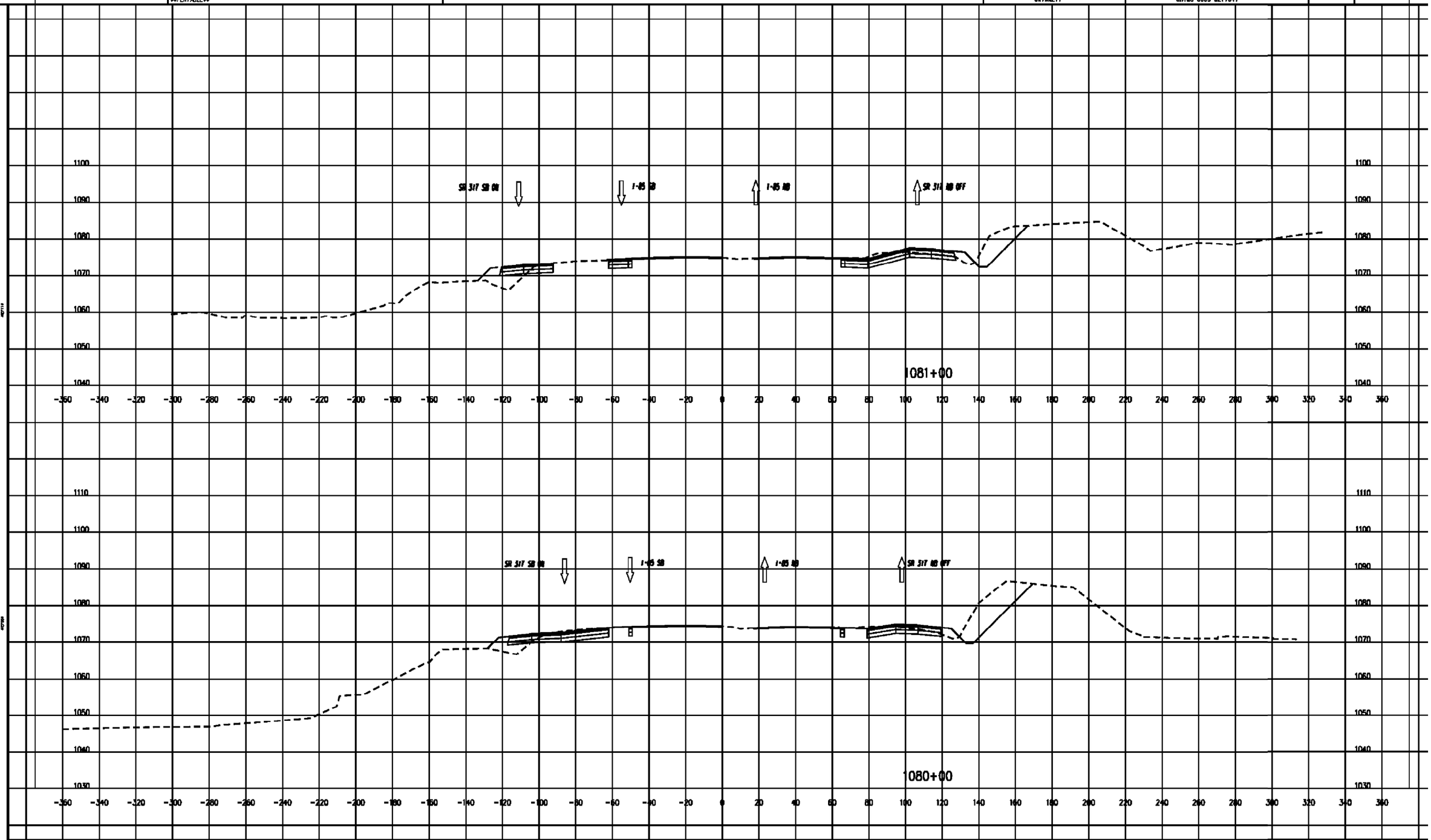
I-85 Managed Lanes Walls

Bid No. 21

No.	Name	Height	Quantity1	UOM1	Quantity2	UOM2	Quantity3	UOM3
10	Wall Excavation	0"	45	SF	0		0	
1093+00 R								
3	MSE Wall Structural Zone	0"	111	SF	0		0	
4	MSE Wall 1080R	0"	13	LF	0		0	
5	Wall Backfill - General	0"	54	SF	0		0	
9	MSE Wall 1080R - Strap Length	0"	7	LF	0		0	
10	Wall Excavation	0"	156	SF	0		0	
1093+00 L								
3	MSE Wall Structural Zone	0"	16	SF	0		0	
4	MSE Wall 1080R	0"	5	LF	0		0	
5	Wall Backfill - General	0"	11	SF	0		0	
9	MSE Wall 1080R - Strap Length	0"	3	LF	0		0	
10	Wall Excavation	0"	27	SF	0		0	
1094+00 R								
3	MSE Wall Structural Zone	0"	54	SF	0		0	
4	MSE Wall 1080R	0"	9	LF	0		0	
5	Wall Backfill - General	0"	35	SF	0		0	
9	MSE Wall 1080R - Strap Length	0"	5	LF	0		0	
10	Wall Excavation	0"	86	SF	0		0	

DATETIME### TIME### PRF# DGN#
USER# PENTABLE#

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHHO-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE 1 Inch = 10 Feet Vert.
SCALE 1 Inch = 10 Feet Horiz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

EARTHWORK CROSS SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
23-045

MSE Wall Structural Zone 173 SF

MSE Wall 1080R 24 LF

Wall Backfill - General 97 SF

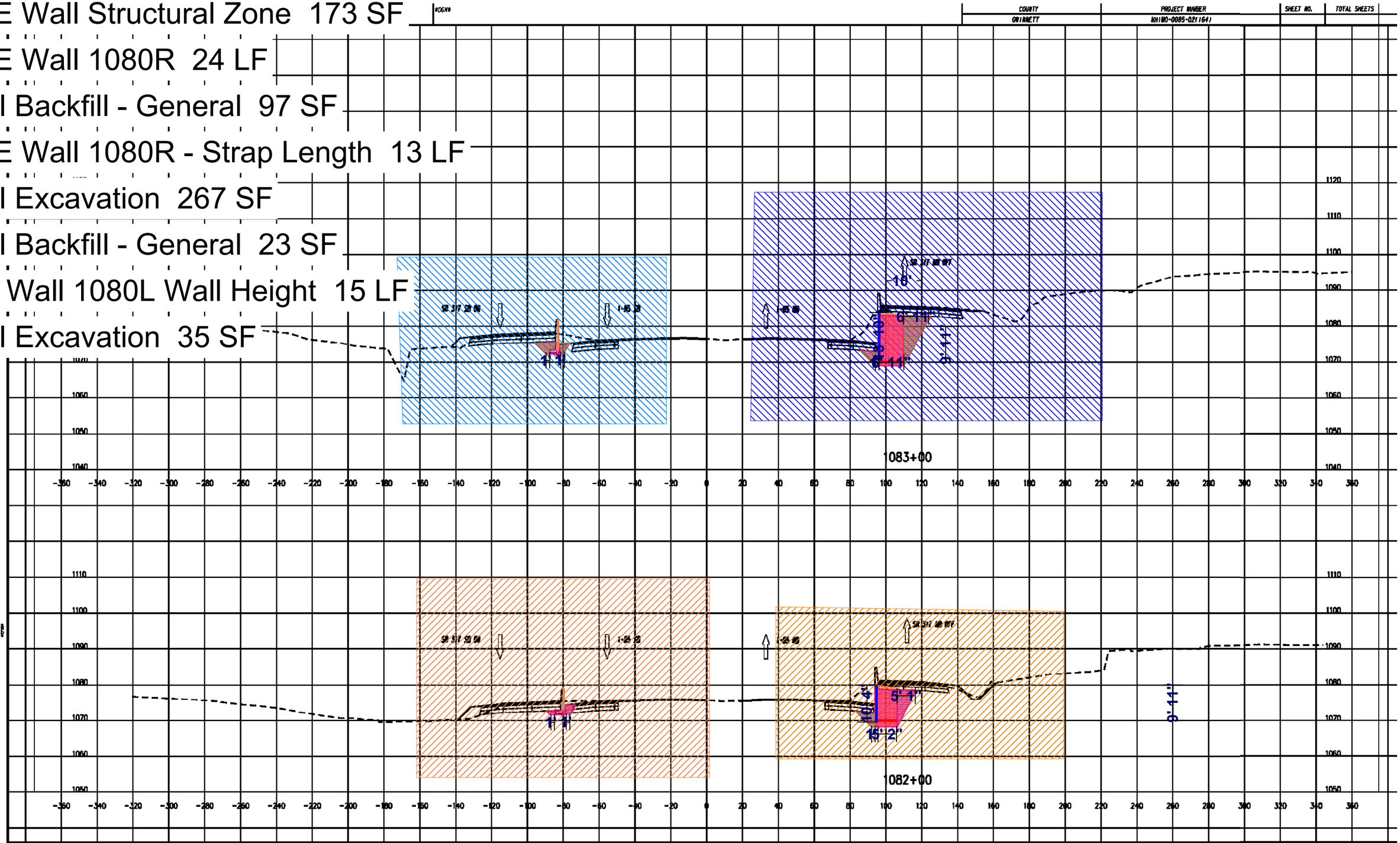
MSE Wall 1080R - Strap Length 13 LF

Wall Excavation 267 SF

Wall Backfill - General 23 SF

CIP Wall 1080L Wall Height 15 LF

Wall Excavation 35 SF



COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHHO-0085-02(164)		

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE 1 Inch = 10 Feet Vert.
SCALE 1 Inch = 10 Feet Horiz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

EARTHWORK CROSS SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
23-046

MSE Wall Structural Zone 414 SF

MSE Wall 1080R 49 LF

Wall Backfill - General 239 SF

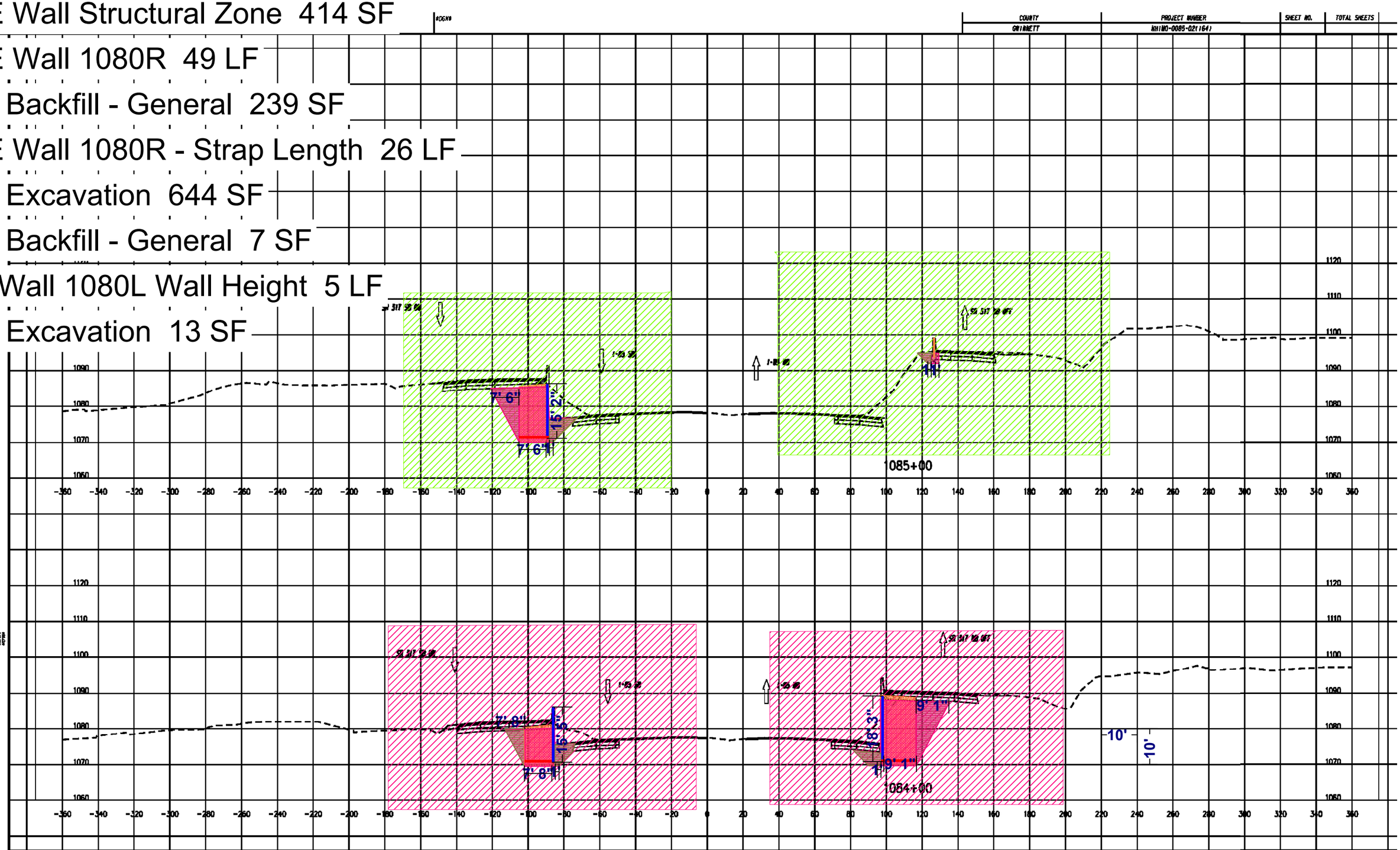
MSE Wall 1080R - Strap Length 26 LF

Wall Excavation 644 SF

Wall Backfill - General 7 SF

CIP Wall 1080L Wall Height 5 LF

Wall Excavation 13 SF



COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHHO-0085-02(164)		

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE 1 Inch = 10 Feet Vert.
SCALE 1 Inch = 10 Feet Horiz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

EARTHWORK CROSS SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

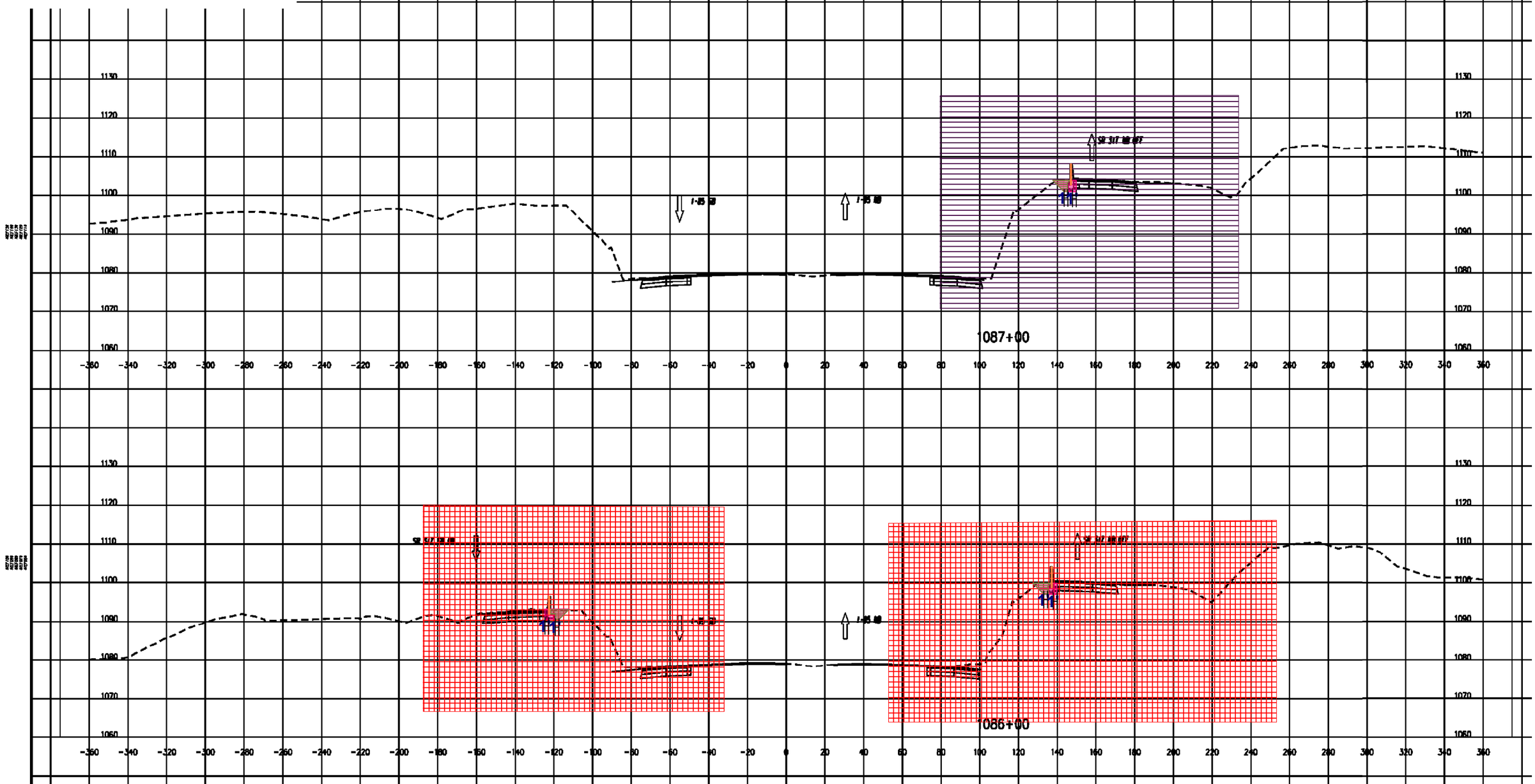
DRAWING No. 23-047

Wall Backfill - General 22 SF

CIP Wall 1080L Wall Height 16 LF

Wall Excavation 40 SF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHHO-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE 1 Inch = 10 Feet Vert.
SCALE 1 Inch = 10 Feet Horiz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

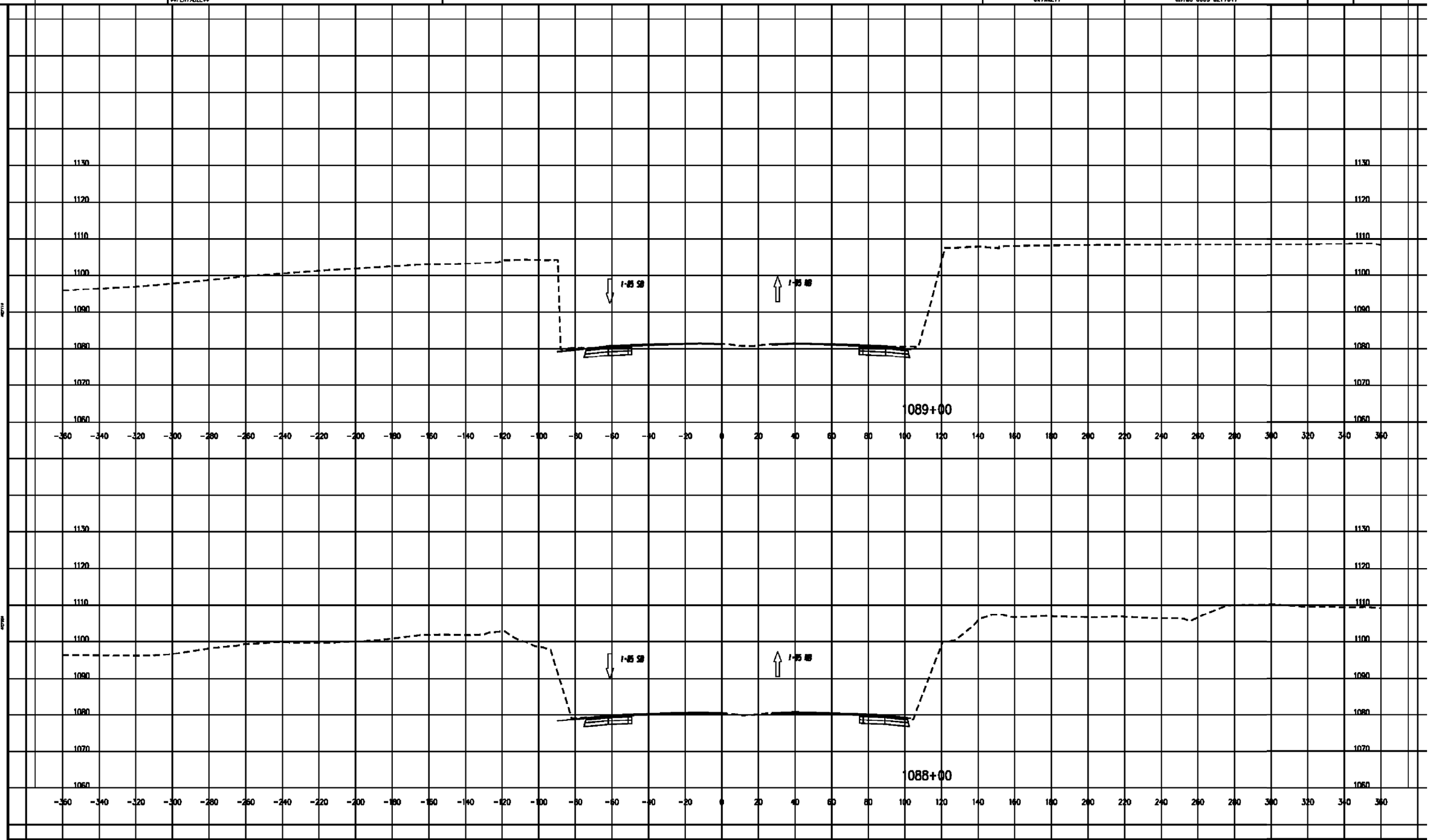
EARTHWORK CROSS SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
23-048

DATETIME### TIME### #PRF# ##PENTABLE## #DGN#

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHHO-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE 1 Inch = 10 Feet Vert.
SCALE 1 Inch = 10 Feet Horiz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

EARTHWORK CROSS SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

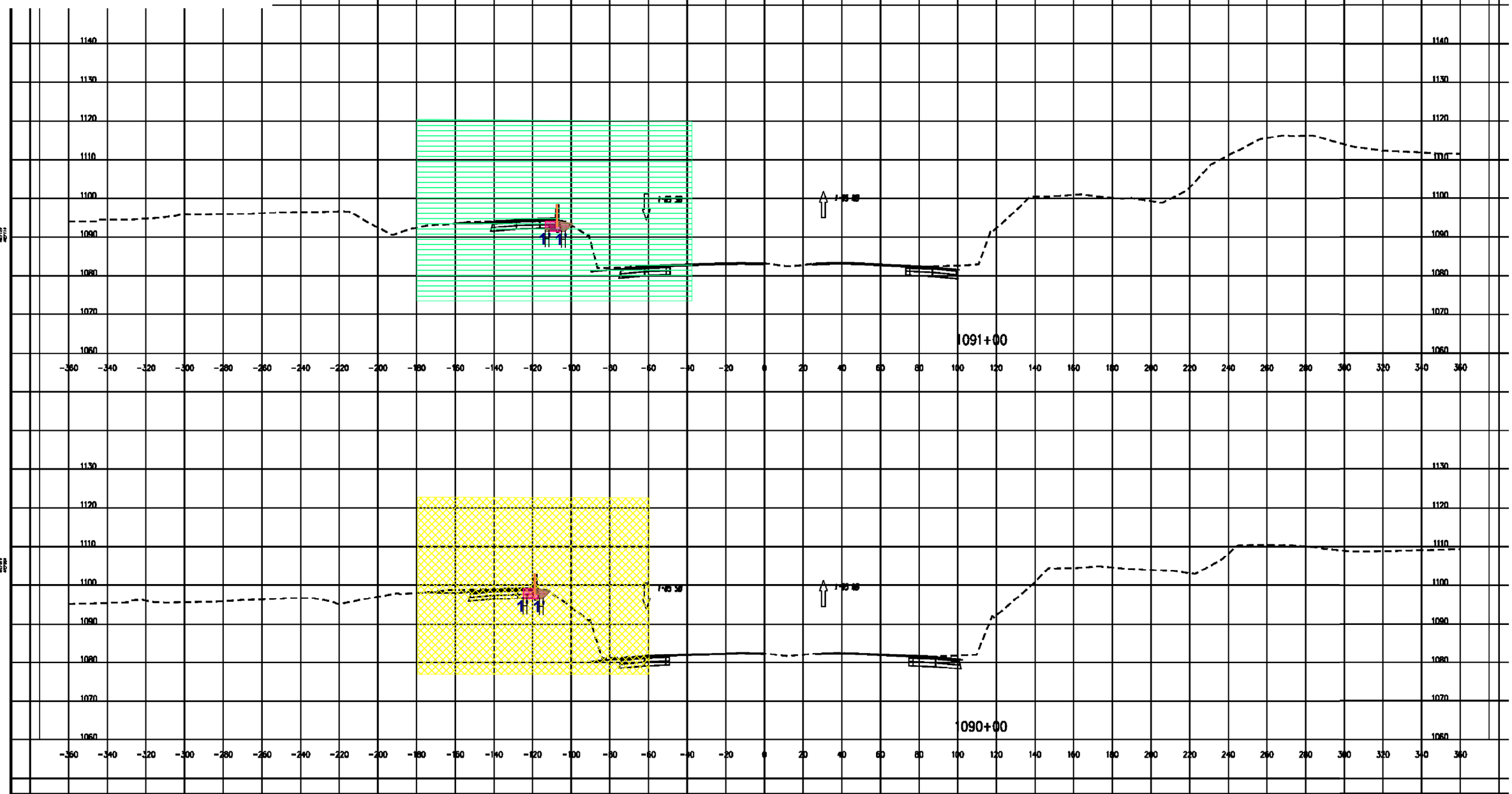
DRAWING No.
23-049

Wall Backfill - General 11 SF

CIP Wall 1080L Wall Height 11 LF

Wall Excavation 30 SF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHHO-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE 1 Inch = 10 Feet Vert.
SCALE 1 Inch = 10 Feet Horiz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

EARTHWORK CROSS SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
23-050

MSE Wall Structural Zone 326 SF

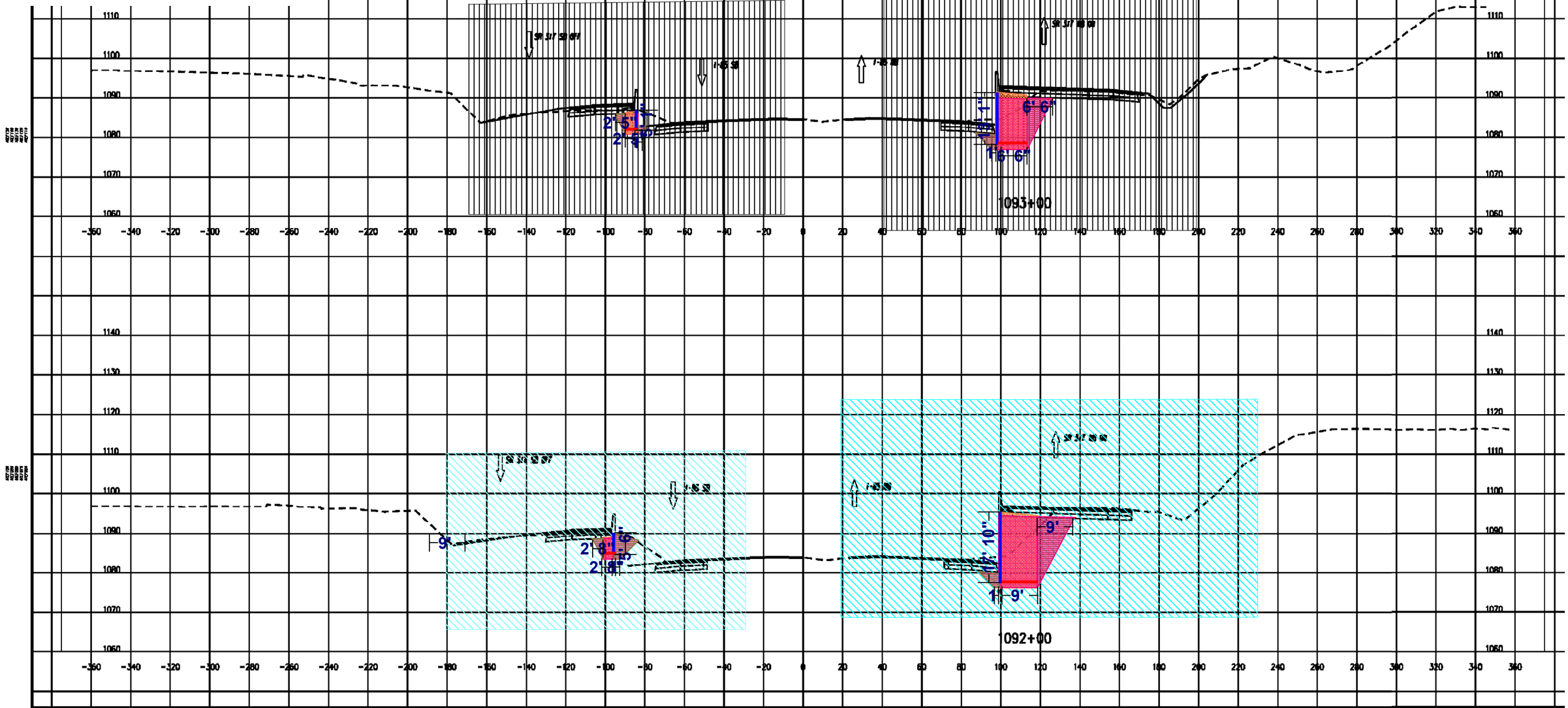
MSE Wall 1080R 41 LF

Wall Backfill - General 188 SF

MSE Wall 1080R - Strap Length 22 LF

Wall Excavation 501 SF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHHO-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE 1 Inch = 10 Feet Vert.
SCALE 1 Inch = 10 Feet Horiz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

EARTHWORK CROSS SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
23-051

MSE Wall Structural Zone 54 SF

MSE Wall 1080R 9 LF

Wall Backfill - General 35 SF

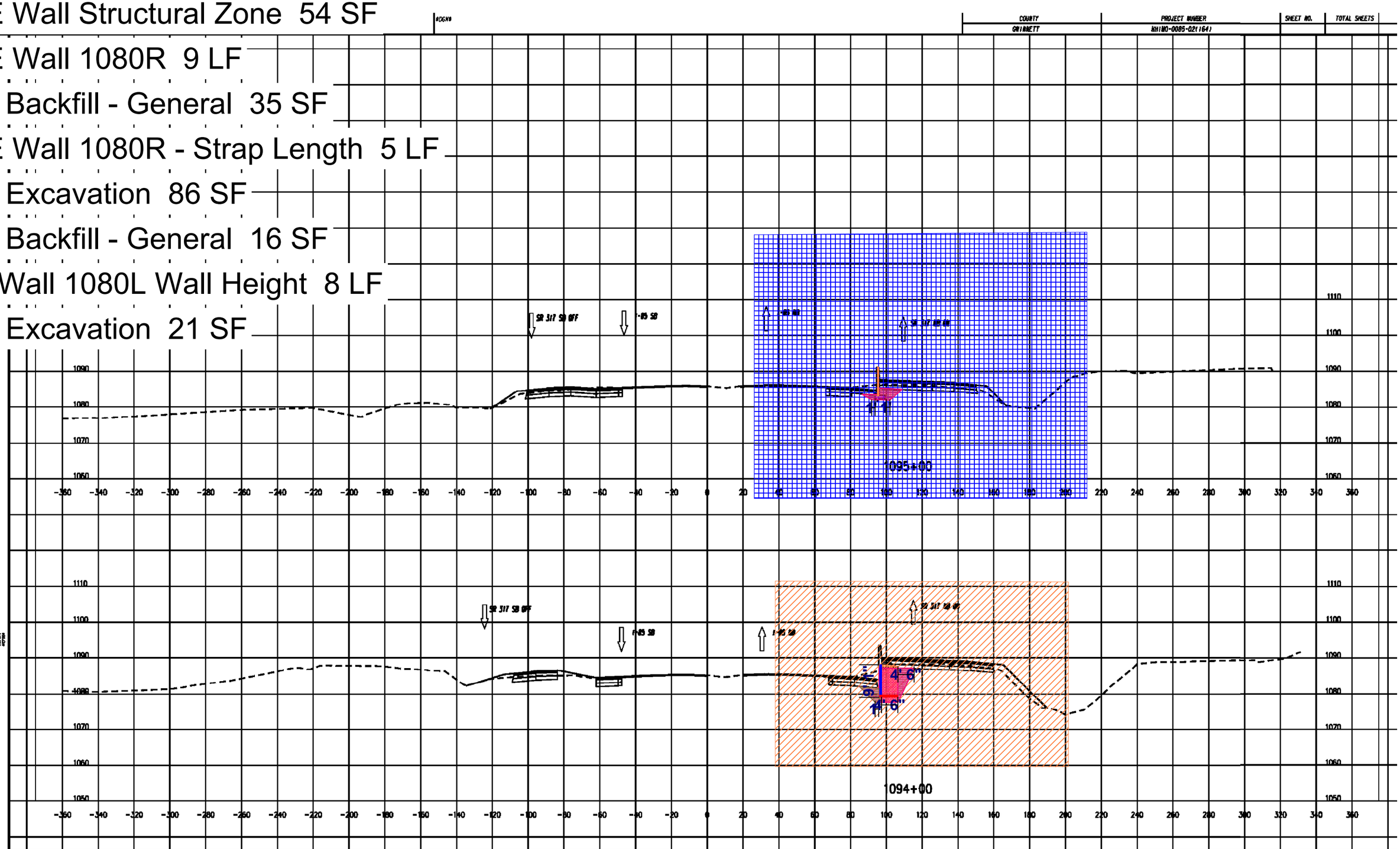
MSE Wall 1080R - Strap Length 5 LF

Wall Excavation 86 SF

Wall Backfill - General 16 SF

CIP Wall 1080L Wall Height 8 LF

Wall Excavation 21 SF



COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHHO-0085-02(164)		

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE 1 Inch = 10 Feet Vert.
SCALE 1 Inch = 10 Feet Horiz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

EARTHWORK CROSS SECTIONS

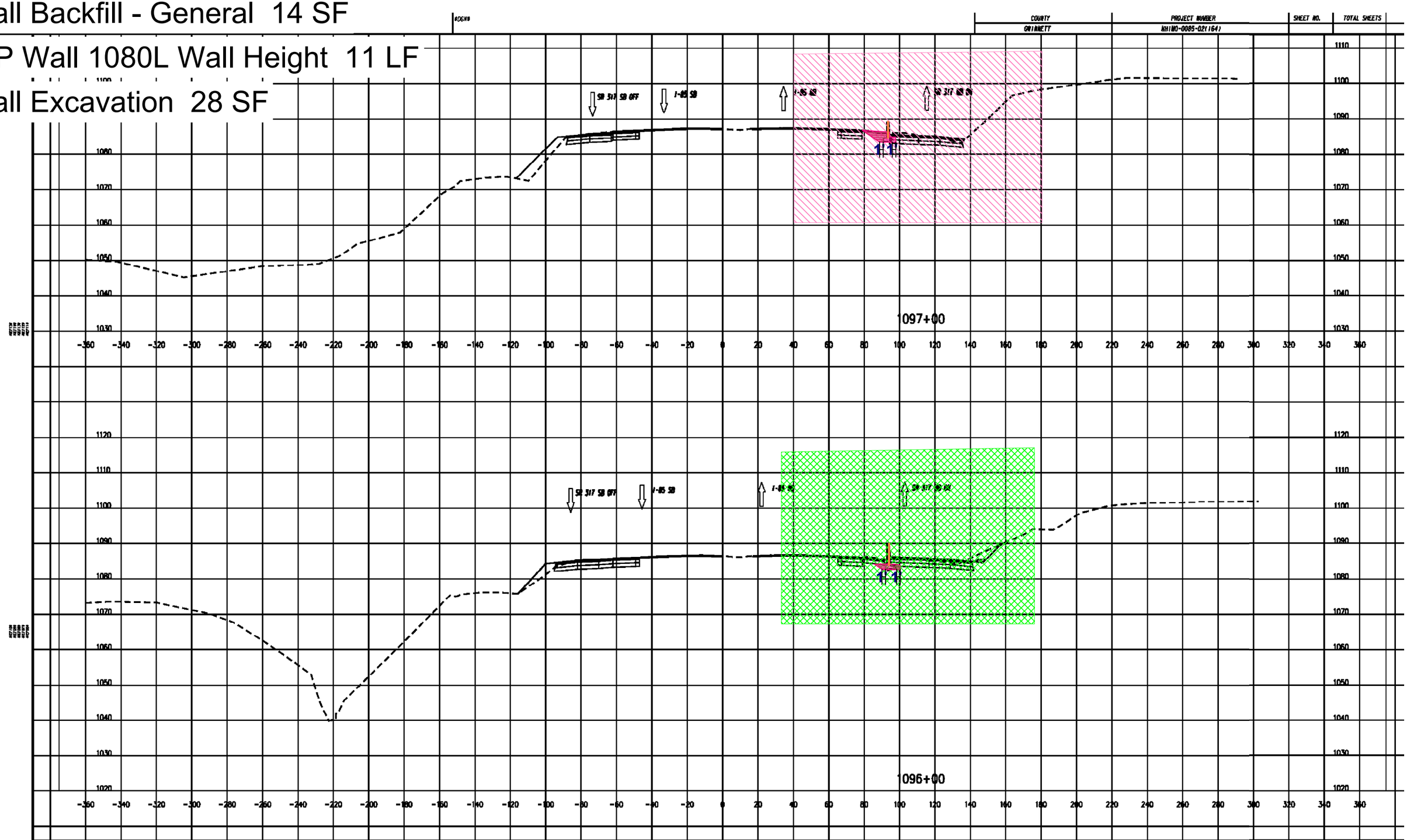
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 23-052

Wall Backfill - General 14 SF

CIP Wall 1080L Wall Height 11 LF

Wall Excavation 28 SF



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE 1 Inch = 10 Feet Vert.
SCALE 1 Inch = 10 Feet Horiz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

EARTHWORK CROSS SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

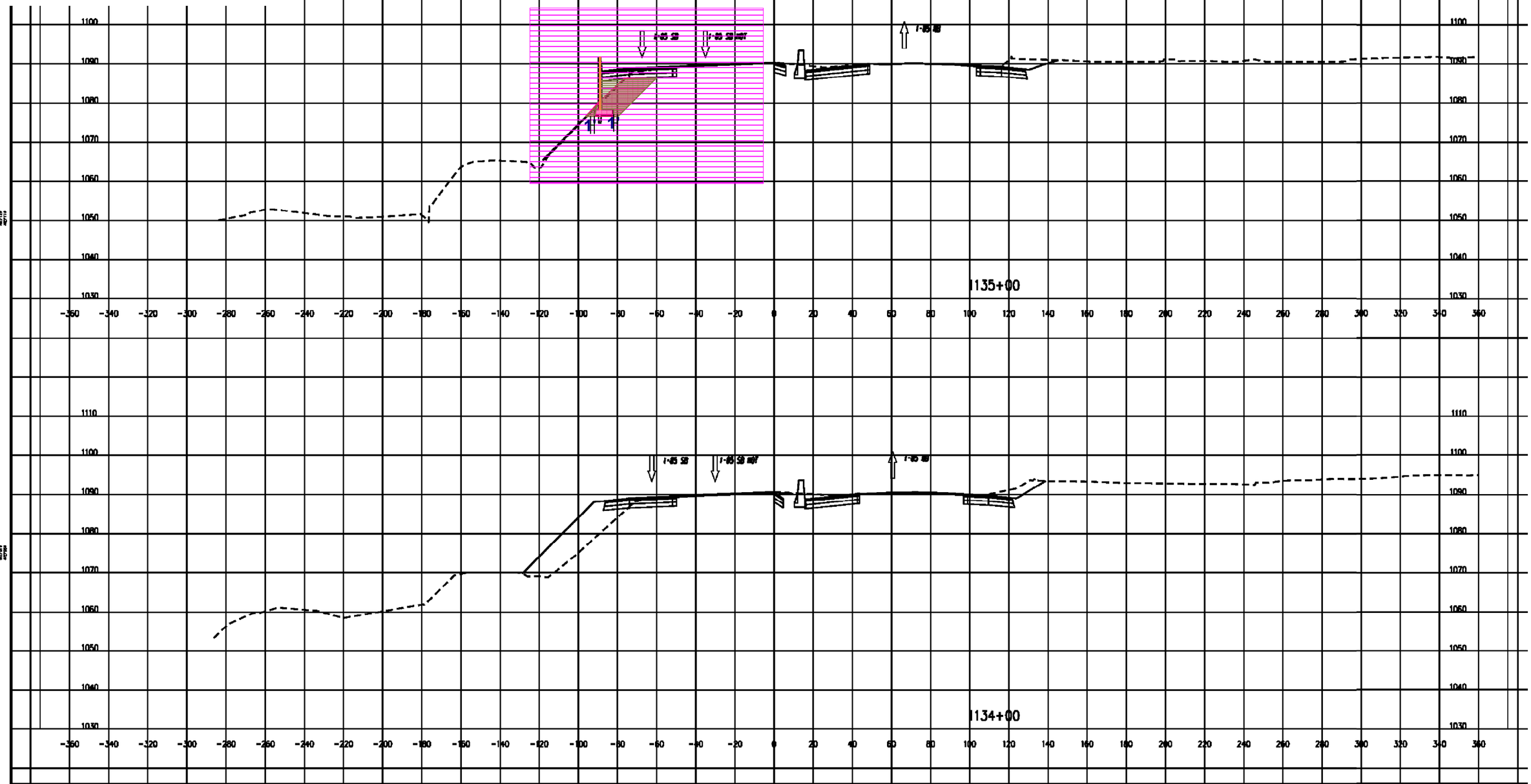
DRAWING No.
23-053

Wall Backfill - General 84 SF

CIP Wall 1080L Wall Height 13 LF

Wall Excavation 82 SF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHHO-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE 1 Inch = 10 Feet Vert.
SCALE 1 Inch = 10 Feet Horiz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

EARTHWORK CROSS SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

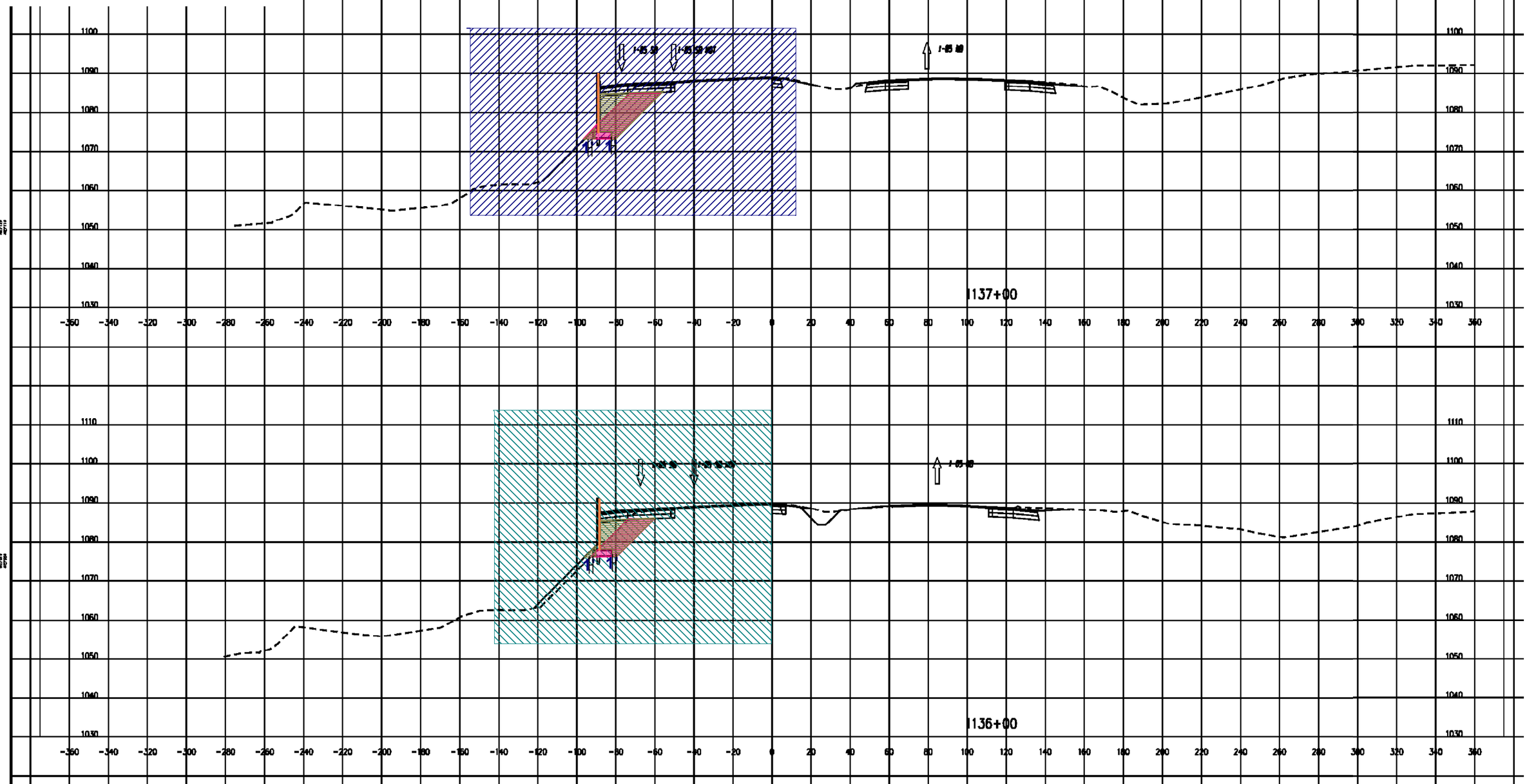
DRAWING No.
23-076

Wall Backfill - General 205 SF

CIP Wall 1080L Wall Height 28 LF

Wall Excavation 163 SF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHHO-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE 1 Inch = 10 Feet Vert.
SCALE 1 Inch = 10 Feet Horiz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

EARTHWORK CROSS SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

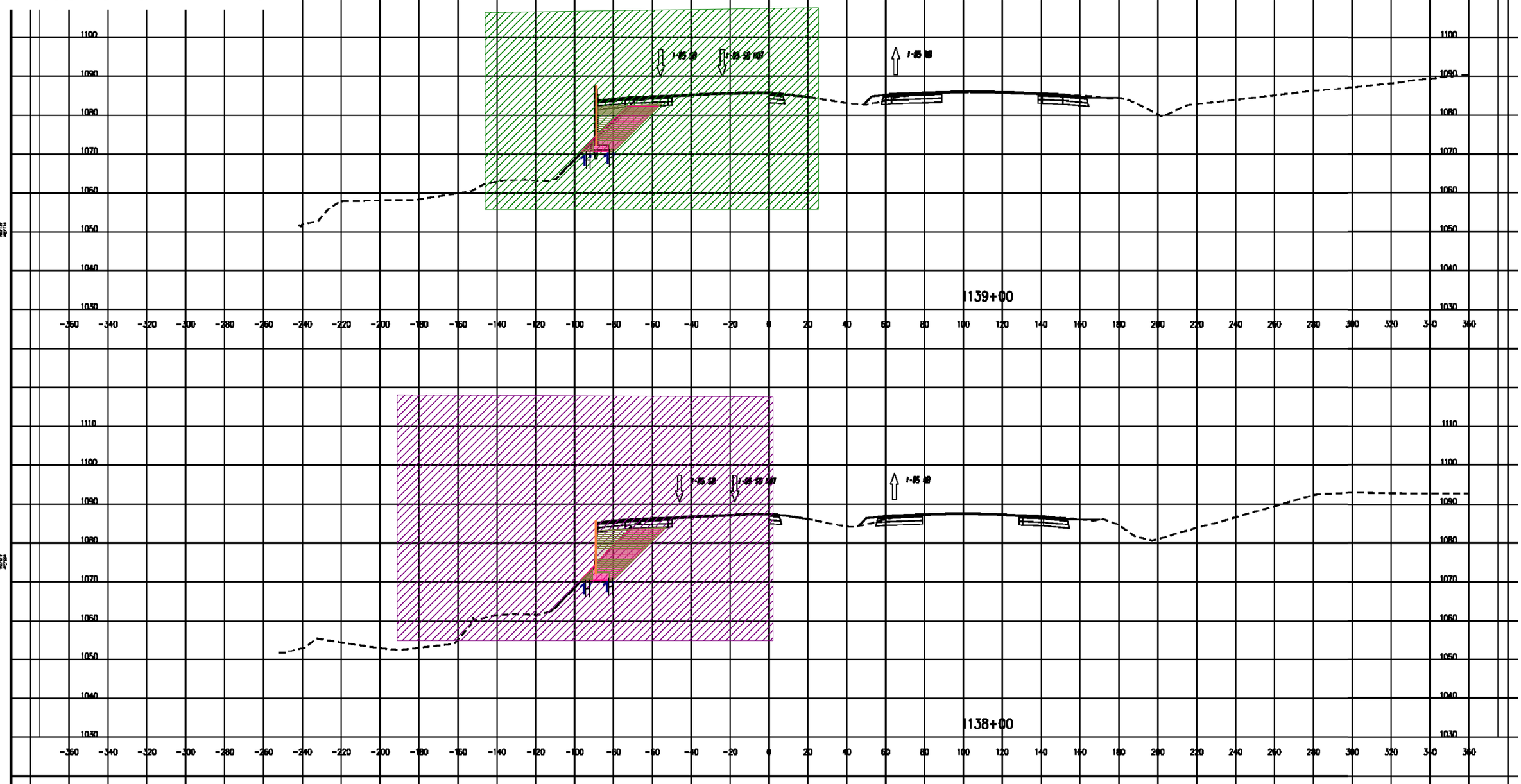
DRAWING No.
23-077

Wall Backfill - General 261 SF

CIP Wall 1080L Wall Height 29 LF

Wall Excavation 212 SF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHHO-0085-021(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE 1 Inch = 10 Feet Vert.
SCALE 1 Inch = 10 Feet Horiz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

EARTHWORK CROSS SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

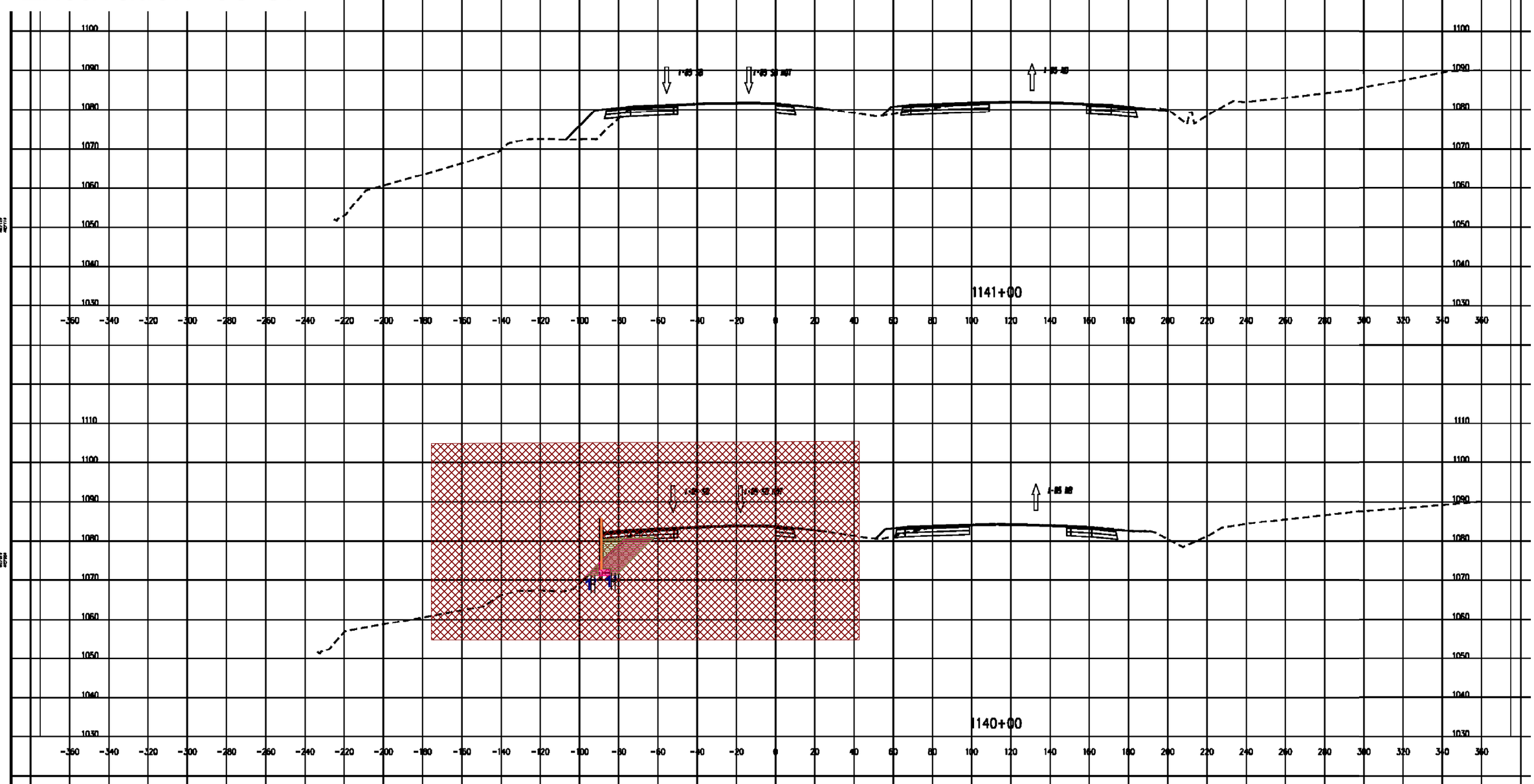
DRAWING No.
23-078

Wall Backfill - General 78 SF

CIP Wall 1080L Wall Height 13 LF

Wall Excavation 68 SF

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHHO-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

SCALE 1 Inch = 10 Feet Vert.
SCALE 1 Inch = 10 Feet Horiz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

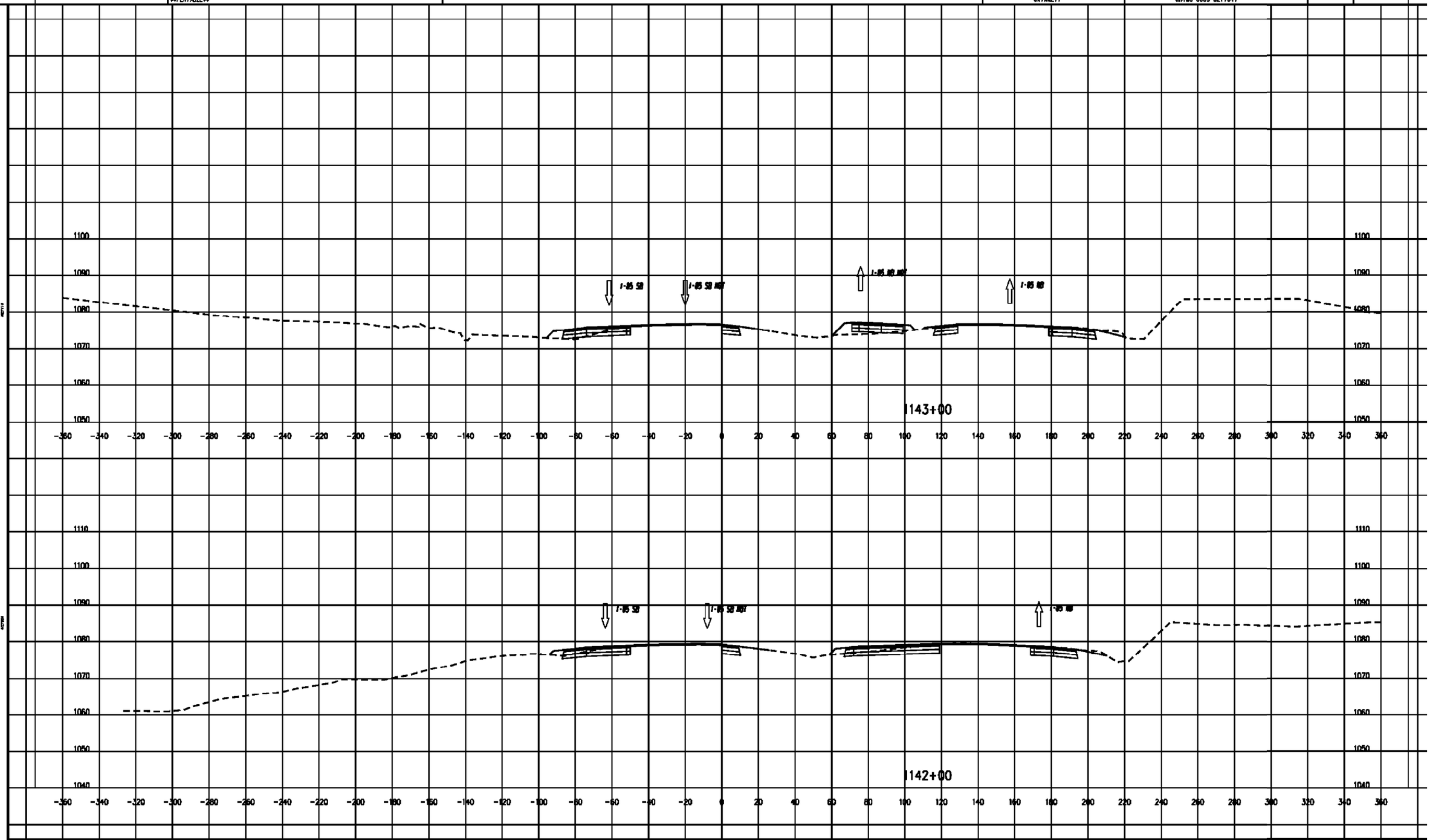
EARTHWORK CROSS SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
23-079

DATETIME### TIME### PRF# DGN#
USER# PENTABLE#

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GWINNETT	NHHO-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE 1 Inch = 10 Feet Vert.
SCALE 1 Inch = 10 Feet Horiz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

EARTHWORK CROSS SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
23-080

Takeoff Tab

I-85

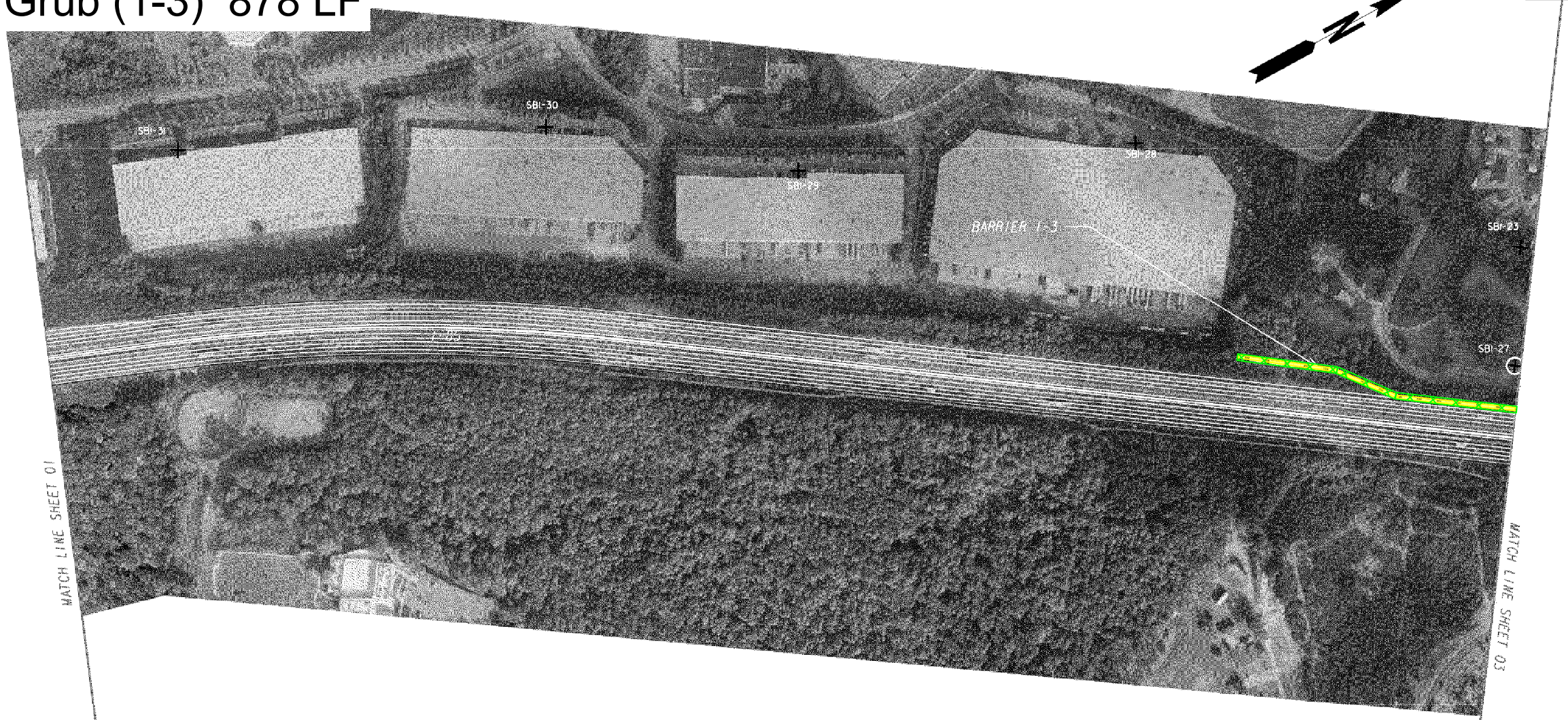
Bid No. 26

No.	Name	Height	Quantity1	UOM1	Quantity2	UOM2	Quantity3	UOM3
Clear & Grub								
(unassigned)								
18	Hvy Clear & Grub (7-1)	0"	1,508	LF	3,351	SY	0	
19	Hvy Clear & Grub (6-2)	0"	1,771	LF	3,935	SY	0	
20	Hvy Clear & Grub (6-1)	0"	1,431	LF	3,179	SY	0	
21	Hvy Clear & Grub (5-2)	0"	3,417	LF	7,594	SY	0	
22	Light Clear & Grub (5-2)	0"	1,127	LF	2,504	SY	0	
23	Light Clear & Grub (5-4)	0"	1,800	LF	4,000	SY	0	
24	Light Clear & Grub (5-3)	0"	163	LF	363	SY	0	
25	Hvy Clear & Grub (5-3)	0"	1,437	LF	3,192	SY	0	
26	Light Clear & Grub (5-1)	0"	1,375	LF	3,056	SY	0	
27	Hvy Clear & Grub (5-1)	0"	1,027	LF	2,282	SY	0	
28	Hvy Clear & Grub (4-2)	0"	2,204	LF	4,897	SY	0	
29	Hvy Clear & Grub (4-3)	0"	1,310	LF	2,911	SY	0	
30	Light Clear & Grub (4-3)	0"	117	LF	260	SY	0	
31	Hvy Clear & Grub (4-1)	0"	1,349	LF	2,997	SY	0	
32	Light Clear & Grub (4-1)	0"	44	LF	98	SY	0	
33	Light Clear & Grub (3-2)	0"	729	LF	1,619	SY	0	
34	Hvy Clear & Grub (3-2)	0"	764	LF	1,698	SY	0	
35	Hvy Clear & Grub (3-1)	0"	2,097	LF	4,660	SY	0	
36	Light Clear & Grub (3-1)	0"	305	LF	677	SY	0	
37	Light Clear & Grub (2-2)	0"	3,111	LF	6,914	SY	0	
38	Hvy Clear & Grub (2-2)	0"	984	LF	2,186	SY	0	
39	Light Clear & Grub (2-1)	0"	1,912	LF	4,249	SY	0	
40	Hvy Clear & Grub (1-3)	0"	2,409	LF	5,354	SY	0	
41	Hvy Clear & Grub (1-1)	0"	1,708	LF	3,795	SY	0	
42	Hvy Clear & Grub (1-2)	0"	507	LF	1,126	SY	0	
43	Light Clear & Grub (1-2)	0"	796	LF	1,770	SY	0	
Noise Walls								
(unassigned)								
1	Barrier 1-3	0"	2,399	LF	0		0	
2	Barrier 1-1	0"	1,701	LF	0		0	
3	Barrier 1-2	0"	1,299	LF	0		0	
4	Barrier 2-1	0"	1,900	LF	0		0	
5	Barrier 2-2	0"	4,088	LF	0		0	
6	Barrier 3-1	0"	2,399	LF	0		0	
7	Barrier 3-2	0"	1,495	LF	0		0	
8	Barrier 4-1	0"	1,395	LF	0		0	
9	Barrier 4-3	0"	1,417	LF	0		0	
10	Barrier 4-2	0"	2,200	LF	0		0	
11	Barrier 5-1	0"	2,400	LF	0		0	
12	Barrier 5-2	0"	4,072	LF	0		0	
13	Barrier 5-3	0"	1,601	LF	0		0	

Barrier 1-3 871 LF

Hvy Clear & Grub (1-3) 878 LF

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NH-IM-85-2(164)	02	19



LEGEND

PROPOSED ROADWAY CENTERLINE

NOISE RECEPTOR

GRAPHIC SCALE: 1"= 200'

200 0 200 400 600

400'

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

I-85 HOT PROJECT
NOISE RECEPTOR LOCATION MAP

PI: 110600 & 110610
PROJECT: NH-IM-85-2(164) & NH-IM-85-2 (165)
COUNTY: GWINNETT AND BARROW
DATE: 12-17-09

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NH-1M-85-2(164)	03	19

Barrier 1-3 1,529 LF

Barrier 1-1 1,701 LF

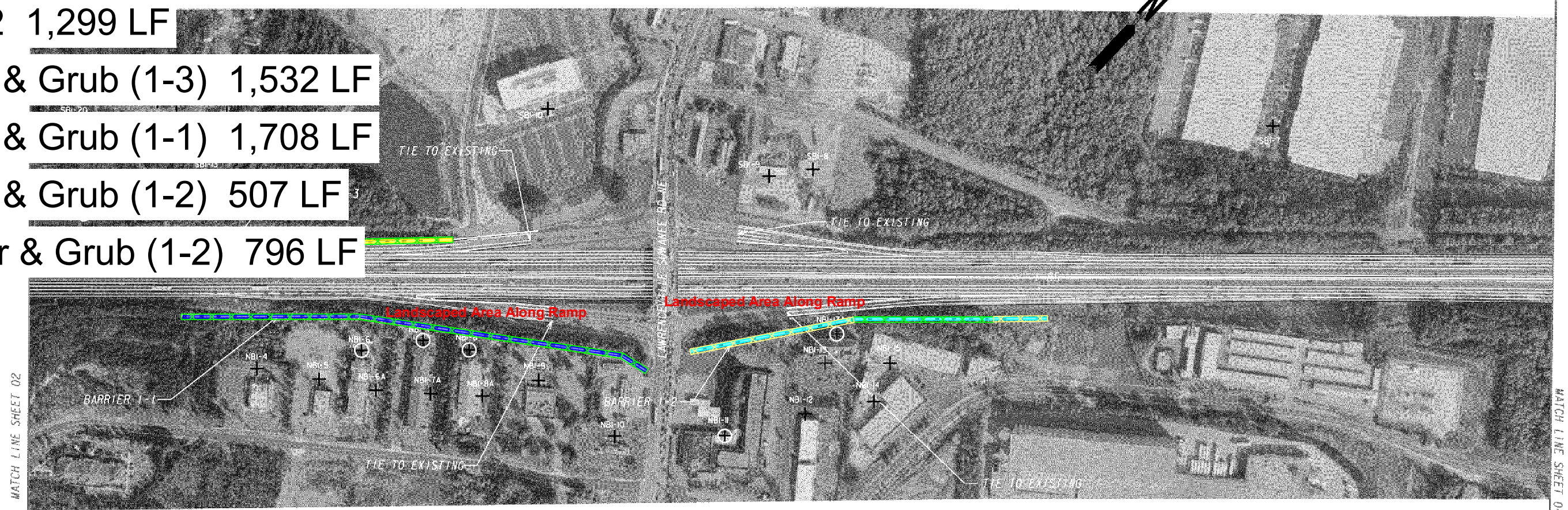
Barrier 1-2 1,299 LF

Hvy Clear & Grub (1-3) 1,532 LF

Hvy Clear & Grub (1-1) 1,708 LF

Hvy Clear & Grub (1-2) 507 LF

Light Clear & Grub (1-2) 796 LF



LEGEND

PROPOSED ROADWAY CENTERLINE

NOISE RECEPTOR

GRAPHIC SCALE: 1"= 200'

200 0 200 400 600

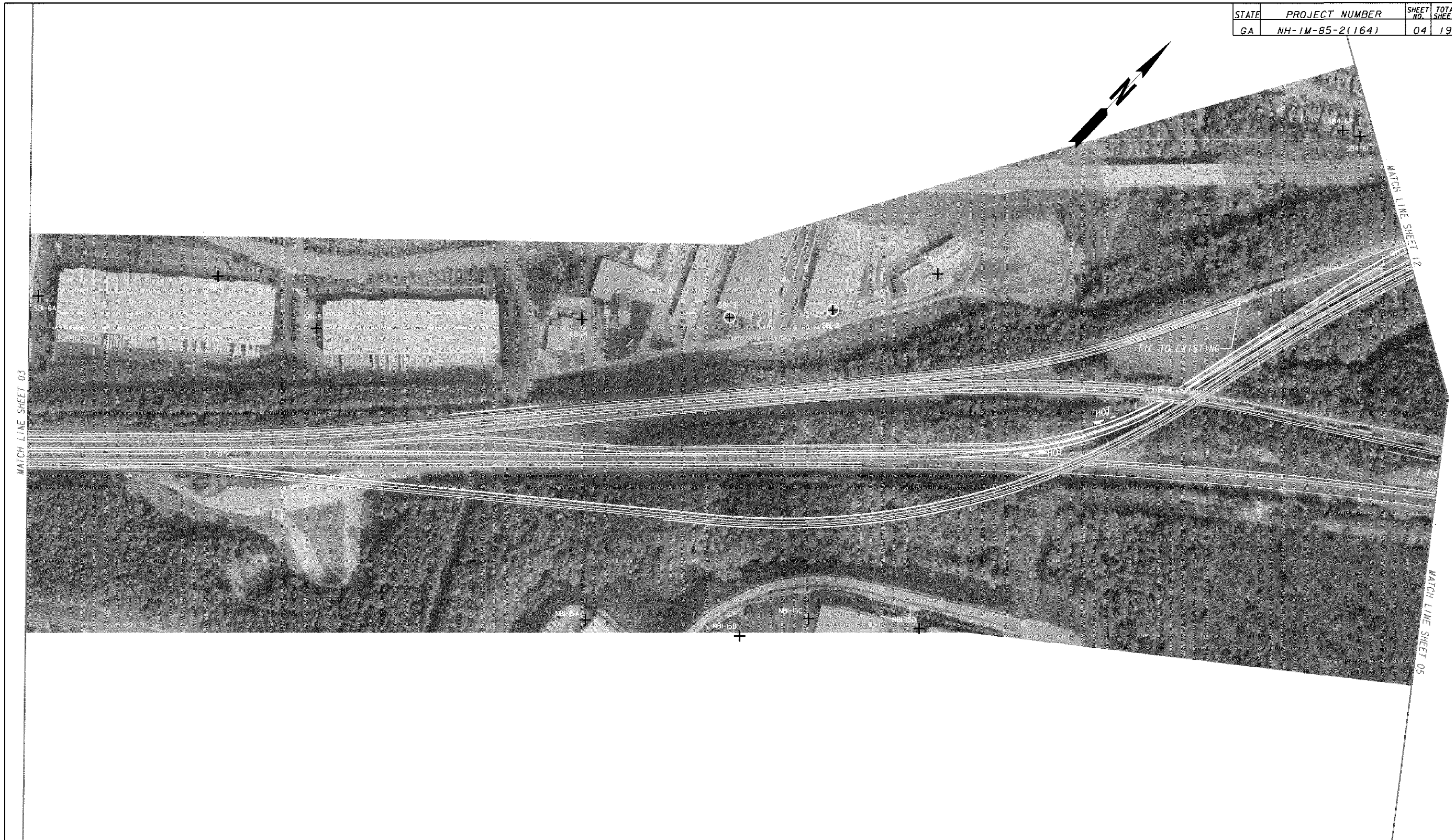
HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

I-85 HOT PROJECT
NOISE RECEPTOR LOCATION MAP

PI: 110600 & 110610
PROJECT: NH-1M-85-2(164) & NH-1M-85-2 (165)
COUNTY: GWINNETT AND BARROW
DATE: 12-17-09

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NH-IM-85-2(164)	04	19



LEGEND

—— PROPOSED ROADWAY CENTERLINE

+ NOISE RECEPTOR

GRAPHIC SCALE: 1" = 200'

200 0 200 400 600

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

I-85 HOT PROJECT
NOISE RECEPTOR LOCATION MAP

PI: 110600 & 110610
PROJECT: NH-IM-85-2(164) & NH-IM-85-2 (165)
COUNTY: GWINNETT AND BARROW
DATE: 12-17-09

Barrier 2-1 1,900 LF

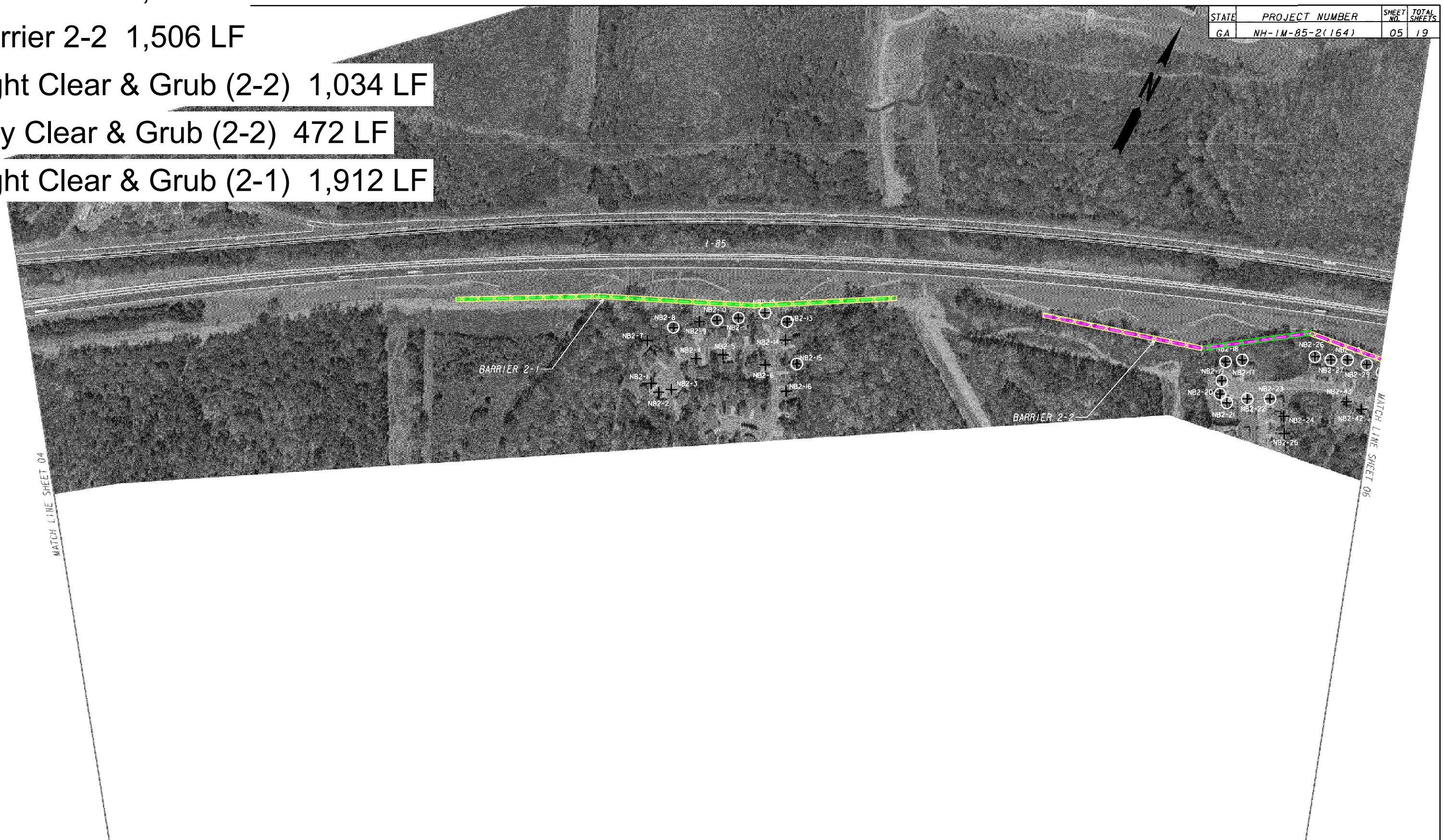
Barrier 2-2 1,506 LF

Light Clear & Grub (2-2) 1,034 LF

Hvy Clear & Grub (2-2) 472 LF

Light Clear & Grub (2-1) 1,912 LF

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NH-1M-85-2(164)	05	19



LEGEND

PROPOSED ROADWAY CENTERLINE

NOISE RECEPTOR

GRAPHIC SCALE: 1"= 200'

200 0 200 400 600

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

I-85 HOT PROJECT
NOISE RECEPTOR LOCATION MAP

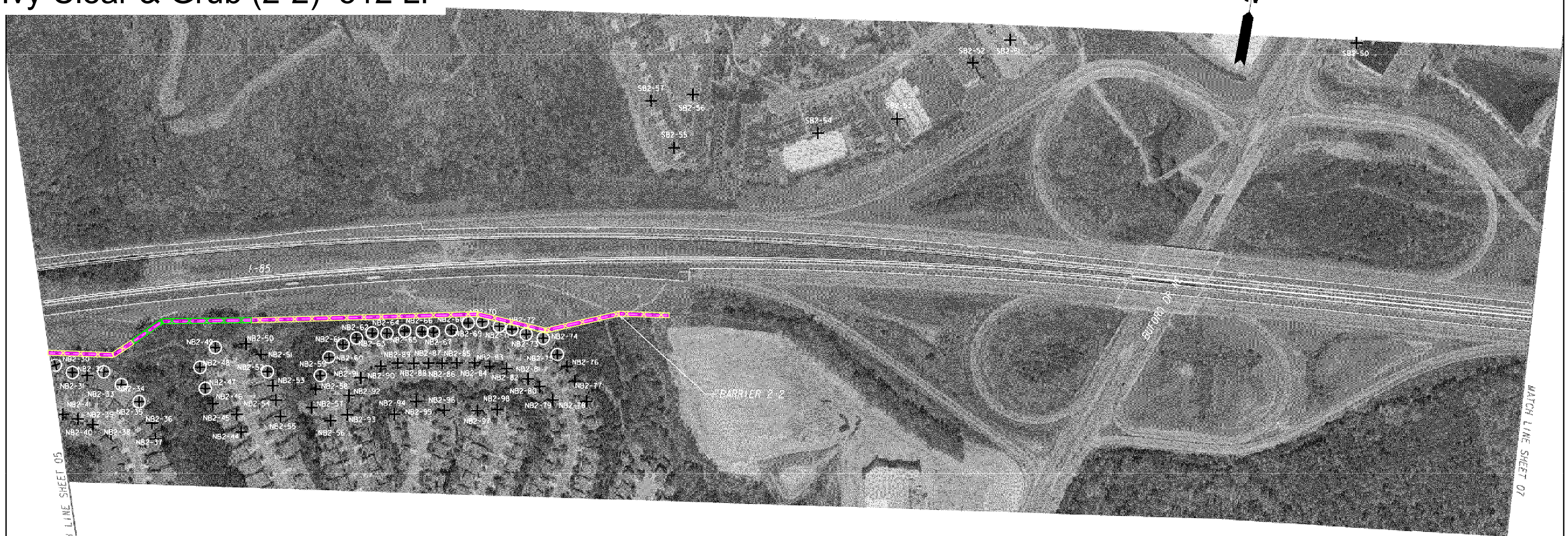
PI: 110600 & 110610
PROJECT: NH-1M-85-2(164) & NH-1M-85-2 (165)
COUNTY: GWINNETT AND BARROW
DATE: 12-17-09

Barrier 2-2 2,582 LF

Light Clear & Grub (2-2) 2,077 LF

Hvy Clear & Grub (2-2) 512 LF

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NH-1M-85-2(164)	06	19



LEGEND

PROPOSED ROADWAY CENTERLINE

NOISE RECEPTOR

GRAPHIC SCALE: 1"= 200'

200 0 200 400 600

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

I-85 HOT PROJECT
NOISE RECEPTOR LOCATION MAP

PI: 110600 & 110610
PROJECT: NH-1M-85-2(164) & NH-1M-85-2 (165)
COUNTY: GWINNETT AND BARROW
DATE: 12-17-09

Barrier 3-1 2,399 LF

Barrier 3-2 1,495 LF

Light Clear & Grub (3-2) 729 LF

Hvy Clear & Grub (3-2) 764 LF

Hvy Clear & Grub (3-1) 2,097 LF

Light Clear & Grub (3-1) 305 LF

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NH-IM-85-2(164)	07	19

LEGEND

PROPOSED ROADWAY CENTERLINE

NOISE RECEPTOR

GRAPHIC SCALE: 1"= 200'

200 0 200 400 600

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

I-85 HOT PROJECT
NOISE RECEPTOR LOCATION MAP

PI: 110600 & 110610
PROJECT: NH-IM-85-2(164) & NH-IM-85-2 (165)
COUNTY: GWINNETT AND BARROW
DATE: 12-17-09

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NH-IM-85-2(164)	08	19

Barrier 4-1 1,395 LF

Barrier 4-3 94 LF

Hvy Clear & Grub (4-3) 101 LF

Hvy Clear & Grub (4-1) 1,349 LF

Light Clear & Grub (4-1) 44 LF

LEGEND

PROPOSED ROADWAY CENTERLINE

NOISE RECEPTOR

GRAPHIC SCALE: 1"= 200'

200 0 200 400 600

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

I-85 HOT PROJECT
NOISE RECEPTOR LOCATION MAP

PI: 110600 & 110610
PROJECT: NH-IM-85-2(164) & NH-IM-85-2 (165)
COUNTY: GWINNETT AND BARROW
DATE: 12-17-09

Barrier 4-3 1,323 LF

Hvy Clear & Grub (4-3) 1,209 LF

Light Clear & Grub (4-3) 117 LF

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NH-IM-85-2(164)	09	19

LEGEND

PROPOSED ROADWAY CENTERLINE

NOISE RECEPTOR

GRAPHIC SCALE: 1"= 200'

200 0 200 400 600

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

I-85 HOT PROJECT
NOISE RECEPTOR LOCATION MAP

PI: 110600 & 110610
PROJECT: NH-IM-85-2(164) & NH-IM-85-2 (165)
COUNTY: GWINNETT AND BARROW
DATE: 12-17-09

Barrier 4-2 2,200 LF

Hvy Clear & Grub (4-2) 2,204 LF

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NH-IM-85-2(164)	10	19

LEGEND

PROPOSED ROADWAY CENTERLINE

NOISE RECEPTOR

GRAPHIC SCALE: 1"= 200'

200 0 200 400 600

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

I-85 HOT PROJECT
NOISE RECEPTOR LOCATION MAP

PI: 110600 & 110610
PROJECT: NH-IM-85-2(164) & NH-IM-85-2 (165)
COUNTY: GWINNETT AND BARROW
DATE: 12-17-09

Barrier 5-1 2,400 LF

Light Clear & Grub (5-1) 1,375 LF

Hvy Clear & Grub (5-1) 1,027 LF

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NH-1M-85-2(164)	11	19

LEGEND

PROPOSED ROADWAY CENTERLINE

NOISE RECEPTOR

GRAPHIC SCALE: 1"= 200'

200 0 200 400 600

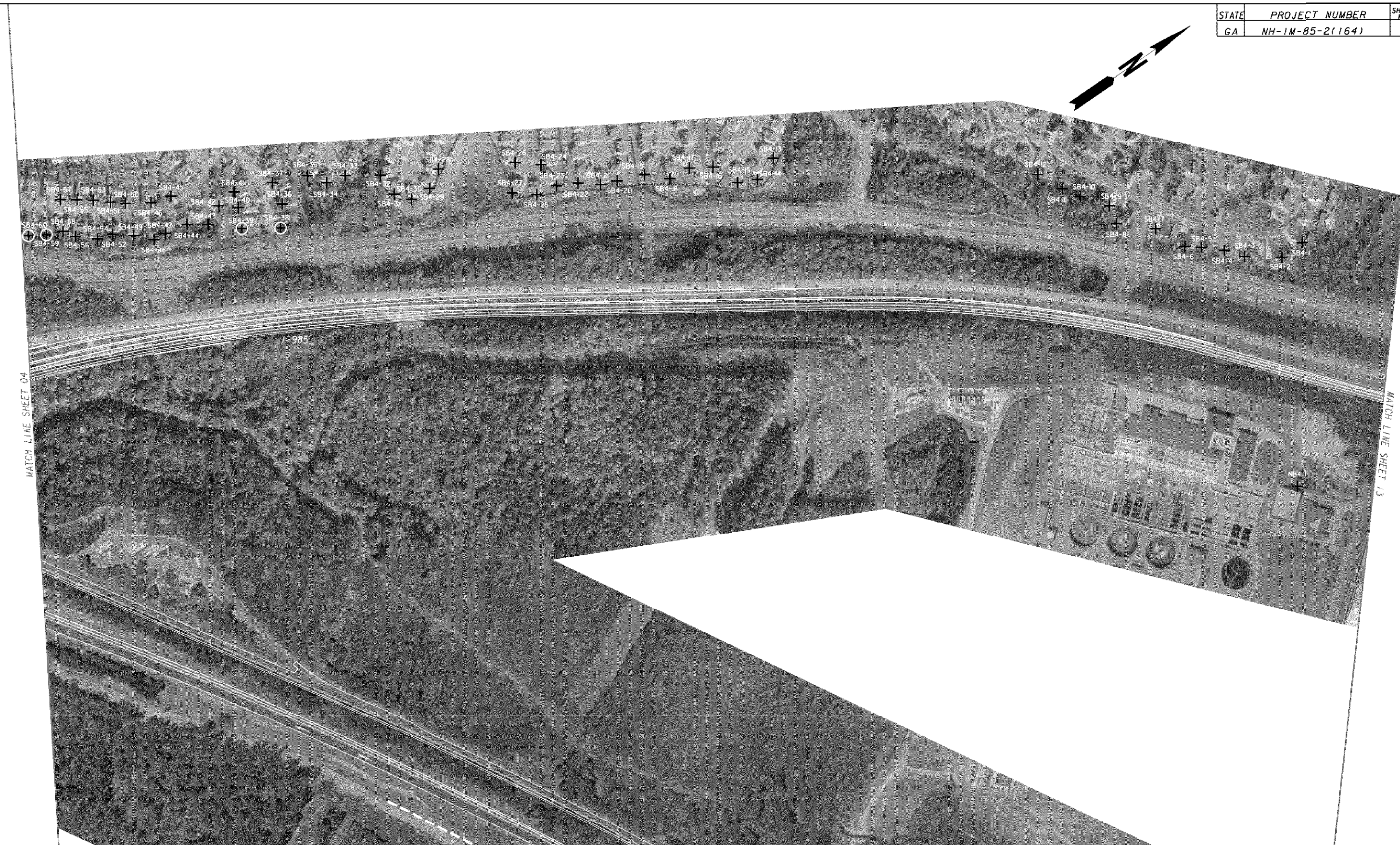
HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

I-85 HOT PROJECT
NOISE RECEPTOR LOCATION MAP

PI: 110600 & 110610
PROJECT: NH-1M-85-2(164) & NH-1M-85-2 (165)
COUNTY: GWINNETT AND BARROW
DATE: 12-17-09

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NH-IM-85-2(164)	12	19



LEGEND

PROPOSED ROADWAY CENTERLINE

NOISE RECEPTOR

GRAPHIC SCALE: 1"= 200'

200 0 200 400 600

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

I-85 HOT PROJECT
NOISE RECEPTOR LOCATION MAP

PI: 110600 & 110610
PROJECT: NH-IM-85-2(164) & NH-IM-85-2 (165)
COUNTY: GWINNETT AND BARROW
DATE: 12-17-09

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NH-1M-85-2(164)	13	19

LEGEND

PROPOSED ROADWAY CENTERLINE

NOISE RECEPTOR

GRAPHIC SCALE: 1"= 200'

200 0 200 400 600

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

I-85 HOT PROJECT
NOISE RECEPTOR LOCATION MAP

PI: 110600 & 110610
PROJECT: NH-1M-85-2(164) & NH-1M-85-2 (165)
COUNTY: GWINNETT AND BARROW
DATE: 12-17-09

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NH-IM-85-2(165)	14	19

LEGEND

- PROPOSED ROADWAY CENTERLINE
- PROPOSED ROADWAY IMPROVEMENTS
- PROPOSED EDGE OF PAVEMENT
- NOISE BARRIER ANALYZED
- NOISE RECEPTOR
- IMPACTED NOISE RECEPTOR

GRAPHIC SCALE: 1" = 200'

200 0 200 400 600

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

I-85 HOT PROJECT
NOISE RECEPTOR LOCATION MAP

PI: 110600 & 110610
PROJECT: NH-IM-85-2(164) & NH-IM-85-2 (165)
COUNTY: GWINNETT AND BARROW
DATE: 12-17-09

Barrier 5-2 2,594 LF

Barrier 5-3 1,601 LF

Barrier 5-4 1,803 LF

Hvy Clear & Grub (5-2) 1,942 LF

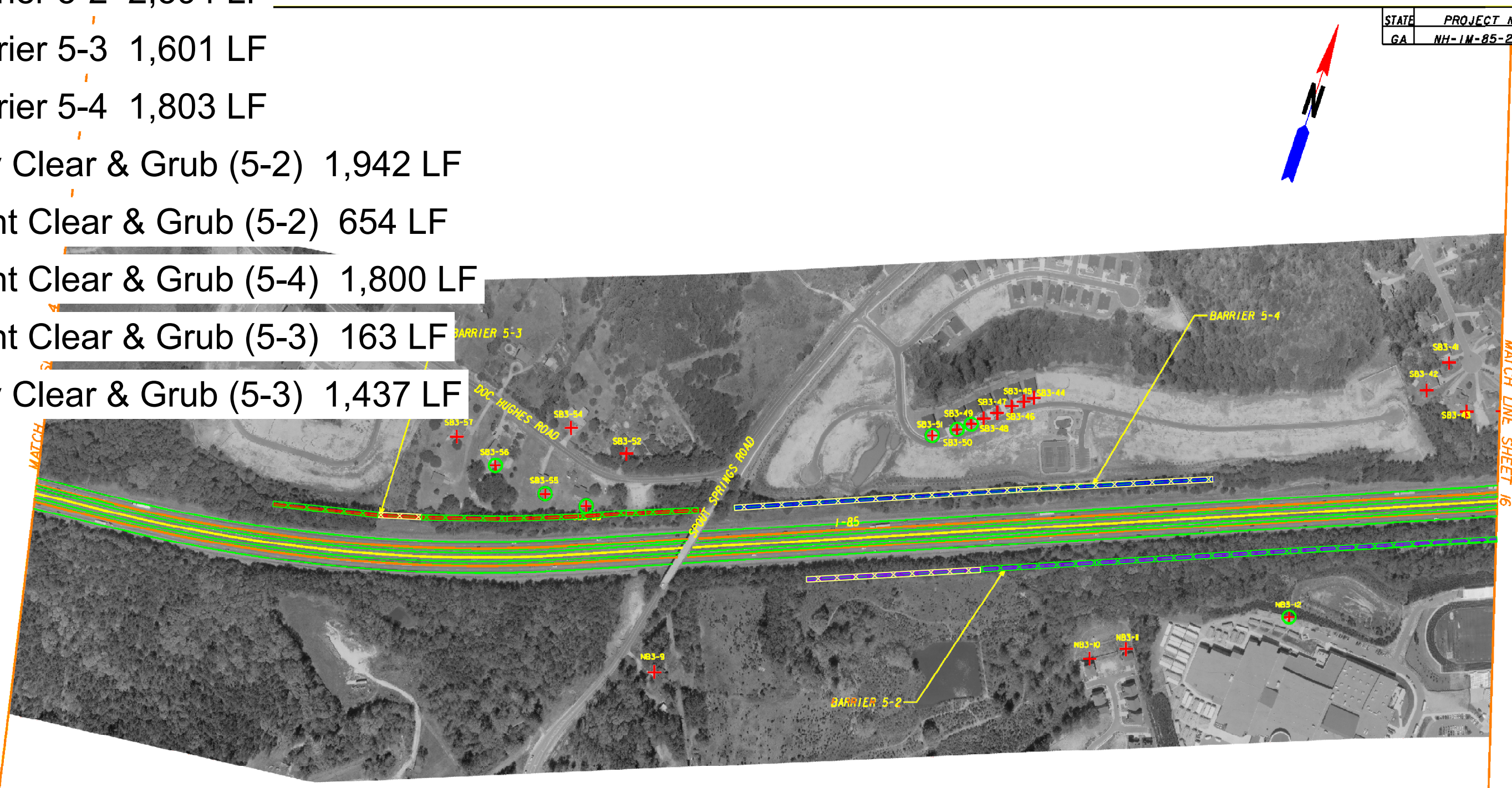
Light Clear & Grub (5-2) 654 LF

Light Clear & Grub (5-4) 1,800 LF

Light Clear & Grub (5-3) 163 LF

Hvy Clear & Grub (5-3) 1,437 LF

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NH-IM-85-2(165)	15	19



LEGEND

- PROPOSED ROADWAY CENTERLINE
- PROPOSED ROADWAY IMPROVEMENTS
- PROPOSED EDGE OF PAVEMENT
- NOISE BARRIER ANALYZED
- NOISE RECEPTOR
- IMPACTED NOISE RECEPTOR

GRAPHIC SCALE: 1" = 200'

200 0 200 400 600

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

I-85 HOT PROJECT
NOISE RECEPTOR LOCATION MAP

PI: 110600 & 110610
PROJECT: NH-IM-85-2(164) & NH-IM-85-2 (165)
COUNTY: GWINNETT AND BARROW
DATE: 12-17-09

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NH-IM-85-2(164)	16	19

Barrier 5-2 1,478 LF

Barrier 6-1 1,895 LF

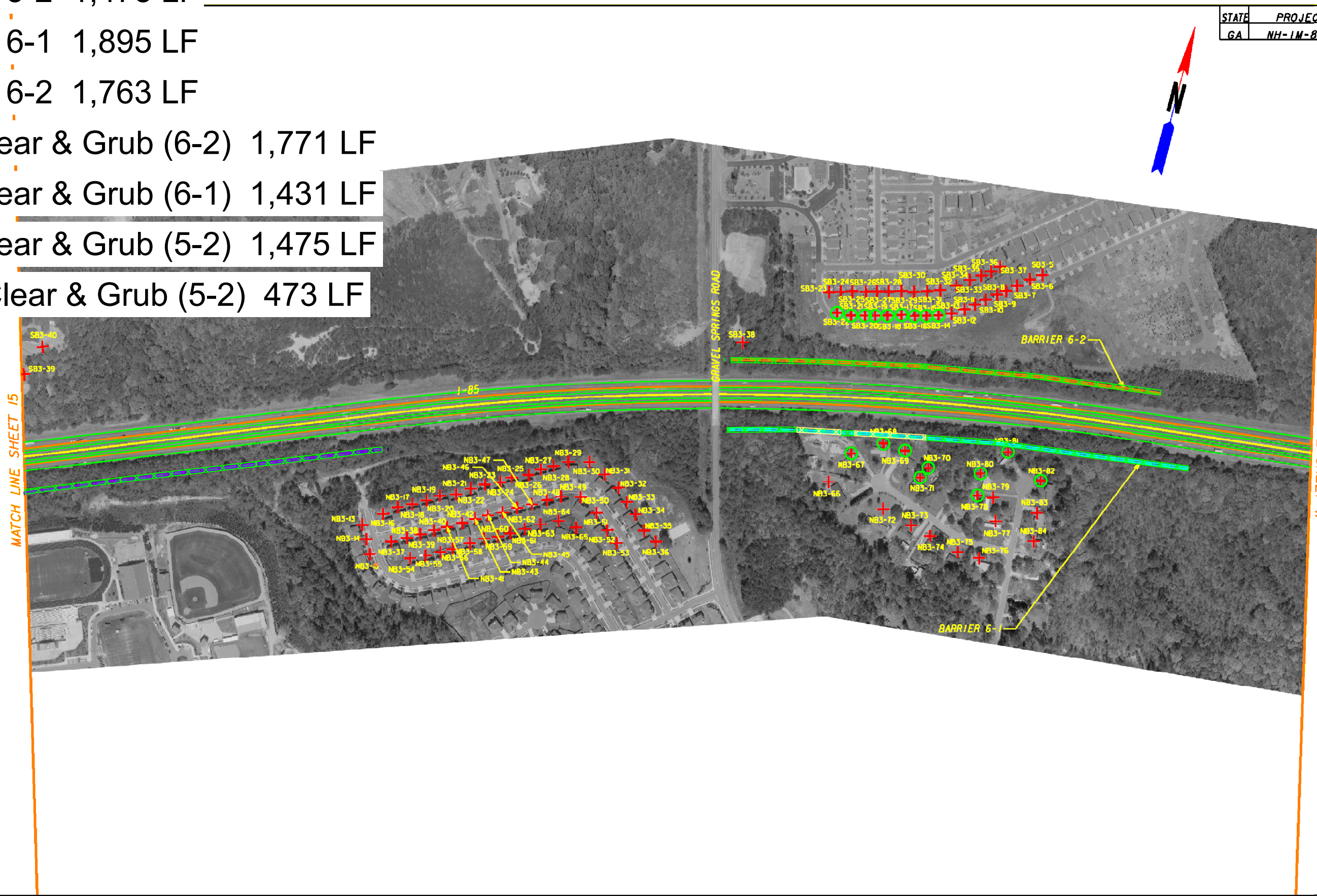
Barrier 6-2 1,763 LF

Hvy Clear & Grub (6-2) 1,771 LF

Hvy Clear & Grub (6-1) 1,431 LF

Hvy Clear & Grub (5-2) 1,475 LF

Light Clear & Grub (5-2) 473 LF



LEGEND

- PROPOSED ROADWAY CENTERLINE
- PROPOSED ROADWAY IMPROVEMENTS
- PROPOSED EDGE OF PAVEMENT
- NOISE BARRIER ANALYZED
- NOISE RECEPTOR
- IMPACTED NOISE RECEPTOR

GRAPHIC SCALE: 1" = 200'

200 0 200 400 600

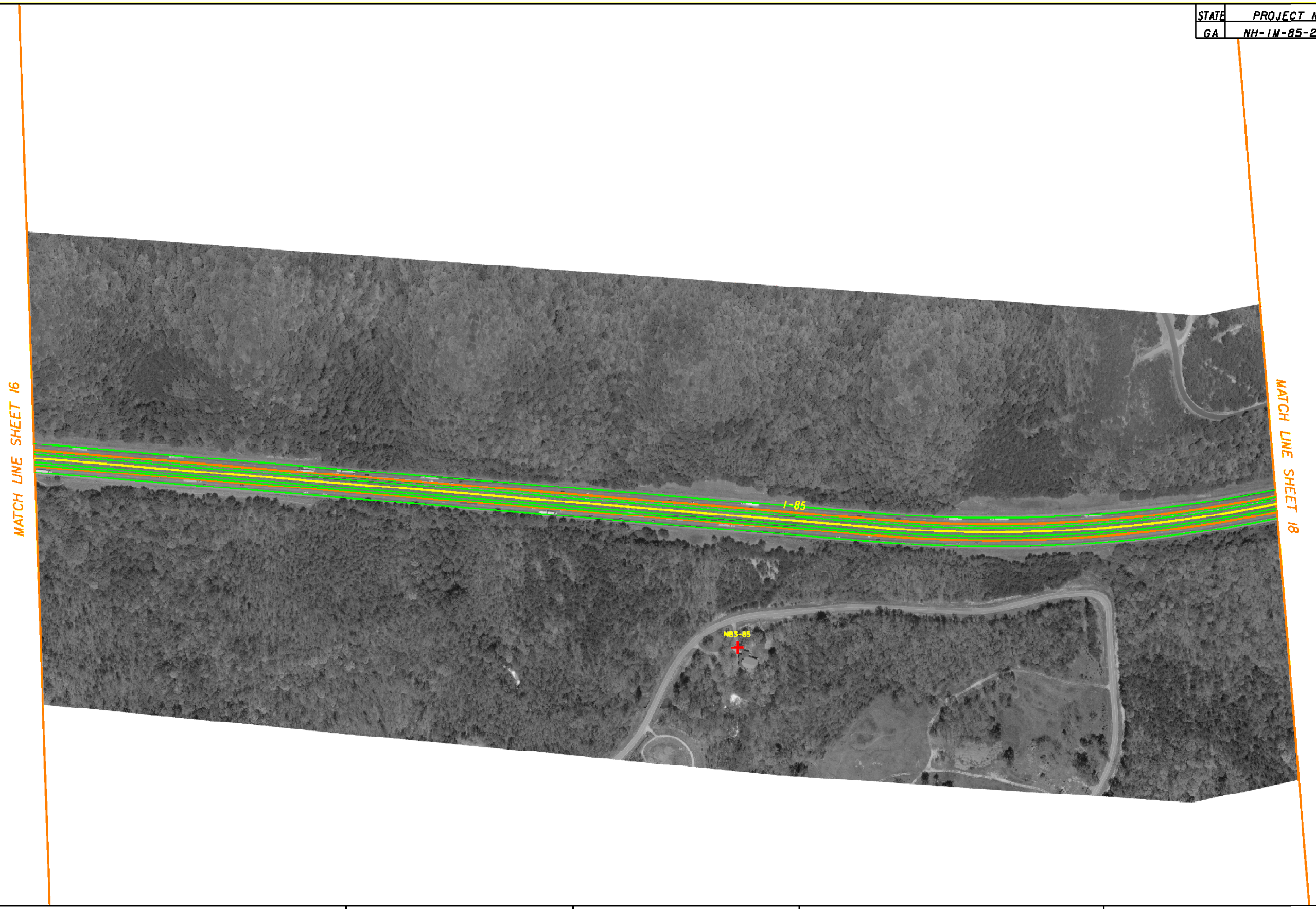
HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

I-85 HOT PROJECT
NOISE RECEPTOR LOCATION MAP

PI: 110600 & 110610
PROJECT: NH-IM-85-2(164) & NH-IM-85-2 (165)
COUNTY: GWINNETT AND BARROW
DATE: 12-17-09

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NH-IM-85-2(165)	17	19



LEGEND

- PROPOSED ROADWAY CENTERLINE
- PROPOSED ROADWAY IMPROVEMENTS
- PROPOSED EDGE OF PAVEMENT
- NOISE BARRIER ANALYZED
- NOISE RECEPTOR
- IMPACTED NOISE RECEPTOR

GRAPHIC SCALE: 1"= 200'

200 0 200 400 600

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

I-85 HOT PROJECT
NOISE RECEPTOR LOCATION MAP

PI: 110600 & 110610
PROJECT: NH-IM-85-2(164) & NH-IM-85-2 (165)
COUNTY: GWINNETT AND BARROW
DATE: 12-17-09

Barrier 7-1 927 LF

Hvy Clear & Grub (7-1) 930 LF

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NH-IM-85-2(165)	18	19

LEGEND

- PROPOSED ROADWAY CENTERLINE
- PROPOSED ROADWAY IMPROVEMENTS
- PROPOSED EDGE OF PAVEMENT
- NOISE BARRIER ANALYZED
- NOISE RECEPTOR
- IMPACTED NOISE RECEPTOR

GRAPHIC SCALE: 1"= 200'

200 0 200 400 600

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

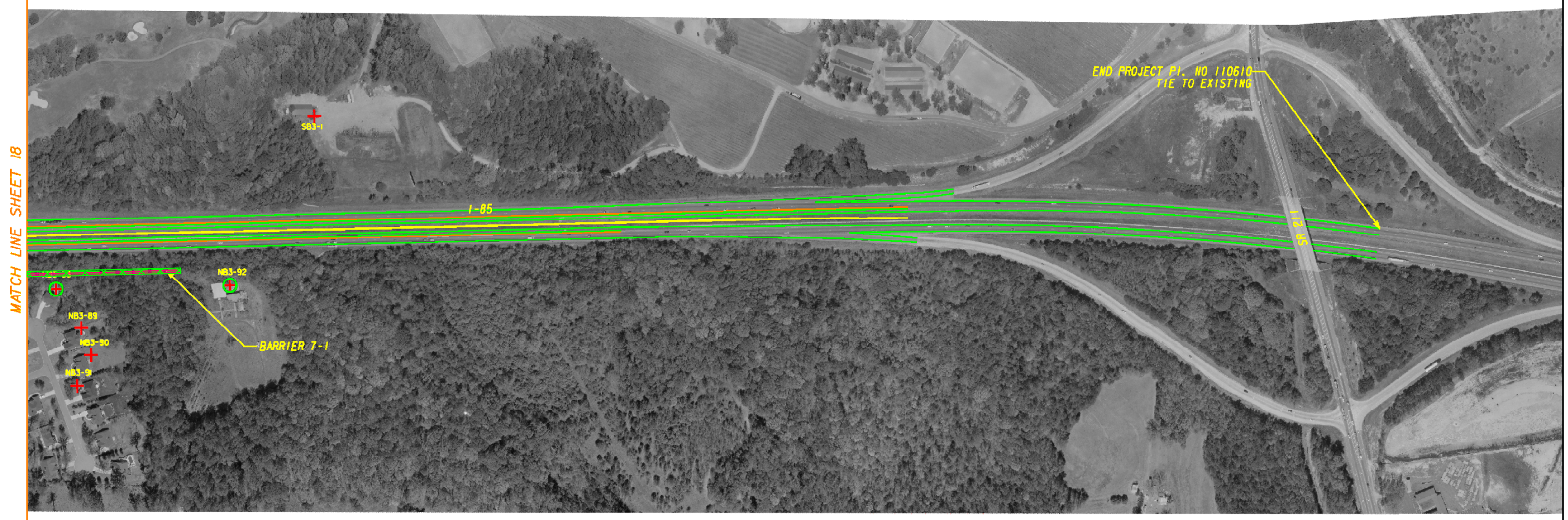
I-85 HOT PROJECT
NOISE RECEPTOR LOCATION MAP

PI: 110600 & 110610
PROJECT: NH-IM-85-2(164) & NH-IM-85-2 (165)
COUNTY: GWINNETT AND BARROW
DATE: 12-17-09

Barrier 7-1 575 LF

Hvy Clear & Grub (7-1) 578 LF

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	NH-1M-85-2(165)	19	19



LEGEND

- PROPOSED ROADWAY CENTERLINE
- PROPOSED ROADWAY IMPROVEMENTS
- PROPOSED EDGE OF PAVEMENT
- NOISE BARRIER ANALYZED
- NOISE RECEPTOR
- IMPACTED NOISE RECEPTOR

GRAPHIC SCALE: 1" = 200'

200 0 200 400 600

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

I-85 HOT PROJECT
NOISE RECEPTOR LOCATION MAP

PI: 110600 & 110610
PROJECT: NH-1M-85-2(164) & NH-1M-85-2 (165)
COUNTY: GWINNETT AND BARROW
DATE: 12-17-09

HNTB

I-85 Managed Lanes
Design Build Estimate & Proposal Schedule

Material Quotes & Backup

Thomas Gorman

From: Nick Delaney <NDelaney@curtinco.com>
Sent: Friday, April 04, 2014 1:38 PM
To: Thomas Gorman
Subject: Barrier Pricing

Tom,

You can use $30.00 LF for Method I Barrier and $8,000 each for impact attenuators. Any reset of barrier or impact attenuators would be an additional cost.

Nick Delaney
Curtin Trucking & Drainage
704-622-8367 moble

Sent from my Verizon Wireless 4G LTE smartphone

PIPE AND WIRE PRICE WEEK OF 05/30/14

PIPE PER 100'					
SIZE	EMT	GALV	IMC	PVC 40	PVC 80
1/2	$ 25.30	$ 137.25	$ 77.11	$ 17.88	$ 26.63
3/4	$ 41.30	$ 140.60	$ 90.63	$ 21.59	$ 36.29
1	$ 69.86	$ 208.63	$ 136.46	$ 31.55	$ 49.53
1 1/4	$ 113.45	$ 297.69	$ 185.38	$ 45.28	$ 65.55
1 1/2	$ 139.08	$ 334.68	$ 230.93	$ 52.29	$ 77.96
2	$ 165.51	$ 412.33	$ 291.71	$ 66.45	$ 100.99
2 1/2	$ 252.91	$ 774.39	$ 573.81	$ 112.20	$ 161.74
3	$ 324.38	$ 881.20	$ 758.29	$ 137.15	$ 196.21
3 1/2	$ 424.19	$ 1,150.18	$ 891.73	$ 174.21	$ 289.30
4	$ 437.19	$ 1,215.51	$ 1,001.91	$ 189.50	$ 298.29
5		$ 2,482.73		$ 267.83	$ 437.29
6		$ 3,238.34		$ 351.24	$ 616.54

WIRE PER 1000'					
SIZE	THHN STR	XHHW CU	XLP USE CU	XHHW AL	XLP USE AL
14awg	$ 76.01	$ 83.90	$ 117.86		
12awg	$ 116.60	$ 132.25	$ 145.01		
10awg	$ 178.31	$ 192.60	$ 203.74		
8awg	$ 287.16	$ 300.26	$ 327.41		
6awg	$ 441.84	$ 452.45	$ 497.54	$ 157.58	$ 198.91
4awg	$ 683.03	$ 705.40	$ 747.89	$ 195.34	$ 239.41
3awg	$ 855.61	$ 905.25	$ 902.11		
2awg	$ 1,070.94	$ 1,095.05	$ 1,152.29	$ 265.05	$ 330.50
1awg	$ 1,385.06	$ 1,486.35	$ 1,551.53	$ 387.06	$ 457.70
1/0	$ 1,660.91	$ 1,741.50	$ 1,839.56	$ 464.75	$ 565.64
2/0	$ 2,081.99	$ 2,184.89	$ 2,306.39	$ 549.35	$ 664.17
3/0	$ 2,611.89	$ 2,737.11	$ 2,818.66	$ 681.53	$ 781.55
4/0	$ 3,279.88	$ 3,428.59	$ 3,539.69	$ 758.50	$ 869.47
250 MCM	$ 3,977.80	$ 4,095.58	$ 4,288.06	$ 925.53	$ 1,179.19
300 MCM	$ 4,797.28	$ 4,772.60	$ 4,724.53	$ 1,278.81	$ 1,532.86
350 MCM	$ 5,617.14	$ 5,575.28	$ 5,882.46	$ 1,300.24	$ 1,567.01
400 MCM	$ 6,325.29	$ 6,359.56	$ 6,546.94	$ 1,519.55	$ 1,913.24
500 MCM	$ 7,775.04	$ 7,689.73	$ 8,000.81	$ 1,676.05	$ 2,048.33
600 MCM	$ 9,981.73	$ 9,814.23	$10,122.14	$ 2,123.74	
750 MCM	$16,629.11	$13,626.55	$14,429.01	$ 2,477.39	$ 3,140.70

MED VOLTAGE 15KV PER 1000'	
MV105-15KV-2-CTS-220MIL-EPR-ESS-PVC JKT	$ 3,801.82
MV105-15KV-1/0-CTS-220MIL-EPR-ESS-PVC JKT	$ 4,304.15
MV105-15KV-2/0-CTS-220MIL-EPR-ESS-PVC JKT	$ 5,687.72
MV105-15KV-4/0-CTS-220MIL-EPR-ESS-PVC JKT	$ 7,727.43

VFD CABLE 1KV PER 1000'	
VFD-1KV-8-4-TC-ER-PVC/XLP-LTZ-CUT REEL	$ 7,691.54
VFD-1KV-10-4-TC-ER-PVC/XLP-LTZ-CUT REEL	$ 4,661.54
VFD-1KV-12-4-TC-ER-PVC/XLP-LTZ-CUT REEL	$ 3,294.15
VFD-1KV-14-4-TC-ER-PVC/XLP-LTZ-CUT REEL	$ 2,517.23
VFD-1KV-16-4-TC-ER-PVC/XLP-LTZ-CUT REEL	$ 1,988.92

PRICE IS BASED ON COMEX COPPER WHEN SHIPPED

GRAYBAR IS NOT RESPONSIBLE FOR PRICING ERRORS IN THIS FORM PRICE CAN CHANGE WITHOUT NOTICE PLEASE VERIFY BEFORE ORDERING THIS IS FOR REFERENCE ONLY

PIPE PER 100'			
KWIK-FIT-SS-EMT		KWIK-COUP-COMP-EMT	
1-1/4 INCH	$ 124.08	1-1/4 INCH	$ 128.74
1-1/2 INCH	$ 152.63	1-1/2 INCH	$ 157.29
2 INCH	$ 183.80	2 INCH	$ 228.57
2-1/2 INCH	$ 296.78	2-1/2 INCH	$ 453.08
3 INCH	$ 388.28	3 INCH	$ 564.71
3-1/2 INCH	$ 502.88	3-1/2 INCH	$ 583.68
4 INCH	$ 524.20	4 INCH	$ 620.54

MC ALUM FEEDER CONDUCTOR PER 1000' THREE CONDUCTOR	
MC ALUM AL 6 6 6 6	$ 1,748.27
MC ALUM AL 4 4 4 6	$ 1,816.71
MC ALUM AL 2 2 2 6	$ 2,304.01
MC ALUM AL 1 1 1 4	$ 2,698.40
MC ALUM AL 1/0 1/0 1/0 4	$ 3,072.59
MC ALUM AL 2/0 2/0 2/0 4	$ 3,245.01
MC ALUM AL 4/0 4/0 4/0 2	$ 4,665.31
MC ALUM AL 250 250 250 2	$ 5,937.19
MC ALUM AL 750 750 750 1/0	$14,210.13

MC ALUM FEEDER CONDUCTOR PER 1000' FOUR CONDUCTOR	
MC ALUM AL 6 6 6 6 6	$ 1,902.03
MC ALUM AL 4 4 4 4 6	$ 1,966.92
MC ALUM AL 1 1 1 1 4	$ 3,197.91
MC ALUM AL 1/0 1/0 1/0 1/0 4	$ 3,740.96
MC ALUM AL 3/0 3/0 3/0 3/0 4	$ 5,206.59
MC ALUM AL 4/0 4/0 4/0 4/0 2	$ 5,818.08
MC ALUM AL250 250 250 250 1	$ 8,092.52
MC ALUM AL 350 350 350 350 1/0	$ 9,903.01
MC ALUM AL 500 500 500 500 2/0	$12,401.43
MC ALUM AL 500 500 500 500 250	$12,635.19
MC ALUM AL 750 750 750 750 3/0	$16,784.09

MC ALUM COPPER			HCF ALUM COPPER	
SIZE	SOLID	1000	SOLID	1000
14-2	$ 406.99	$ 417.79		
14-3	$ 635.99	$ 646.76		
14-4	$ 872.96	$ 880.54		
12-2	$ 410.31	$ 421.10	$ 681.54	$ 692.31
12-3	$ 703.39	$ 714.18	$1,004.85	$ 1,015.63
12-4	$ 952.18	$ 962.96	$1,515.61	$ 1,526.40
10-2	$ 873.26	$ 884.04	$1,082.15	$ 1,092.94
10-3	$ 1,223.81	$1,234.60	$1,681.86	$ 1,692.65
10-4	$ 1,921.28	$2,020.69	$2,728.36	$ 2,739.15

	NM-B W/G		UF-B W/G	
SIZE	COILS	REELS	COILS	REELS
14-2	$ 198.90	$ 204.84	$ 219.64	$ 225.59
12-2	$ 302.45	$ 308.38	$ 336.66	$ 342.60
10-2	$ 468.58	$ 474.53	$ 523.16	$ 529.11
8-2	$ 735.80		$ 836.91	
6-2	$ 1,039.20		$1,176.34	
3 CONDUCTOR				
14-3	$ 283.16	$ 289.11	$ 321.78	$ 327.73
12-3	$ 432.14	$ 438.09	$ 488.11	$ 494.04
10-3	$ 684.23	$ 690.16	$ 768.34	$ 774.26
8/3	$ 1,099.76		$1,275.80	
6/3	$ 1,607.21		$1,850.48	
4/3	$ 4,096.93			
2/3	$ 5,911.48			

PIPE AND WIRE PRICE WEEK OF 05/30/2014

TRAFFIC WIRE PER 1000'	
14-2CS-LLI CUT REEL	$ 442.56
14-3C-TSC CUT REEL	$ 826.92
14-4C-TSC CUT REEL	$ 980.77
14-6C-TSC CUT REEL	$ 1,346.92
14-12C-TSC CUT REEL	$ 2,500.00
14-LOOP IN DUCT CUT REEL	$ 196.49
14-XHHW-2-BLK-2500R	$ 85.78
14-XLP-USE-2-BLK-2500R	$ 117.53
20-3CS-LLI CUT REEL	$ 260.76
4-4C-DBLC CUT REEL	$ 7,142.60
XPTC-8-3 W/G CUT REEL	$ 2,067.95
UF-WG-8-3-CUT REEL	$ 1,275.80
UF-WG-12-2-1000R	$ 339.21
543945 0091000	$ 153.98
OSP6U 0101000	$ 510.91
9418 0601000 - 4C18	$ 956.71
DB-6P19-G0-39-GCC CUT REEL	$ 1,458.49
DB-12P19-GO-39-GCC CUT REEL	$ 2,365.22
DB-25P19-GO-39-GCC CUT REEL	$ 4,117.53
3M TRAFFIC MATERIAL PER EACH	
82A / Inline resin splicing kit	$ 26.46
DLS5000 / Detector loop sealant	$ 31.91
78-8095-4069-9 / Air power app gun	$ 236.20
78-8095-4075-6 / Front caps, paks of 12	$ 114.93
GUY WIRE/ANCHORING	
1/4-SM-A-7W-1000-NSP	$ 226.09
3/8-SM-A-7W-1000-NSP	$ 467.25
7/16-SM-A-7W-1000-NSP	$ 633.04
GDE-1104 Preformed 1/4 deadend grip	$ 2.29
GDE-1107 Preformed 3/8 deadend grip	$ 3.23
GDE-1108 Preformed 7/16 deadend grip	$ 5.65
8006039 Preformed .4" to .6" serviseal	$ 11.00
5317 / 5/8 x 7ft threaded anchor rod	$ 23.75
6450 / Guy clamp 3 bolts	$ 10.95
88135 / 135sq-in exp anchor	$ 16.03
96FRPMYEL / Full round guy marker	$ 8.05

SINGLE MODE MN DOT FIBER - DRAKA		
M-ETH0037950-ES-006-E3	6-SMF	$ 0.37
M-ETH0037953-ES-012-E3	12-SMF	$ 0.39
M-ETH0037959-ES-024-E3	24-SMF	$ 0.46
M-ETH0037960-ES-036-E3	36-SMF	$ 0.52
M-ETH0037965-ES-048-E3	48-SMF	$ 0.59
M-ETH0037967-ES-060-E3	60-SMF	$ 0.66
M-ETH0037970-ES-072-E3	72-SMF	$ 0.75
M-ETH0037972-ES-096-E3	96-SMF	$ 0.94
M-ETH0037973-ES-144-E3	144-SMF	$ 1.41

HDPE SCH80 PER 100 FEET	
1IN S/S SCH80 GRAY UL LISTED	$ 54.54
1-1/2 S/S SCH80 GRAY UL LISTED	$ 87.69
2IN S/S SCH80 GRAY UL LISTED	$ 118.37
3IN S/S SCH80 GRAY UL LISTED	$ 253.94
4IN S/S SCH80 GRAY UL LISTED	$ 384.15
HDPE SCH40 PER 100 FEET	
1-1/2 S/S SCH40 GRAY UL LISTED	$ 71.48
2IN S/S SCH40 GRAY UL LISTED	$ 93.35
3IN S/S SCH40 GRAY UL LISTED	$ 202.58
4IN S/S SCH40 GRAY UL LISTED	$ 304.26
SHUR LOCK II COUPLERS PER EACH	
SL602C-100	$ 14.45
SL602C-125	$ 15.12
SL602C-150	$ 15.57
SL602C-200	$ 19.11
SL602C-300	$ 36.20
SL602C-400	$ 39.72
BONDUIT CONDUIT ADHESIVE-PER EACH	
BT-KITG / Con ad kit with dis tool	$ 139.16
BT-KIT / Bonduit conduit ad kit	$ 88.79
BT-10NOZZLE / Bonduit mixing nozzles	$ 17.23
WARNING TAPE	
42-0108 / 6in x 1000 / Red / Standard Non-Detectable "ELECTRIC LINE"	$ 42.83
42-1022 / 3in x 1000 / Orange / Standard Non-Detectable "CAUTION MN DOT CABLE BELOW"	$ 25.69
42-0026 / 3in x 6000 / Orange / Extra Stretch Non-Detectable "Fiber Optic Cable"	$ 218.52
42-0033 / 6in x 6000 / Orange / Extra Stretch Non-Detectable "Fiber Optic Cable"	$ 437.03
QUAZITE BOXES - MN DOT	
PG4872Z533MN	$ 2,500.00
PG2436Z714MN	$ 431.81
PG2436BA24	$ 527.64
PG2436CA0017	$ 247.17
PG1730BA24	$ 312.07
PG1730CA0017	$ 141.94
PG1324BA12	$ 150.91
PG1324CA0017	$ 114.62
PR2732BA36	$ 377.57
PR2732BA36	$ 791.19

BARE CU		GROUND RODS	
2 SOL TIN	$1,607.89	1/2 X 8	15.12
6 SOL	$ 456.65	1/2 X 10	18.95
6 STR	$ 494.15	5/8 X 8	15.26
1/0 19STR	$1,910.51	5/8 X 15	37.34
4/0 19STR	$3,761.15	3/4 X 10	28.37

GRAYBAR IS NOT RESPONSIBLE FOR PRICING ERRORS IN THIS FORM
PRICE CAN CHANGE WITHOUT NOTICE PLEASE VERIFY BEFORE ORDERING THIS IS FOR REFERENCE ONLY
FREIGHT NOT INCLUDED

Whatever you need... GRAYBAR'S GOT IT!

2050 NANCY HANKS DRIVE
NORCROSS GA 30071-2956
Phone: 678-291-5106
Fax: 770-446-7693

To: HNTB
MIKE WALLACE
2050 NANCY HANKS DR
NORCROSS GA 30071-2956
Attn: MIKE WALLACE
Phone:
Fax:
Email: MICHELE.LONG@GRAYBAR.COM

Date: 05/06/2014
Proj Name:
GB Quote #: 220154255
Valid From: 05/06/2014
Valid To: 06/05/2014
Contact: MICHELE LONG
Email: michele.long@graybar.com

Proposal

We Appreciate Your Request and Take Pleasure in Responding As Follows

Item	Quantity	Supplier	Catalog Nbr	Description	Price	Unit	Ext.Price
100	**1 EA**	**CORNING OPTICAL**	**WCH-02P**	W-MNTD CLST HOUS/2CCH PNL	**$104.53**	**1**	**$104.53**
GB Part #: 96069042 UPC #: 99628500822 **Ship From:** Stock ZONE-AUSTELL,GA ***Item Note:*** **HOLDS UP TO 24 FIBERS**							
200	**1 EA**	**CORNING OPTICAL**	**WCH-04P**	W-MNTD CLST HOUS/4 CCH PN	**$172.23**	**1**	**$172.23**
GB Part #: 96069043 UPC #: 99628500823 **Ship From:** Stock ZONE-AUSTELL,GA ***Item Note:*** **HOLDS UP TO 48 FIBERS**							
300	**1 EA**	**CORNING OPTICAL**	**WCH-06P**	WMNTD CLST HOUS/6 CCHPNL	**$247.62**	**1**	**$247.62**
GB Part #: 96086545 UPC #: 99628500824 **Ship From:** Stock ZONE-AUSTELL,GA ***Item Note:*** **HOLDS UP TO 72 FIBERS**							
400	**1 EA**	**CORNING OPTICAL**	**M67-068**	SPL TRAY .2 RED 6 HSF	**$44.61**	**1**	**$44.61**
GB Part #: 96092081 UPC #: **Ship From:** Stock ZONE-AUSTELL,GA ***Item Note:*** **TRAY FOR 6 HEAT SHRINK FUSION SPLICES**							

This equipment and associated installation charges may be financed for a low monthly payment through Graybar Financial Services (subject to credit approval). For more information call 1-800-241-7408 to speak with a leasing specialist.

To learn more about Graybar, visit our website at www.graybar.com **24-Hour Emergency Phone#: 1-800-GRAYBAR**

Subject to the standard terms and conditions set forth in this document. Unless otherwise noted,freight terms are F.O.B. shipping point prepaid and bill.
Unless noted the estimated ship date will be determined at the time of order placement.

To: HNTB
MIKE WALLACE
2050 NANCY HANKS DR
NORCROSS GA 30071-2956
Attn: MIKE WALLACE

Date: 05/06/2014
Proj Name:
GB Quote #: 220154255

Proposal

We Appreciate Your Request and Take Pleasure in Responding As Follows

500	**1 EA**	**CORNING OPTICAL**	**M67-061**	SPLICE TRY FR WIC 6F MECH	**$45.48**	**1**	**$45.48**

GB Part #: 92041785 UPC #: 99628500795
Ship From: Stock ZONE-RICHMOND,VA
Item Note: **TRAY FOR 6 MECHANICAL SPLICES**
NO STOCK AVAILABLE AT THIS TIME WILL HAVE TO ORDER FROM CORNING

600	**1 EA**	**CORNING OPTICAL**	**2806031-01**	HEAT SHRNK SPLC PROT 50PK	**$54.62**	**1**	**$54.62**

GB Part #: 94061213 UPC #: 99628500747
Ship From: Stock ZONE-AUSTELL,GA
Item Note: **HEAT SHRINK SLEEVES PROTECTORS 50 PACK**

Total in USD (Tax not included): $669.09

This equipment and associated installation charges may be financed for a low monthly payment through Graybar Financial Services (subject to credit approval). For more information call 1-800-241-7408 to speak with a leasing specialist.

To learn more about Graybar, visit our website at www.graybar.com **24-Hour Emergency Phone#: 1-800-GRAYBAR**

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Unless noted the estimated ship date will be determined at the time of order placement.

RECORD OF TELEPHONE CALL

HNTB

Job #	Hwy 47 – Little River	**Date**	10-25-13
Call From	Cindy Rood	**Of**	HNTB
Call To	Linda	**Of**	C&C Fence (770) 603-9745
By			

Subject Discussed	**Action to be Taken**
Guard Rail	
31" W-beam Rail $30 – $32.50 per LF installed	
Type 1 Anchorage $1450 EA	
Type 12 Anchorage $4100 EA	
End Terminals $ 75 EA	
Connection to Bridge $ 1675 EA	

RECORD OF TELEPHONE CALL

HNTB

Job #	I-285 @ Riverside Ramps	**Date**	04/24/14
Call From	Tom Gorman	**Of**	HNTB Corporation
Call To	James Tuten	**Of**	Martin Marietta Corp
By	(404)456-0087		**James.tuten@martinmarietta.com**

Subject Discussed	**Action to be Taken**
Graded Aggregate Base Matl is $9.00/tn + tax	
12" Riprap is $18.00/tn + tax	

RECORD OF TELEPHONE CALL

HNTB

Job #	I-285 and Riverside Ramps	**Date**	04/28-14
Call From	Tom Gorman	**Of**	HNTB Companies
Call To	Eddie Rogers	**Of**	Metro Materials – Atlanta, GA
By	(678)776-8804		

Subject Discussed	**Action to be Taken**
Current AC Bituminous Mix Prices	
Recycle AC 12.5 MM $53.95/ton	$60.40
Recycle AC 19.0 MM $54.95/ton	$61.47
Recycle AC 25.0 MM $59/ton	$65.81
Add $2.50 for lime	
Add 7% tax	

RECORD OF TELEPHONE CALL

HNTB

Job #	I-285 @ Riverside Ramps	**Date**	40/29-14
Call From	Tom Gorman	**Of**	HNTB Corporation
Call To	Brad Dye	**Of**	Peek Safety, Atlanta, GA
By			

Subject Discussed	**Action to be Taken**
Cell (706)604-7374	
Off (706)341-4031	
bdye@peeksafety.com	
Traded phone messages about signs & striping.	
Sent an email to Brad with items for pricing.	

RECORD OF TELEPHONE CALL

HNTB

Job #	I-85 Managed Lanes	**Date**	6-25-14
Call From	Mike Wallace	**Of**	HNTB Corporation
Call To	Bob Engle	**Of**	UBS Boring
By	(404) 314-5071		

Subject Discussed	Action to be Taken
Bore 4 - 2" Conduits	High End - $35
	Low End - $25

Thomas Gorman

From: Brad Dye <bdye@peeksafety.com>
Sent: Wednesday, April 30, 2014 6:00 AM
To: Thomas Gorman
Subject: BUDGET NUMBERS

Highway Sign, Type 1 Material, Reflective Sheeting Type 3	122 S.F	$18.00
Highway Sign, Type 2 Material, Reflective Sheeting Type 3	338 S.F	$20.00
Highway Sign, Type 1 Material, Reflective Sheeting Type 9	438 S.F	$20.00
Galvanized Steel Post, Type 7	1,236 L.F.	$6.00
Galvanized Steel Post, Type 9	245 L.F.	$8.00
Ground-Mounted Breakaway Sign Support	14 Ea.	$750.00
Thermo Pvmnt Marking, Arrow, Type 2	6 Ea.	$75.00
Thermo Pvmnt Marking, Arrow, Type 3	6 Ea.	$95.00
Thermo Pvmnt Marking, Word, Type 1	6 Ea.	$150.00
Thermo Pvmnt Marking, Word, Type 15	10 Ea.	$750.00
Thermo Solid Traffic Stripe, 5”, White	3,775 L.F.	$0.45
Thermo Solid Traffic Stripe, 5”, Yellow	2,475 L.F.	$0.45
Thermo Solid Traffic Stripe, 12”, White	1,237 L.F.	$5.00
Thermo Skip Traffic Stripe, 5”, White	578 L.F.	$0.35

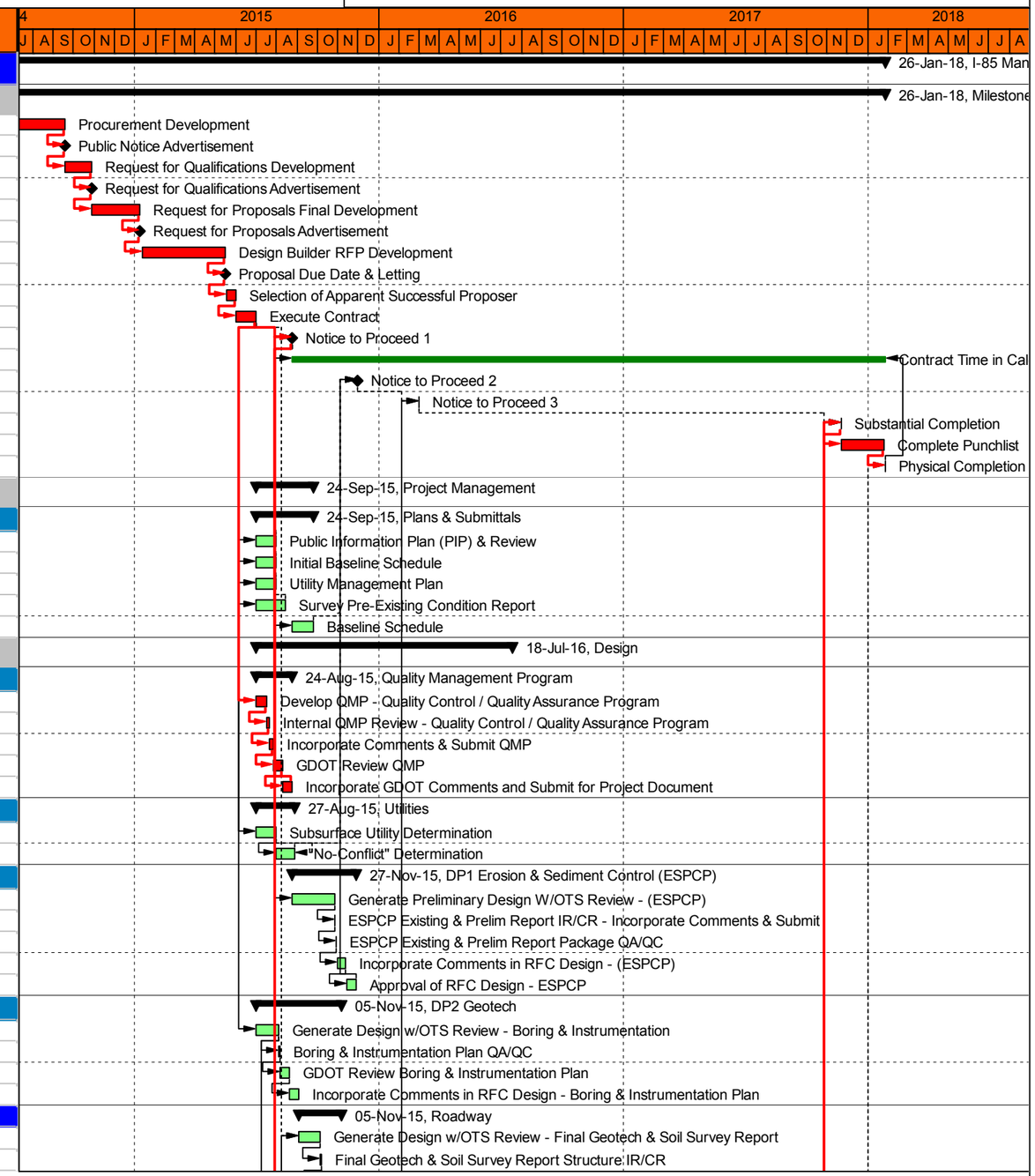
Thermo Traffic Striping, White	493 S.Y.	$6.00
Thermo Traffic Striping, Yellow	146 S.Y.	$6.00
Raised Pvmnt Markers, Type 1	16 Ea.	$5.00
Raised Pvmnt Markers, Type 3	20 Ea.	$5.00
Pvmnt Marker, Thermo, w/Raised Reflector	1 Ea.	$750.00

Brad Dye
Peek Pavement Markings
4600 Peek Industrial Drive
Columbus, GA 31908
(706) 563-5867 Peek Pavement Marking
(706) 341-4031 Direct
(706) 563-7762 Fax
bdye@peeksafety.com

I-85 Managed Lanes
Design Build Estimate & Proposal Schedule

Design Build Detailed Schedule

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
I-85 Managed Lanes (PI-110600)		917	0	23-Jun-14	26-Jan-18
Milestones		917	0	23-Jun-14	26-Jan-18
MILE - 0000	Procurement Development	62	0	23-Jun-14	18-Sep-14
MILE - 1000	Public Notice Advertisement	0	0	19-Sep-14	
MILE - 1010	Request for Qualifications Development	28	0	19-Sep-14	28-Oct-14
MILE - 1020	Request for Qualifications Advertisement	0	0		28-Oct-14
MILE - 1030	Request for Proposals Final Development	50	0	29-Oct-14	09-Jan-15
MILE - 1040	Request for Proposals Advertisement	0	0		09-Jan-15
MILE - 1050	Design Builder RFP Development	90	0	12-Jan-15	15-May-15
MILE - 1070	Proposal Due Date & Letting	0	0		15-May-15
MILE - 1060	Selection of Apparent Successful Proposer	10	0	18-May-15	01-Jun-15
MILE - 1080	Execute Contract	22	0	02-Jun-15	01-Jul-15
MILE - 1090	Notice to Proceed 1	0	0	25-Aug-15	
MILE - 1100	Contract Time in Calendar Days	886	0	25-Aug-15	26-Jan-18
MILE - 1110	Notice to Proceed 2	0	504	30-Nov-15	
MILE - 1120	Notice to Proceed 3	1	440	01-Mar-16	01-Mar-16
MILE - 1130	Substantial Completion	1	0	21-Nov-17	21-Nov-17
MILE - 1140	Complete Punchlist	44	0	22-Nov-17	25-Jan-18
MILE - 1150	Physical Completion Milestone	1	0	26-Jan-18	26-Jan-18
Project Management		59	549	02-Jul-15	24-Sep-15
Plans & Submittals		59	549	02-Jul-15	24-Sep-15
PRM - 1000	Public Information Plan (PIP) & Review	20	17	02-Jul-15	30-Jul-15
PRM - 1010	Initial Baseline Schedule	20	17	02-Jul-15	30-Jul-15
PRM - 1020	Utility Management Plan	20	17	02-Jul-15	30-Jul-15
PRM - 1030	Survey Pre-Existing Condition Report	30	7	02-Jul-15	13-Aug-15
PRM - 1040	Baseline Schedule	22	549	25-Aug-15	24-Sep-15
Design		266	389	02-Jul-15	18-Jul-16
Quality Management Program		37	0	02-Jul-15	24-Aug-15
DES - 1000	Develop QMP - Quality Control / Quality Assurance Program	10	0	02-Jul-15	16-Jul-15
DES - 1010	Internal QMP Review - Quality Control / Quality Assurance Program	2	0	17-Jul-15	20-Jul-15
DES - 1020	Incorporate Comments & Submit QMP	5	0	21-Jul-15	27-Jul-15
DES - 1030	GDOT Review QMP	10	0	28-Jul-15	10-Aug-15
DES - 1040	Incorporate GDOT Comments and Submit for Project Document	10	0	11-Aug-15	24-Aug-15
Utilities		40	568	02-Jul-15	27-Aug-15
DES - 1050	Subsurface Utility Determination	20	568	02-Jul-15	30-Jul-15
DES - 1060	"No-Conflict" Determination	20	568	31-Jul-15	27-Aug-15
DP1 Erosion & Sediment Control (ESPCP)		67	504	25-Aug-15	27-Nov-15
DES - 1070	Generate Preliminary Design W/OTS Review - (ESPCP)	44	504	25-Aug-15	26-Oct-15
DES - 1080	ESPCP Existing & Prelim Report IR/CR - Incorporate Comments & Submit	1	504	27-Oct-15	27-Oct-15
DES - 1090	ESPCP Existing & Prelim Report Package QA/QC	2	504	28-Oct-15	29-Oct-15
DES - 1100	Incorporate Comments in RFC Design - (ESPCP)	10	504	30-Oct-15	12-Nov-15
DES - 1110	Approval of RFC Design - ESPCP	10	504	13-Nov-15	27-Nov-15
DP2 Geotech		89	566	02-Jul-15	05-Nov-15
A1150	Generate Design w/OTS Review - Boring & Instrumentation	22	389	02-Jul-15	03-Aug-15
A1170	Boring & Instrumentation Plan QA/QC	2	611	04-Aug-15	05-Aug-15
A1180	GDOT Review Boring & Instrumentation Plan	10	611	06-Aug-15	19-Aug-15
A1190	Incorporate Comments in RFC Design - Boring & Instrumentation Plan	10	611	20-Aug-15	02-Sep-15
Roadway		45	566	03-Sep-15	05-Nov-15
A1000	Generate Design w/OTS Review - Final Geotech & Soil Survey Report	22	566	03-Sep-15	05-Oct-15
A1010	Final Geotech & Soil Survey Report Structure IR/CR	1	566	06-Oct-15	06-Oct-15



Remaining Level of Effort | Actual Work | Critical Remaining W...
Actual Level of Effort | Remaining Work | Milestone

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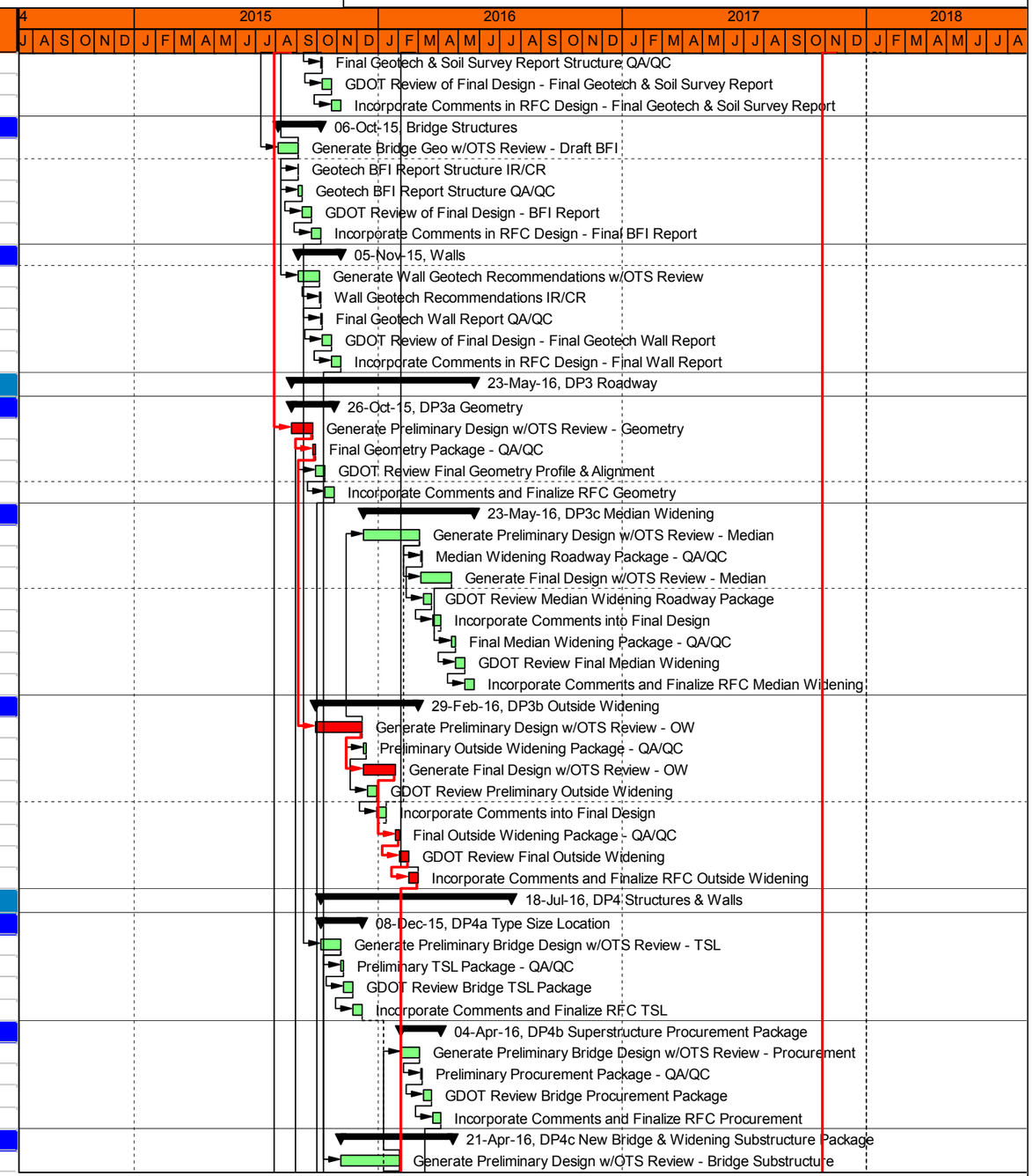
Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
A1020	Final Geotech & Soil Survey Report Structure QA/QC	2	566	07-Oct-15	08-Oct-15
A1030	GDOT Review of Final Design - Final Geotech & Soil Survey Report	10	566	09-Oct-15	22-Oct-15
A1040	Incorporate Comments in RFC Design - Final Geotech & Soil Survey Report	10	566	23-Oct-15	05-Nov-15
Bridge Structures		45	389	04-Aug-15	06-Oct-15
A1050	Generate Bridge Geo w/OTS Review - Draft BFI	22	389	04-Aug-15	02-Sep-15
A1060	Geotech BFI Report Structure IR/CR	1	389	03-Sep-15	03-Sep-15
A1070	Geotech BFI Report Structure QA/QC	2	389	04-Sep-15	08-Sep-15
A1080	GDOT Review of Final Design - BFI Report	10	389	09-Sep-15	22-Sep-15
A1090	Incorporate Comments in RFC Design - Final BFI Report	10	389	23-Sep-15	06-Oct-15
Walls		45	412	03-Sep-15	05-Nov-15
A1100	Generate Wall Geotech Recommendations w/OTS Review	22	412	03-Sep-15	05-Oct-15
A1110	Wall Geotech Recommendations IR/CR	1	412	06-Oct-15	06-Oct-15
A1120	Final Geotech Wall Report QA/QC	2	412	07-Oct-15	08-Oct-15
A1130	GDOT Review of Final Design - Final Geotech Wall Report	10	412	09-Oct-15	22-Oct-15
A1140	Incorporate Comments in RFC Design - Final Wall Report	10	412	23-Oct-15	05-Nov-15
DP3 Roadway		191	427	25-Aug-15	23-May-16
DP3a Geometry		44	302	25-Aug-15	26-Oct-15
A1200	Generate Preliminary Design w/OTS Review - Geometry	22	0	25-Aug-15	24-Sep-15
A1210	Final Geometry Package - QA/QC	2	0	25-Sep-15	28-Sep-15
A1220	GDOT Review Final Geometry Profile & Alignment	10	302	29-Sep-15	12-Oct-15
A1230	Incorporate Comments and Finalize RFC Geometry	10	302	13-Oct-15	26-Oct-15
DP3c Median Widening		117	427	09-Dec-15	23-May-16
A1280	Generate Preliminary Design w/OTS Review - Median	60	427	09-Dec-15	03-Mar-16
A1290	Median Widening Roadway Package - QA/QC	2	438	04-Mar-16	07-Mar-16
A1360	Generate Final Design w/OTS Review - Median	33	427	04-Mar-16	19-Apr-16
A1300	GDOT Review Median Widening Roadway Package	10	438	08-Mar-16	21-Mar-16
A1310	Incorporate Comments into Final Design	10	438	22-Mar-16	04-Apr-16
A1370	Final Median Widening Package - QA/QC	4	427	20-Apr-16	25-Apr-16
A1380	GDOT Review Final Median Widening	10	427	26-Apr-16	09-May-16
A1390	Incorporate Comments and Finalize RFC Median Widening	10	427	10-May-16	23-May-16
DP3b Outside Widening		107	0	29-Sep-15	29-Feb-16
A1240	Generate Preliminary Design w/OTS Review - OW	50	0	29-Sep-15	08-Dec-15
A1250	Preliminary Outside Widening Package - QA/QC	4	9	09-Dec-15	14-Dec-15
A1320	Generate Final Design w/OTS Review - OW	33	0	09-Dec-15	26-Jan-16
A1260	GDOT Review Preliminary Outside Widening	10	9	15-Dec-15	29-Dec-15
A1270	Incorporate Comments into Final Design	10	9	30-Dec-15	13-Jan-16
A1330	Final Outside Widening Package - QA/QC	4	0	27-Jan-16	01-Feb-16
A1340	GDOT Review Final Outside Widening	10	0	02-Feb-16	15-Feb-16
A1350	Incorporate Comments and Finalize RFC Outside Widening	10	0	16-Feb-16	29-Feb-16
DP4 Structures & Walls		199	389	07-Oct-15	18-Jul-16
DP4a Type Size Location		44	498	07-Oct-15	08-Dec-15
A1400	Generate Preliminary Bridge Design w/OTS Review - TSL	22	389	07-Oct-15	05-Nov-15
A1410	Preliminary TSL Package - QA/QC	2	498	06-Nov-15	09-Nov-15
A1420	GDOT Review Bridge TSL Package	10	498	10-Nov-15	23-Nov-15
A1430	Incorporate Comments and Finalize RFC TSL	10	498	24-Nov-15	08-Dec-15
DP4b Superstructure Procurement Package		44	422	03-Feb-16	04-Apr-16
A2020	Generate Preliminary Bridge Design w/OTS Review - Procurement	22	422	03-Feb-16	03-Mar-16
A2030	Preliminary Procurement Package - QA/QC	2	422	04-Mar-16	07-Mar-16
A2040	GDOT Review Bridge Procurement Package	10	422	08-Mar-16	21-Mar-16
A2050	Incorporate Comments and Finalize RFC Procurement	10	422	22-Mar-16	04-Apr-16
DP4c New Bridge & Widening Substructure Package		117	449	06-Nov-15	21-Apr-16
A1440	Generate Preliminary Design w/OTS Review - Bridge Substructure	60	389	06-Nov-15	02-Feb-16



Remaining Level of Effort | Actual Work | Critical Remaining W...
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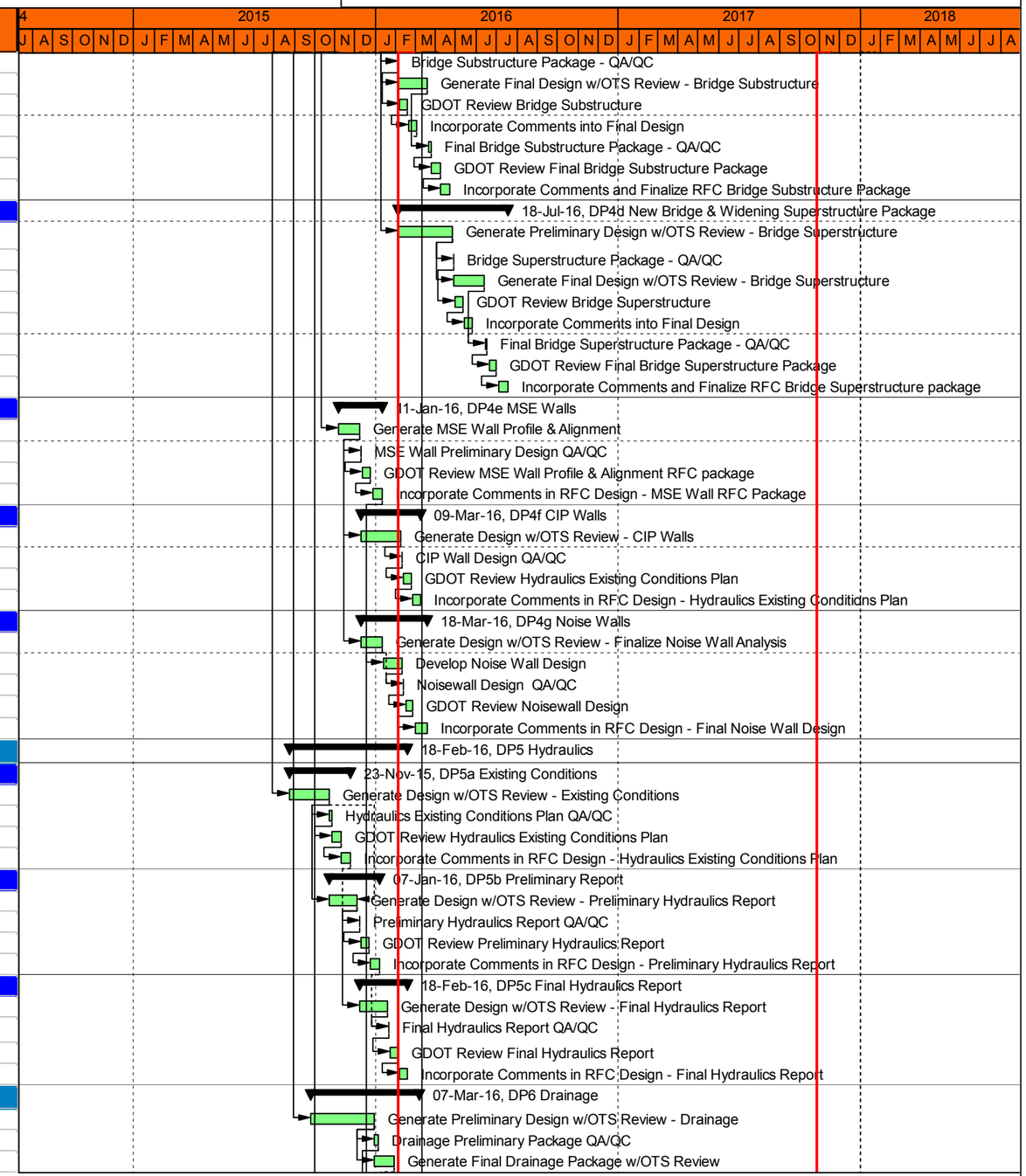
Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
A1450	Bridge Substructure Package - QA/QC	2	460	03-Feb-16	04-Feb-16
A1480	Generate Final Design w/OTS Review - Bridge Substructure	33	449	03-Feb-16	18-Mar-16
A1460	GDOT Review Bridge Substructure	10	460	05-Feb-16	18-Feb-16
A1470	Incorporate Comments into Final Design	10	460	19-Feb-16	03-Mar-16
A1490	Final Bridge Substructure Package - QA/QC	4	449	21-Mar-16	24-Mar-16
A1500	GDOT Review Final Bridge Substructure Package	10	449	25-Mar-16	07-Apr-16
A1510	Incorporate Comments and Finalize RFC Bridge Substructure Package	10	449	08-Apr-16	21-Apr-16
DP4d New Bridge & Widening Superstructure Package		**117**	**389**	**03-Feb-16**	**18-Jul-16**
A1520	Generate Preliminary Design w/OTS Review - Bridge Superstructure	60	389	03-Feb-16	26-Apr-16
A1530	Bridge Superstructure Package - QA/QC	2	400	27-Apr-16	28-Apr-16
A1560	Generate Final Design w/OTS Review - Bridge Superstructure	33	389	27-Apr-16	13-Jun-16
A1540	GDOT Review Bridge Superstructure	10	400	29-Apr-16	12-May-16
A1550	Incorporate Comments into Final Design	10	400	13-May-16	26-May-16
A1570	Final Bridge Superstructure Package - QA/QC	4	389	14-Jun-16	17-Jun-16
A1580	GDOT Review Final Bridge Superstructure Package	10	389	20-Jun-16	01-Jul-16
A1590	Incorporate Comments and Finalize RFC Bridge Superstructure package	10	389	05-Jul-16	18-Jul-16
DP4e MSE Walls		**44**	**412**	**06-Nov-15**	**11-Jan-16**
A1800	Generate MSE Wall Profile & Alignment	22	412	06-Nov-15	08-Dec-15
A1810	MSE Wall Preliminary Design QA/QC	2	412	09-Dec-15	10-Dec-15
A1820	GDOT Review MSE Wall Profile & Alignment RFC package	10	412	11-Dec-15	24-Dec-15
A1830	Incorporate Comments in RFC Design - MSE Wall RFC Package	10	412	28-Dec-15	11-Jan-16
DP4f CIP Walls		**64**	**480**	**09-Dec-15**	**09-Mar-16**
A1840	Generate Design w/OTS Review - CIP Walls	42	480	09-Dec-15	08-Feb-16
A1850	CIP Wall Design QA/QC	2	480	09-Feb-16	10-Feb-16
A1860	GDOT Review Hydraulics Existing Conditions Plan	10	480	11-Feb-16	24-Feb-16
A1870	Incorporate Comments in RFC Design - Hydraulics Existing Conditions Plan	10	480	25-Feb-16	09-Mar-16
DP4g Noise Walls		**71**	**473**	**09-Dec-15**	**18-Mar-16**
A1880	Generate Design w/OTS Review - Finalize Noise Wall Analysis	22	473	09-Dec-15	11-Jan-16
A2060	Develop Noise Wall Design	22	473	12-Jan-16	10-Feb-16
A1890	Noisewall Design QA/QC	2	473	11-Feb-16	12-Feb-16
A1900	GDOT Review Noisewall Design	10	473	15-Feb-16	26-Feb-16
A1910	Incorporate Comments in RFC Design - Final Noise Wall Design	15	473	29-Feb-16	18-Mar-16
DP5 Hydraulics		**124**	**494**	**25-Aug-15**	**18-Feb-16**
DP5a Existing Conditions		**64**	**510**	**25-Aug-15**	**23-Nov-15**
A1600	Generate Design w/OTS Review - Existing Conditions	42	494	25-Aug-15	22-Oct-15
A1610	Hydraulics Existing Conditions Plan QA/QC	2	510	23-Oct-15	26-Oct-15
A1620	GDOT Review Hydraulics Existing Conditions Plan	10	510	27-Oct-15	09-Nov-15
A1630	Incorporate Comments in RFC Design - Hydraulics Existing Conditions Plan	10	510	10-Nov-15	23-Nov-15
DP5b Preliminary Report		**52**	**502**	**23-Oct-15**	**07-Jan-16**
A1640	Generate Design w/OTS Review - Preliminary Hydraulics Report	30	494	23-Oct-15	04-Dec-15
A1650	Preliminary Hydraulics Report QA/QC	2	502	07-Dec-15	08-Dec-15
A1660	GDOT Review Preliminary Hydraulics Report	10	502	09-Dec-15	22-Dec-15
A1670	Incorporate Comments in RFC Design - Preliminary Hydraulics Report	10	502	23-Dec-15	07-Jan-16
DP5c Final Hydraulics Report		**52**	**494**	**07-Dec-15**	**18-Feb-16**
A1680	Generate Design w/OTS Review - Final Hydraulics Report	30	494	07-Dec-15	19-Jan-16
A1690	Final Hydraulics Report QA/QC	2	494	20-Jan-16	21-Jan-16
A1700	GDOT Review Final Hydraulics Report	10	494	22-Jan-16	04-Feb-16
A1710	Incorporate Comments in RFC Design - Final Hydraulics Report	10	494	05-Feb-16	18-Feb-16
DP6 Drainage		**114**	**482**	**25-Sep-15**	**07-Mar-16**
A1720	Generate Preliminary Design w/OTS Review - Drainage	66	482	25-Sep-15	29-Dec-15
A1730	Drainage Preliminary Package QA/QC	4	482	30-Dec-15	05-Jan-16
A1760	Generate Final Drainage Package w/OTS Review	22	484	30-Dec-15	29-Jan-16



Remaining Level of Effort | Actual Work | Critical Remaining W...
Actual Level of Effort | Remaining Work | Milestone

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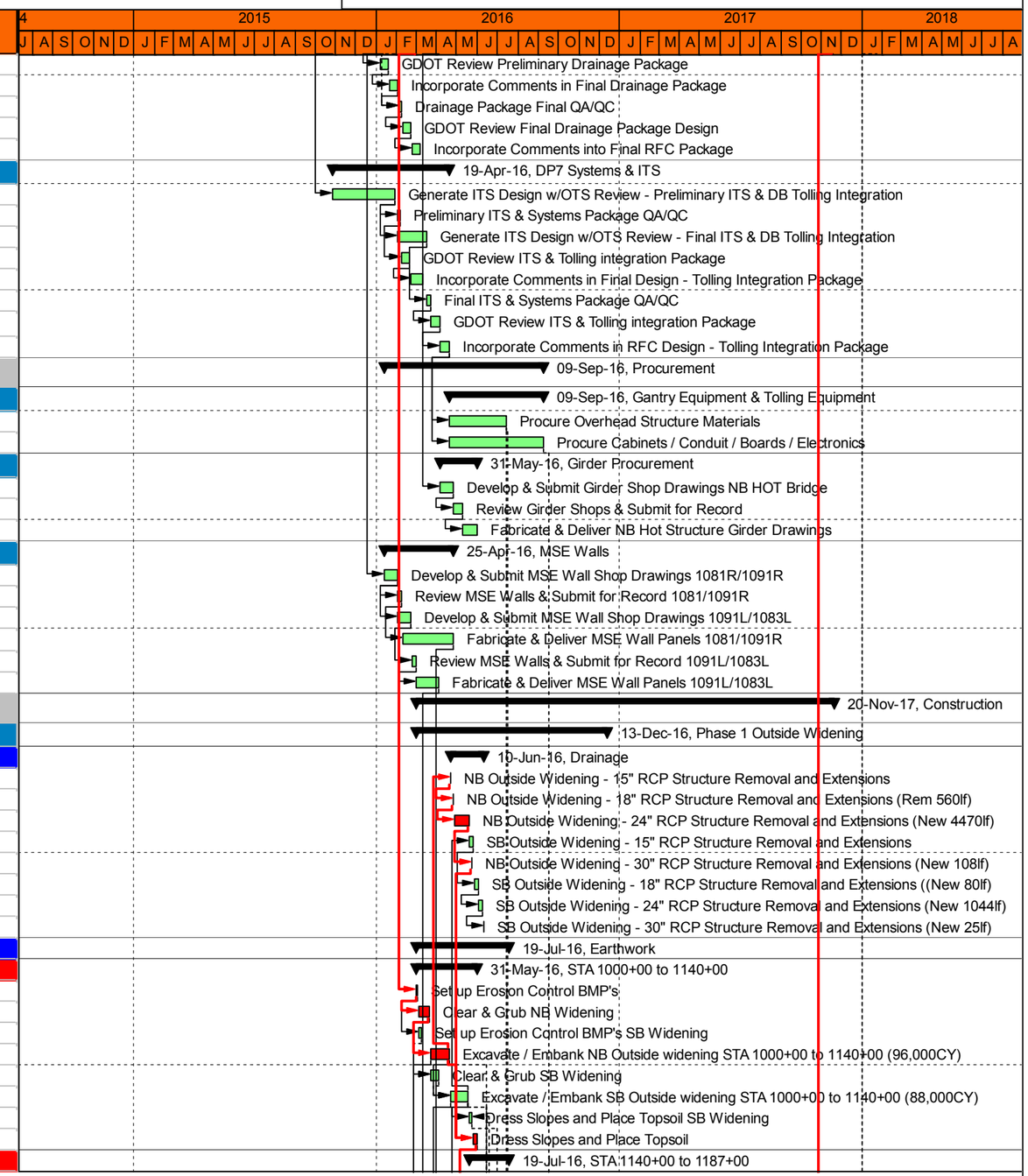
Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
A1740	GDOT Review Preliminary Drainage Package	10	482	06-Jan-16	19-Jan-16
A1750	Incorporate Comments in Final Drainage Package	10	482	20-Jan-16	02-Feb-16
A1770	Drainage Package Final QA/QC	4	482	03-Feb-16	08-Feb-16
A1780	GDOT Review Final Drainage Package Design	10	482	09-Feb-16	22-Feb-16
A1790	Incorporate Comments into Final RFC Package	10	482	23-Feb-16	07-Mar-16
DP7 Systems & ITS		123	451	27-Oct-15	19-Apr-16
A1940	Generate ITS Design w/OTS Review - Preliminary ITS & DB Tolling Integration	66	302	27-Oct-15	29-Jan-16
A1950	Preliminary ITS & Systems Package QA/QC	5	478	01-Feb-16	05-Feb-16
A2070	Generate ITS Design w/OTS Review - Final ITS & DB Tolling Integration	33	302	01-Feb-16	16-Mar-16
A1960	GDOT Review ITS & Tolling integration Package	10	478	08-Feb-16	19-Feb-16
A1970	Incorporate Comments in Final Design - Tolling Integration Package	15	478	22-Feb-16	11-Mar-16
A2080	Final ITS & Systems Package QA/QC	4	302	17-Mar-16	22-Mar-16
A2090	GDOT Review ITS & Tolling integration Package	10	302	23-Mar-16	05-Apr-16
A2100	Incorporate Comments in RFC Design - Tolling Integration Package	10	302	06-Apr-16	19-Apr-16
Procurement		171	351	12-Jan-16	09-Sep-16
Gantry Equipment & Tolling Equipment		100	314	20-Apr-16	09-Sep-16
A2110	Procure Overhead Structure Materials	60	302	20-Apr-16	14-Jul-16
A2120	Procure Cabinets / Conduit / Boards / Electronics	100	314	20-Apr-16	09-Sep-16
Girder Procurement		40	422	05-Apr-16	31-May-16
A1990	Develop & Submit Girder Shop Drawings NB HOT Bridge	15	422	05-Apr-16	25-Apr-16
A2000	Review Girder Shops & Submit for Record	10	422	26-Apr-16	09-May-16
A2010	Fabricate & Deliver NB Hot Structure Girder Drawings	15	422	10-May-16	31-May-16
MSE Walls		75	412	12-Jan-16	25-Apr-16
A1920	Develop & Submit MSE Wall Shop Drawings 1081R/1091R	15	412	12-Jan-16	01-Feb-16
A1930	Review MSE Walls & Submit for Record 1081/1091R	5	412	02-Feb-16	08-Feb-16
A2130	Develop & Submit MSE Wall Shop Drawings 1091L/1083L	15	418	02-Feb-16	22-Feb-16
A1980	Fabricate & Deliver MSE Wall Panels 1081/1091R	55	412	09-Feb-16	25-Apr-16
A2140	Review MSE Walls & Submit for Record 1091L/1083L	5	418	23-Feb-16	29-Feb-16
A2150	Fabricate & Deliver MSE Wall Panels 1091L/1083L	25	418	01-Mar-16	04-Apr-16
Construction		441	46	01-Mar-16	20-Nov-17
Phase 1 Outside Widening		202	285	01-Mar-16	13-Dec-16
Drainage		35	379	21-Apr-16	10-Jun-16
A2350	NB Outside Widening - 15" RCP Structure Removal and Extensions	2	0	21-Apr-16	22-Apr-16
A2360	NB Outside Widening - 18" RCP Structure Removal and Extensions (Rem 560lf)	2	0	25-Apr-16	26-Apr-16
A2370	NB Outside Widening - 24" RCP Structure Removal and Extensions (New 4470lf)	17	0	27-Apr-16	20-May-16
A2390	SB Outside Widening - 15" RCP Structure Removal and Extensions	6	379	19-May-16	26-May-16
A2380	NB Outside Widening - 30" RCP Structure Removal and Extensions (New 108lf)	2	0	23-May-16	24-May-16
A2400	SB Outside Widening - 18" RCP Structure Removal and Extensions ((New 80lf)	4	379	27-May-16	02-Jun-16
A2410	SB Outside Widening - 24" RCP Structure Removal and Extensions (New 1044lf)	5	379	03-Jun-16	09-Jun-16
A2420	SB Outside Widening - 30" RCP Structure Removal and Extensions (New 25lf)	1	379	10-Jun-16	10-Jun-16
Earthwork		93	355	01-Mar-16	19-Jul-16
STA 1000+00 to 1140+00		61	36	01-Mar-16	31-May-16
A2320	Set up Erosion Control BMP's	3	0	01-Mar-16	03-Mar-16
A2310	Clear & Grub NB Widening	10	0	04-Mar-16	21-Mar-16
A2450	Set up Erosion Control BMP's SB Widening	3	58	04-Mar-16	08-Mar-16
A2180	Excavate / Embank NB Outside widening STA 1000+00 to 1140+00 (96,000CY)	21	0	22-Mar-16	20-Apr-16
A2440	Clear & Grub SB Widening	10	51	22-Mar-16	04-Apr-16
A2430	Excavate / Embank SB Outside widening STA 1000+00 to 1140+00 (88,000CY)	19	40	21-Apr-16	18-May-16
A2460	Dress Slopes and Place Topsoil SB Widening	4	40	19-May-16	24-May-16
A2340	Dress Slopes and Place Topsoil	4	0	25-May-16	31-May-16
STA 1140+00 to 1187+00		40	355	19-May-16	19-Jul-16



Remaining Level of Effort | Actual Work | Critical Remaining W...
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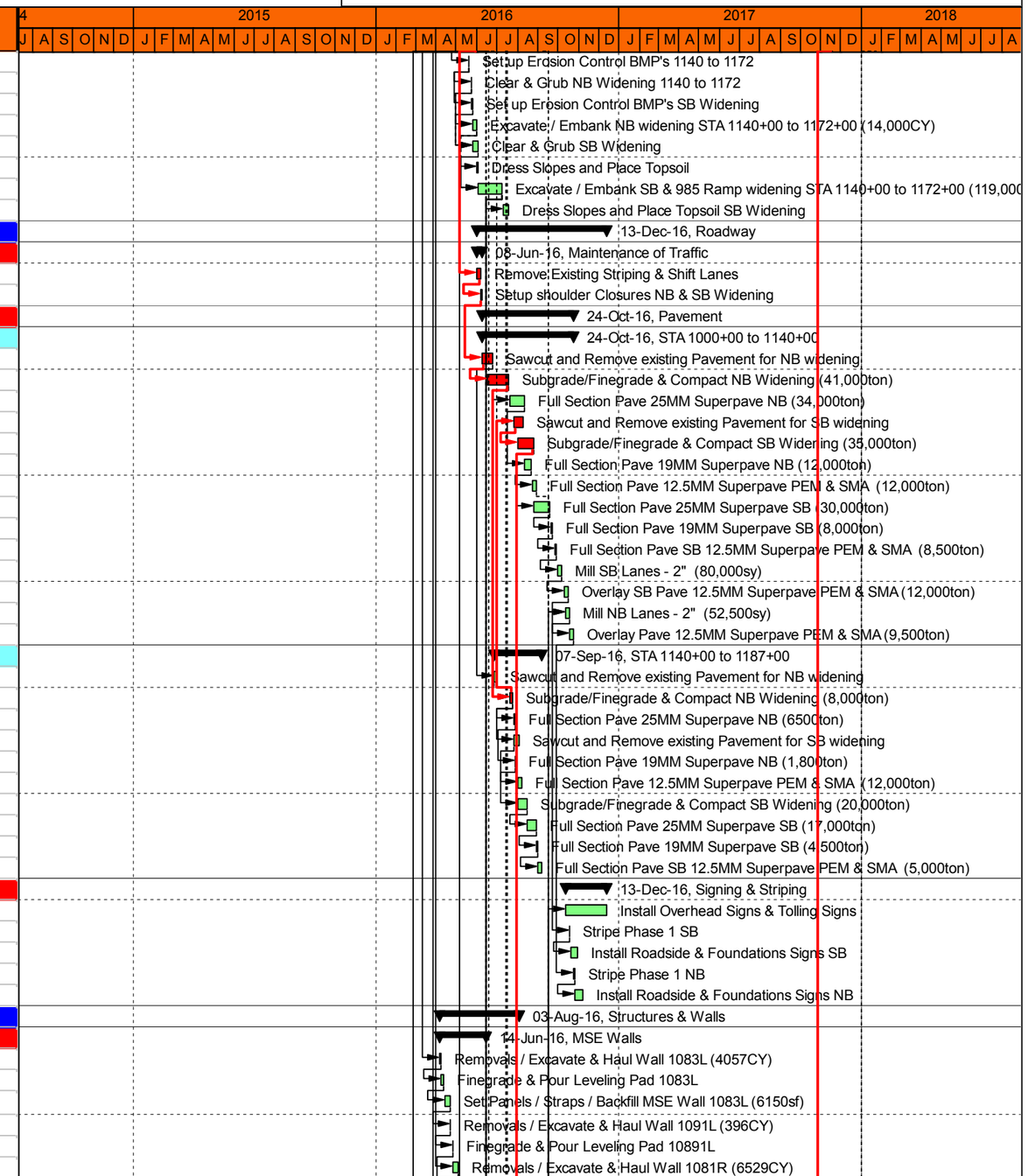
Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
A3190	Set up Erosion Control BMP's 1140 to 1172	2	259	19-May-16	20-May-16
A3180	Clear & Grub NB Widening 1140 to 1172	2	260	23-May-16	24-May-16
A3230	Set up Erosion Control BMP's SB Widening	3	259	23-May-16	25-May-16
A3170	Excavate / Embank NB widening STA 1140+00 to 1172+00 (14,000CY)	4	261	25-May-16	31-May-16
A3220	Clear & Grub SB Widening	5	259	26-May-16	02-Jun-16
A3200	Dress Slopes and Place Topsoil	3	384	01-Jun-16	03-Jun-16
A3210	Excavate / Embank SB & 985 Ramp widening STA 1140+00 to 1172+00 (119,000C`	24	259	03-Jun-16	08-Jul-16
A3240	Dress Slopes and Place Topsoil SB Widening	6	355	11-Jul-16	19-Jul-16
Roadway		129	258	01-Jun-16	13-Dec-16
Maintenance of Traffic		6	0	01-Jun-16	08-Jun-16
A2570	Remove Existing Striping & Shift Lanes	4	0	01-Jun-16	06-Jun-16
A2580	Setup shoulder Closures NB & SB Widening	2	0	07-Jun-16	08-Jun-16
Pavement		91	290	09-Jun-16	24-Oct-16
STA 1000+00 to 1140+00		91	280	09-Jun-16	24-Oct-16
A2590	Sawcut and Remove existing Pavement for NB widening	11	0	09-Jun-16	24-Jun-16
A2600	Subgrade/Finegrade & Compact NB Widening (41,000ton)	21	0	17-Jun-16	19-Jul-16
A2610	Full Section Pave 25MM Superpave NB (34,000ton)	17	308	20-Jul-16	11-Aug-16
A2660	Sawcut and Remove existing Pavement for SB widening	11	0	26-Jul-16	09-Aug-16
A2670	Subgrade/Finegrade & Compact SB Widening (35,000ton)	17	0	02-Aug-16	25-Aug-16
A2620	Full Section Pave 19MM Superpave NB (12,000ton)	6	308	12-Aug-16	22-Aug-16
A2630	Full Section Pave 12.5MM Superpave PEM & SMA (12,000ton)	6	308	23-Aug-16	30-Aug-16
A2680	Full Section Pave 25MM Superpave SB (30,000ton)	15	285	26-Aug-16	19-Sep-16
A2690	Full Section Pave 19MM Superpave SB (8,000ton)	4	285	20-Sep-16	23-Sep-16
A2700	Full Section Pave SB 12.5MM Superpave PEM & SMA (8,500ton)	4	285	26-Sep-16	29-Sep-16
A2710	Mill SB Lanes - 2" (80,000sy)	6	285	30-Sep-16	07-Oct-16
A2720	Overlay SB Pave 12.5MM Superpave PEM & SMA (12,000ton)	5	285	10-Oct-16	17-Oct-16
A2640	Mill NB Lanes - 2" (52,500sy)	4	280	13-Oct-16	18-Oct-16
A2650	Overlay Pave 12.5MM Superpave PEM & SMA (9,500ton)	4	280	19-Oct-16	24-Oct-16
STA 1140+00 to 1187+00		49	321	27-Jun-16	07-Sep-16
A3250	Sawcut and Remove existing Pavement for NB widening	4	10	27-Jun-16	30-Jun-16
A3260	Subgrade/Finegrade & Compact NB Widening (8,000ton)	4	0	20-Jul-16	25-Jul-16
A3270	Full Section Pave 25MM Superpave NB (6500ton)	3	341	26-Jul-16	28-Jul-16
A3280	Sawcut and Remove existing Pavement for SB widening	8	321	26-Jul-16	04-Aug-16
A3300	Full Section Pave 19MM Superpave NB (1,800ton)	1	341	29-Jul-16	29-Jul-16
A3320	Full Section Pave 12.5MM Superpave PEM & SMA (12,000ton)	6	341	01-Aug-16	08-Aug-16
A3290	Subgrade/Finegrade & Compact SB Widening (20,000ton)	10	321	02-Aug-16	15-Aug-16
A3310	Full Section Pave 25MM Superpave SB (17,000ton)	9	321	16-Aug-16	29-Aug-16
A3330	Full Section Pave 19MM Superpave SB (4,500ton)	2	321	30-Aug-16	31-Aug-16
A3340	Full Section Pave SB 12.5MM Superpave PEM & SMA (5,000ton)	4	321	01-Sep-16	07-Sep-16
Signing & Striping		40	258	13-Oct-16	13-Dec-16
A2860	Install Overhead Signs & Tolling Signs	40	258	13-Oct-16	13-Dec-16
A2760	Stripe Phase 1 SB	2	285	18-Oct-16	19-Oct-16
A2750	Install Roadside & Foundations Signs SB	8	285	20-Oct-16	31-Oct-16
A2740	Stripe Phase 1 NB	2	280	25-Oct-16	26-Oct-16
A2730	Install Roadside & Foundations Signs NB	8	280	27-Oct-16	07-Nov-16
Structures & Walls		85	377	05-Apr-16	03-Aug-16
MSE Walls		50	412	05-Apr-16	14-Jun-16
A2250	Removals / Excavate & Haul Wall 1083L (4057CY)	3	418	05-Apr-16	07-Apr-16
A2260	Finegrade & Pour Leveling Pad 1083L	3	418	08-Apr-16	12-Apr-16
A2270	Set Panels / Straps / Backfill MSE Wall 1083L (6150sf)	7	418	13-Apr-16	21-Apr-16
A2280	Removals / Excavate & Haul Wall 1091L (396CY)	1	418	22-Apr-16	22-Apr-16
A2290	Finegrade & Pour Leveling Pad 10891L	2	418	25-Apr-16	26-Apr-16
A2170	Removals / Excavate & Haul Wall 1081R (6529CY)	6	412	26-Apr-16	03-May-16



Remaining Level of Effort | Actual Work | Critical Remaining W...
Actual Level of Effort | Remaining Work | Milestone

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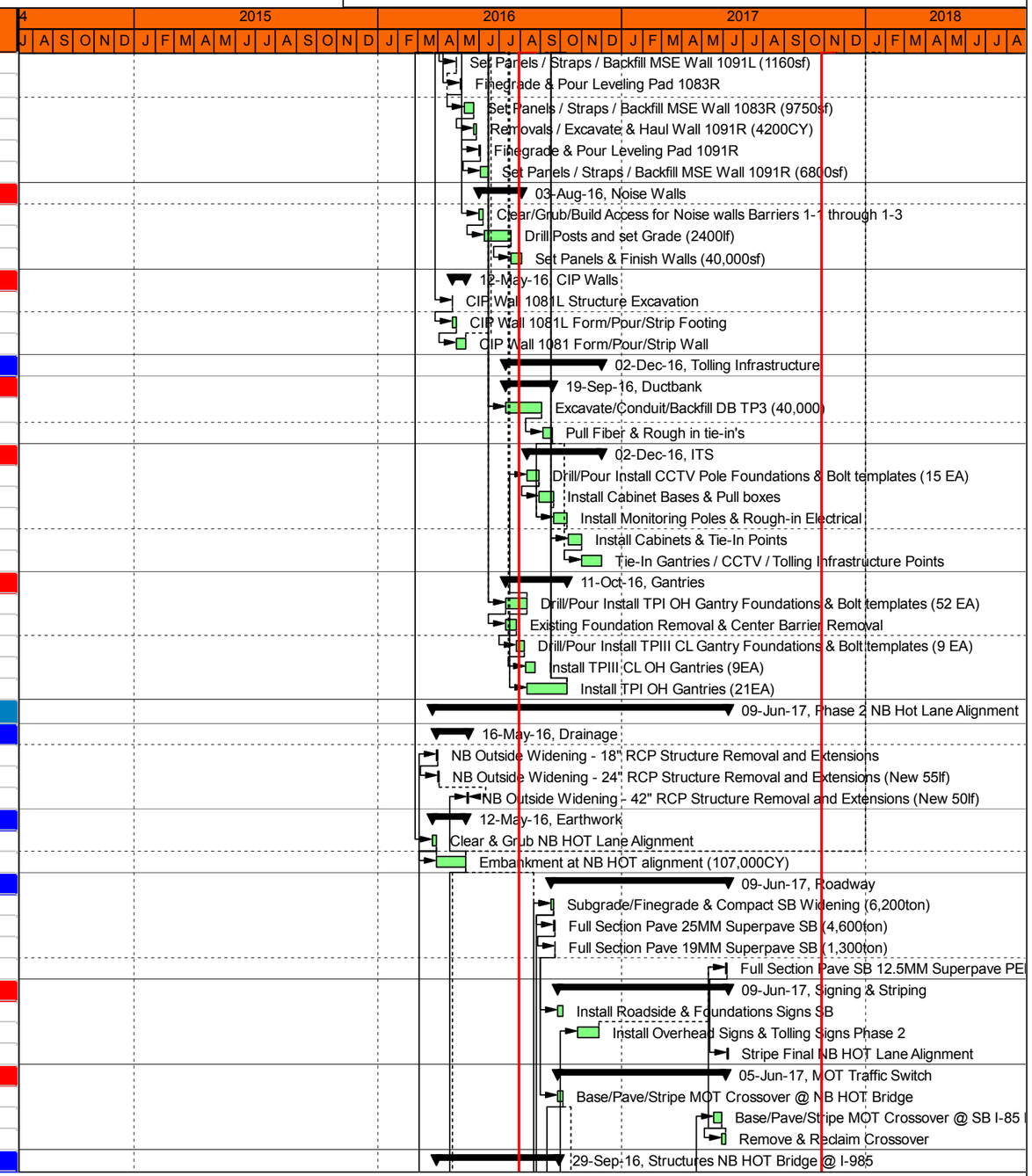
Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
A2300	Set Panels / Straps / Backfill MSE Wall 1091L (1160sf)	2	418	27-Apr-16	28-Apr-16
A2200	Finegrade & Pour Leveling Pad 1083R	3	412	04-May-16	06-May-16
A2210	Set Panels / Straps / Backfill MSE Wall 1083R (9750sf)	11	412	09-May-16	23-May-16
A2220	Removals / Excavate & Haul Wall 1091R (4200CY)	4	412	24-May-16	27-May-16
A2230	Finegrade & Pour Leveling Pad 1091R	3	412	31-May-16	02-Jun-16
A2240	Set Panels / Straps / Backfill MSE Wall 1091R (6800sf)	8	412	03-Jun-16	14-Jun-16
Noise Walls		45	377	01-Jun-16	03-Aug-16
A2470	Clear/Grub/Build Access for Noise walls Barriers 1-1 through 1-3	5	377	01-Jun-16	07-Jun-16
A2480	Drill Posts and set Grade (2400lf)	28	377	08-Jun-16	18-Jul-16
A2490	Set Panels & Finish Walls (40,000sf)	12	377	19-Jul-16	03-Aug-16
CIP Walls		16	50	21-Apr-16	12-May-16
A2500	CIP Wall 1081L Structure Excavation	1	50	21-Apr-16	21-Apr-16
A2510	CIP Wall 1081L Form/Pour/Strip Footing	4	50	22-Apr-16	27-Apr-16
A2520	CIP Wall 1081 Form/Pour/Strip Wall	11	50	28-Apr-16	12-May-16
Tolling Infrastructure		103	292	11-Jul-16	02-Dec-16
Ductbank		50	293	11-Jul-16	19-Sep-16
A2800	Excavate/Conduit/Backfill DB TP3 (40,000)	40	293	11-Jul-16	02-Sep-16
A2810	Pull Fiber & Rough in tie-in's	10	293	05-Sep-16	19-Sep-16
ITS		79	292	12-Aug-16	02-Dec-16
A2780	Drill/Pour Install CCTV Pole Foundations & Bolt templates (15 EA)	12	307	12-Aug-16	29-Aug-16
A2830	Install Cabinet Bases & Pull boxes	15	307	30-Aug-16	20-Sep-16
A2790	Install Monitoring Poles & Rough-in Electrical	15	293	20-Sep-16	10-Oct-16
A2840	Install Cabinets & Tie-In Points	15	292	12-Oct-16	01-Nov-16
A2820	Tie-In Gantries / CCTV / Tolling Infrastructure Points	22	292	02-Nov-16	02-Dec-16
Gantries		66	329	11-Jul-16	11-Oct-16
A2530	Drill/Pour Install TPI OH Gantry Foundations & Bolt templates (52 EA)	24	282	11-Jul-16	11-Aug-16
A2540	Existing Foundation Removal & Center Barrier Removal	12	362	11-Jul-16	26-Jul-16
A2550	Drill/Pour Install TPIII CL Gantry Foundations & Bolt templates (9 EA)	9	362	27-Jul-16	08-Aug-16
A2770	Install TPIII CL OH Gantries (9EA)	12	362	09-Aug-16	24-Aug-16
A2560	Install TPI OH Gantries (21EA)	42	282	12-Aug-16	11-Oct-16
Phase 2 NB Hot Lane Alignment		289	146	22-Mar-16	09-Jun-17
Drainage		33	397	29-Mar-16	16-May-16
A2870	NB Outside Widening - 18" RCP Structure Removal and Extensions	2	426	29-Mar-16	30-Mar-16
A2880	NB Outside Widening - 24" RCP Structure Removal and Extensions (New 55lf)	2	426	31-Mar-16	01-Apr-16
A2890	NB Outside Widening - 42" RCP Structure Removal and Extensions (New 50lf)	2	397	13-May-16	16-May-16
Earthwork		36	150	22-Mar-16	12-May-16
A2330	Clear & Grub NB HOT Lane Alignment	5	67	22-Mar-16	28-Mar-16
A2190	Embankment at NB HOT alignment (107,000CY)	31	150	29-Mar-16	12-May-16
Roadway		170	146	16-Sep-16	09-Jun-17
A2910	Subgrade/Finegrade & Compact SB Widening (6,200ton)	3	67	16-Sep-16	20-Sep-16
A2920	Full Section Pave 25MM Superpave SB (4,600ton)	2	67	21-Sep-16	22-Sep-16
A2930	Full Section Pave 19MM Superpave SB (1,300ton)	1	67	23-Sep-16	23-Sep-16
A2940	Full Section Pave SB 12.5MM Superpave PEM & SMA (1,500ton)	2	146	06-Jun-17	07-Jun-17
Signing & Striping		164	146	26-Sep-16	09-Jun-17
A3770	Install Roadside & Foundations Signs SB	8	302	26-Sep-16	05-Oct-16
A3790	Install Overhead Signs & Tolling Signs Phase 2	20	264	27-Oct-16	28-Nov-16
A3780	Stripe Final NB HOT Lane Alignment	2	146	08-Jun-17	09-Jun-17
MOT Traffic Switch		160	146	26-Sep-16	05-Jun-17
A3610	Base/Pave/Stripe MOT Crossover @ NB HOT Bridge	8	67	26-Sep-16	05-Oct-16
A3730	Base/Pave/Stripe MOT Crossover @ SB I-85 Bridge Final Switch	8	146	18-May-17	30-May-17
A3740	Remove & Reclaim Crossover	4	146	31-May-17	05-Jun-17
Structures NB HOT Bridge @ I-985		124	150	29-Mar-16	29-Sep-16



Remaining Level of Effort | Actual Work | Critical Remaining W...
Actual Level of Effort | Remaining Work | Milestone

TASK filter: All Activities

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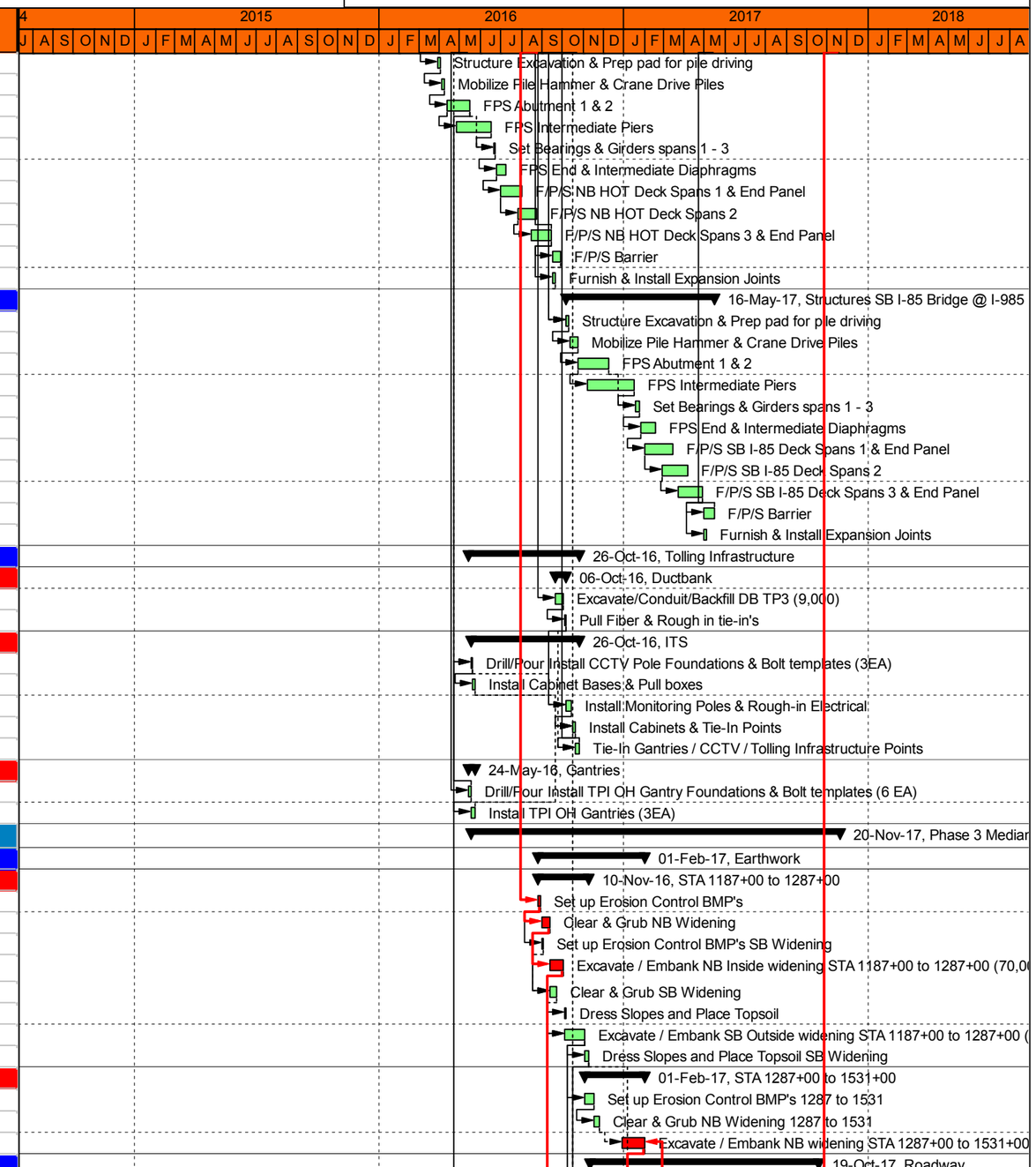
Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
A2850	Structure Excavation & Prep pad for pile driving	4	67	29-Mar-16	01-Apr-16
A2900	Mobilize Pile Hammer & Crane Drive Piles	5	67	04-Apr-16	08-Apr-16
A2950	FPS Abutment 1 & 2	24	67	11-Apr-16	16-May-16
A2960	FPS Intermediate Piers	36	67	26-Apr-16	17-Jun-16
A2970	Set Bearings & Girders spans 1 - 3	4	67	20-Jun-16	23-Jun-16
A2980	FPS End & Intermediate Diaphragms	10	67	24-Jun-16	08-Jul-16
A2990	F/P/S NB HOT Deck Spans 1 & End Panel	20	67	01-Jul-16	01-Aug-16
A3010	F/P/S NB HOT Deck Spans 2	20	67	26-Jul-16	23-Aug-16
A3020	F/P/S NB HOT Deck Spans 3 & End Panel	20	67	16-Aug-16	15-Sep-16
A3030	F/P/S Barrier	10	150	16-Sep-16	29-Sep-16
A3040	Furnish & Install Expansion Joints	3	157	16-Sep-16	20-Sep-16
Structures SB I-85 Bridge @ I-985		**140**	**162**	**06-Oct-16**	**16-May-17**
A3620	Structure Excavation & Prep pad for pile driving	4	146	06-Oct-16	11-Oct-16
A3630	Mobilize Pile Hammer & Crane Drive Piles	8	146	13-Oct-16	24-Oct-16
A3640	FPS Abutment 1 & 2	30	146	25-Oct-16	09-Dec-16
A3650	FPS Intermediate Piers	42	146	08-Nov-16	17-Jan-17
A3660	Set Bearings & Girders spans 1 - 3	4	146	19-Jan-17	24-Jan-17
A3670	FPS End & Intermediate Diaphragms	15	146	26-Jan-17	17-Feb-17
A3680	F/P/S SB I-85 Deck Spans 1 & End Panel	25	146	02-Feb-17	14-Mar-17
A3690	F/P/S SB I-85 Deck Spans 2	25	146	28-Feb-17	06-Apr-17
A3700	F/P/S SB I-85 Deck Spans 3 & End Panel	25	146	24-Mar-17	28-Apr-17
A3710	F/P/S Barrier	12	146	01-May-17	16-May-17
A3720	Furnish & Install Expansion Joints	3	171	01-May-17	03-May-17
Tolling Infrastructure		**111**	**264**	**13-May-16**	**26-Oct-16**
Ductbank		**12**	**264**	**21-Sep-16**	**06-Oct-16**
A3120	Excavate/Conduit/Backfill DB TP3 (9,000)	9	264	21-Sep-16	03-Oct-16
A3130	Pull Fiber & Rough in tie-in's	3	264	04-Oct-16	06-Oct-16
ITS		**108**	**264**	**18-May-16**	**26-Oct-16**
A3100	Drill/Pour Install CCTV Pole Foundations & Bolt templates (3EA)	2	357	18-May-16	19-May-16
A3150	Install Cabinet Bases & Pull boxes	2	360	20-May-16	23-May-16
A3110	Install Monitoring Poles & Rough-in Electrical	5	264	07-Oct-16	14-Oct-16
A3160	Install Cabinets & Tie-In Points	4	264	17-Oct-16	20-Oct-16
A3140	Tie-In Gantries / CCTV / Tolling Infrastructure Points	4	264	21-Oct-16	26-Oct-16
Gantries		**8**	**359**	**13-May-16**	**24-May-16**
A3050	Drill/Pour Install TPI OH Gantry Foundations & Bolt templates (6 EA)	3	357	13-May-16	17-May-16
A3080	Install TPI OH Gantries (3EA)	5	359	18-May-16	24-May-16
Phase 3 Median Widening		**386**	**46**	**17-May-16**	**20-Nov-17**
Earthwork		**100**	**229**	**26-Aug-16**	**01-Feb-17**
STA 1187+00 to 1287+00		**51**	**278**	**26-Aug-16**	**10-Nov-16**
A3370	Set up Erosion Control BMP's	3	0	26-Aug-16	30-Aug-16
A3360	Clear & Grub NB Widening	8	0	31-Aug-16	12-Sep-16
A3490	Set up Erosion Control BMP's SB Widening	3	30	31-Aug-16	02-Sep-16
A3350	Excavate / Embank NB Inside widening STA 1187+00 to 1287+00 (70,000CY)	14	0	13-Sep-16	03-Oct-16
A3480	Clear & Grub SB Widening	8	25	13-Sep-16	23-Sep-16
A3380	Dress Slopes and Place Topsoil	4	300	04-Oct-16	07-Oct-16
A3470	Excavate / Embank SB Outside widening STA 1187+00 to 1287+00 (110,000CY)	22	19	04-Oct-16	03-Nov-16
A3500	Dress Slopes and Place Topsoil SB Widening	4	43	04-Nov-16	10-Nov-16
STA 1287+00 to 1531+00		**53**	**0**	**04-Nov-16**	**01-Feb-17**
A3530	Set up Erosion Control BMP's 1287 to 1531	8	19	04-Nov-16	17-Nov-16
A3520	Clear & Grub NB Widening 1287 to 1531	5	19	18-Nov-16	25-Nov-16
A3510	Excavate / Embank NB widening STA 1287+00 to 1531+00 (101,000CY)	21	0	29-Dec-16	01-Feb-17
Roadway		**219**	**59**	**11-Nov-16**	**19-Oct-17**



Remaining Level of Effort | Actual Work | Critical Remaining W...
Actual Level of Effort | Remaining Work | Milestone

TASK filter: All Activities

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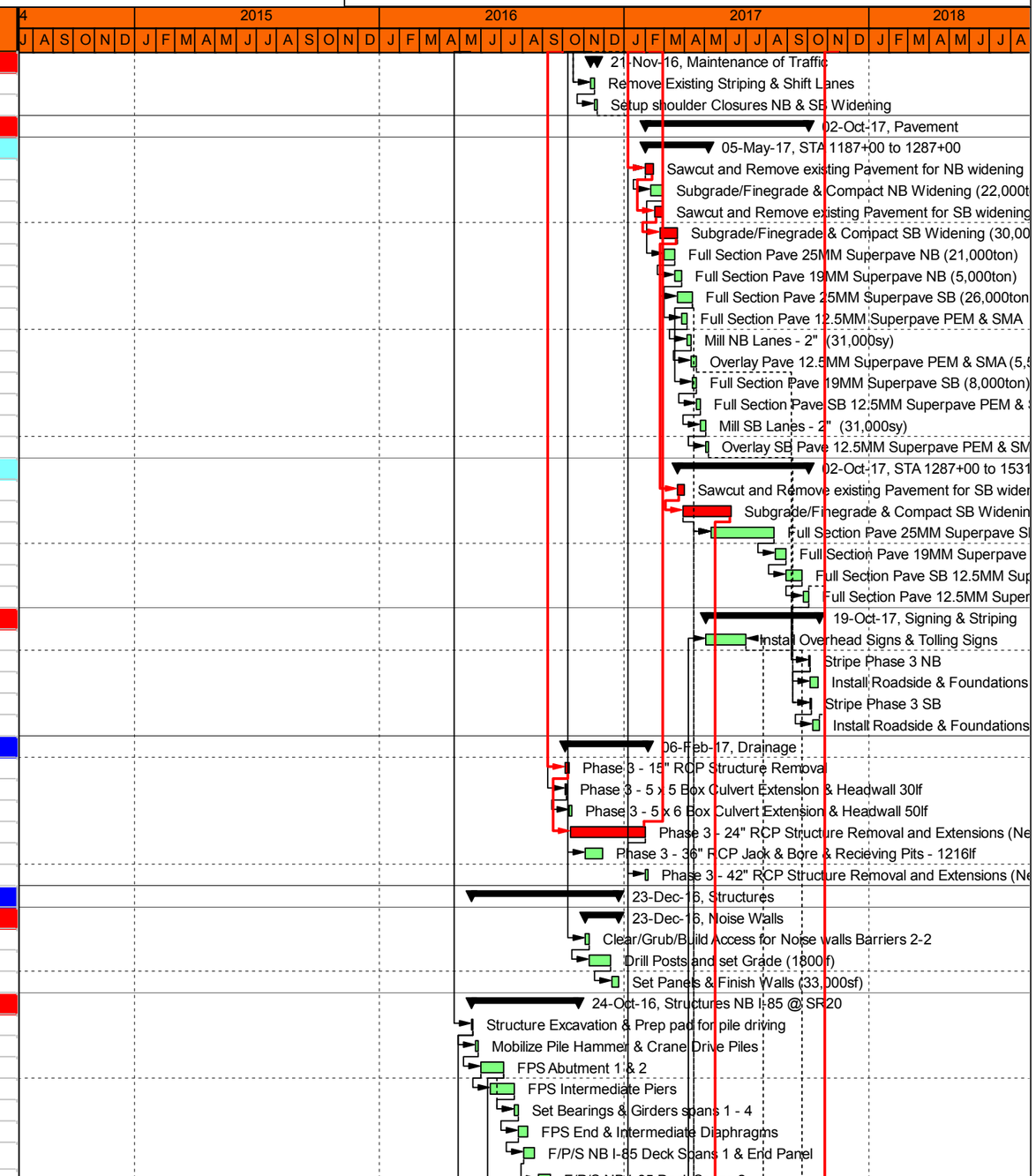
Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
Maintenance of Traffic		6	43	11-Nov-16	21-Nov-16
A3800	Remove Existing Striping & Shift Lanes	4	43	11-Nov-16	17-Nov-16
A3810	Setup shoulder Closures NB & SB Widening	2	43	18-Nov-16	21-Nov-16
Pavement		158	22	02-Feb-17	02-Oct-17
STA 1187+00 to 1287+00		60	120	02-Feb-17	05-May-17
A3820	Sawcut and Remove existing Pavement for NB widening	8	0	02-Feb-17	14-Feb-17
A3830	Subgrade/Finegrade & Compact NB Widening (22,000ton)	11	132	10-Feb-17	28-Feb-17
A3890	Sawcut and Remove existing Pavement for SB widening	8	0	16-Feb-17	28-Feb-17
A3900	Subgrade/Finegrade & Compact SB Widening (30,000ton)	15	0	24-Feb-17	20-Mar-17
A3840	Full Section Pave 25MM Superpave NB (21,000ton)	10	132	01-Mar-17	16-Mar-17
A3850	Full Section Pave 19MM Superpave NB (5,000ton)	6	132	17-Mar-17	27-Mar-17
A3910	Full Section Pave 25MM Superpave SB (26,000ton)	15	40	21-Mar-17	11-Apr-17
A3860	Full Section Pave 12.5MM Superpave PEM & SMA (5,000ton)	6	132	28-Mar-17	04-Apr-17
A3870	Mill NB Lanes - 2" (31,000sy)	4	132	05-Apr-17	10-Apr-17
A3880	Overlay Pave 12.5MM Superpave PEM & SMA (5,500ton)	4	132	11-Apr-17	17-Apr-17
A3920	Full Section Pave 19MM Superpave SB (8,000ton)	4	120	13-Apr-17	18-Apr-17
A3930	Full Section Pave SB 12.5MM Superpave PEM & SMA (8,500ton)	4	120	19-Apr-17	24-Apr-17
A3940	Mill SB Lanes - 2" (31,000sy)	6	120	25-Apr-17	02-May-17
A3950	Overlay SB Pave 12.5MM Superpave PEM & SMA (5,500ton)	3	120	03-May-17	05-May-17
STA 1287+00 to 1531+00		130	20	21-Mar-17	02-Oct-17
A4060	Sawcut and Remove existing Pavement for SB widening	8	0	21-Mar-17	31-Mar-17
A4070	Subgrade/Finegrade & Compact SB Widening (105,000ton)	50	0	29-Mar-17	09-Jun-17
A4080	Full Section Pave 25MM Superpave SB (107,000ton)	62	20	11-May-17	11-Aug-17
A4090	Full Section Pave 19MM Superpave SB (24,000ton)	12	20	14-Aug-17	30-Aug-17
A4100	Full Section Pave SB 12.5MM Superpave PEM & SMA (30,000ton)	15	20	31-Aug-17	22-Sep-17
A4050	Full Section Pave 12.5MM Superpave PEM & SMA (12,000ton)	6	20	25-Sep-17	02-Oct-17
Signing & Striping		113	59	03-May-17	19-Oct-17
A4000	Install Overhead Signs & Tolling Signs	40	73	03-May-17	30-Jun-17
A3970	Stripe Phase 3 NB	2	20	03-Oct-17	04-Oct-17
A3960	Install Roadside & Foundations Signs NB	8	61	05-Oct-17	16-Oct-17
A3990	Stripe Phase 3 SB	2	20	05-Oct-17	06-Oct-17
A3980	Install Roadside & Foundations Signs SB	8	20	09-Oct-17	19-Oct-17
Drainage		78	226	04-Oct-16	06-Feb-17
A3440	Phase 3 - 15" RCP Structure Removal	6	0	04-Oct-16	11-Oct-16
A3590	Phase 3 - 5 x 5 Box Culvert Extension & Headwall 30lf	4	296	04-Oct-16	07-Oct-16
A3600	Phase 3 - 5 x 6 Box Culvert Extension & Headwall 50lf	4	296	10-Oct-16	14-Oct-16
A3450	Phase 3 - 24" RCP Structure Removal and Extensions (New 18,000lf)	69	0	13-Oct-16	01-Feb-17
A3430	Phase 3 - 36" RCP Jack & Bore & Recieving Pits - 1216lf	16	266	04-Nov-16	30-Nov-16
A3460	Phase 3 - 42" RCP Structure Removal and Extensions (New 50lf)	3	226	02-Feb-17	06-Feb-17
Structures		155	277	17-May-16	23-Dec-16
Noise Walls		35	277	04-Nov-16	23-Dec-16
A4340	Clear/Grub/Build Access for Noise walls Barriers 2-2	4	277	04-Nov-16	09-Nov-16
A4350	Drill Posts and set Grade (1800lf)	22	277	10-Nov-16	12-Dec-16
A4360	Set Panels & Finish Walls (33,000sf)	9	277	13-Dec-16	23-Dec-16
Structures NB I-85 @ SR20		107	280	17-May-16	24-Oct-16
A4110	Structure Excavation & Prep pad for pile driving	4	130	17-May-16	20-May-16
A4120	Mobilize Pile Hammer & Crane Drive Piles	5	130	23-May-16	27-May-16
A4130	FPS Abutment 1 & 2	24	130	31-May-16	05-Jul-16
A4140	FPS Intermediate Piers	24	151	14-Jun-16	20-Jul-16
A4150	Set Bearings & Girders spans 1 - 4	4	151	21-Jul-16	26-Jul-16
A4160	FPS End & Intermediate Diaphragms	10	151	27-Jul-16	09-Aug-16
A4170	F/P/S NB I-85 Deck Spans 1 & End Panel	12	151	03-Aug-16	19-Aug-16
A4180	F/P/S NB I-85 Deck Spans 2	12	151	25-Aug-16	12-Sep-16



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Actual Level of Effort | Remaining Work | Milestone

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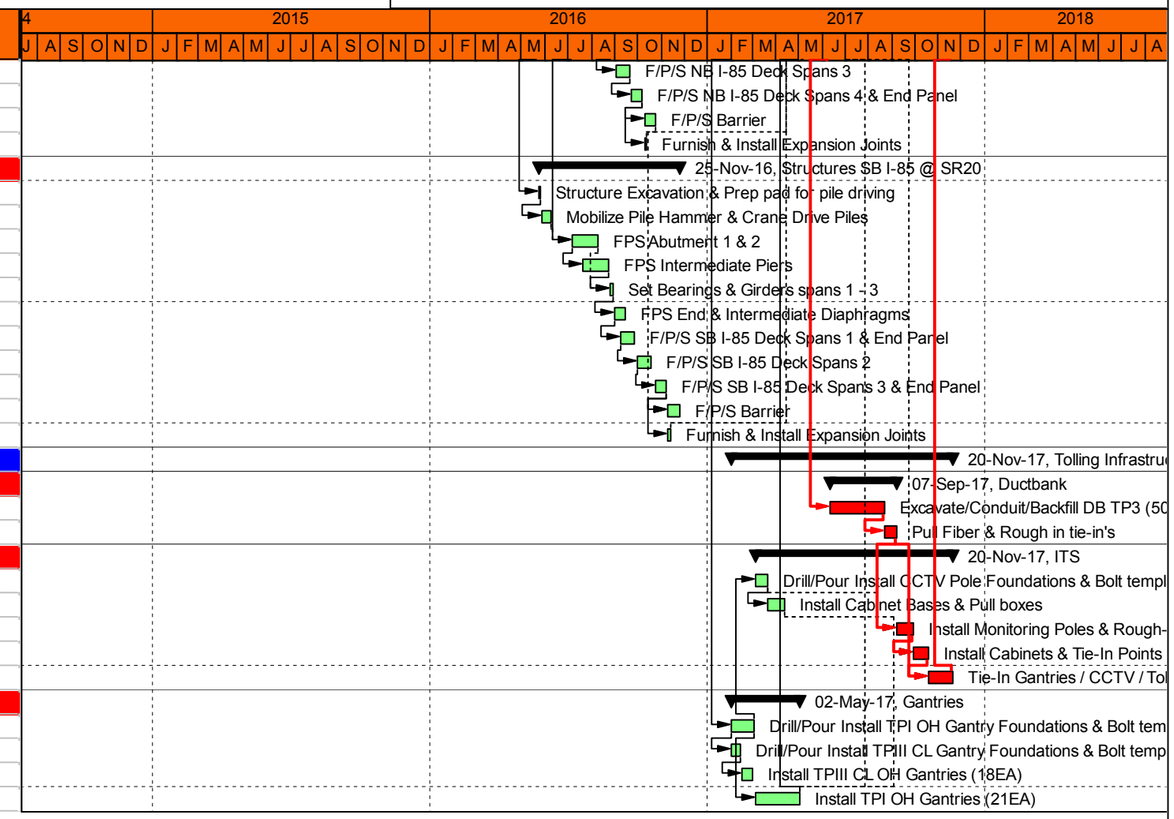
Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
A4330	F/P/S NB I-85 Deck Spans 3	12	151	02-Sep-16	21-Sep-16
A4190	F/P/S NB I-85 Deck Spans 4 & End Panel	12	151	22-Sep-16	07-Oct-16
A4200	F/P/S Barrier	10	280	10-Oct-16	24-Oct-16
A4210	Furnish & Install Expansion Joints	3	151	10-Oct-16	13-Oct-16
Structures SB I-85 @ SR20		**124**	**269**	**23-May-16**	**25-Nov-16**
A4220	Structure Excavation & Prep pad for pile driving	4	147	23-May-16	26-May-16
A4230	Mobilize Pile Hammer & Crane Drive Piles	8	147	27-May-16	08-Jun-16
A4240	FPS Abutment 1 & 2	24	130	06-Jul-16	09-Aug-16
A4250	FPS Intermediate Piers	24	130	21-Jul-16	24-Aug-16
A4260	Set Bearings & Girders spans 1 - 3	4	130	25-Aug-16	30-Aug-16
A4270	FPS End & Intermediate Diaphragms	10	130	31-Aug-16	15-Sep-16
A4280	F/P/S SB I-85 Deck Spans 1 & End Panel	12	130	08-Sep-16	26-Sep-16
A4290	F/P/S SB I-85 Deck Spans 2	12	130	30-Sep-16	18-Oct-16
A4300	F/P/S SB I-85 Deck Spans 3 & End Panel	12	130	24-Oct-16	08-Nov-16
A4310	F/P/S Barrier	10	269	10-Nov-16	25-Nov-16
A4320	Furnish & Install Expansion Joints	3	130	10-Nov-16	14-Nov-16
Tolling Infrastructure		**205**	**46**	**02-Feb-17**	**20-Nov-17**
Ductbank		**62**	**0**	**12-Jun-17**	**07-Sep-17**
A4440	Excavate/Conduit/Backfill DB TP3 (50,000)	50	0	12-Jun-17	21-Aug-17
A4450	Pull Fiber & Rough in tie-in's	12	0	22-Aug-17	07-Sep-17
ITS		**183**	**0**	**06-Mar-17**	**20-Nov-17**
A4420	Drill/Pour Install CCTV Pole Foundations & Bolt templates (15 EA)	12	119	06-Mar-17	21-Mar-17
A4470	Install Cabinet Bases & Pull boxes	15	119	22-Mar-17	11-Apr-17
A4430	Install Monitoring Poles & Rough-in Electrical	15	0	08-Sep-17	28-Sep-17
A4480	Install Cabinets & Tie-In Points	15	0	29-Sep-17	19-Oct-17
A4460	Tie-In Gantries / CCTV / Tolling Infrastructure Points	22	0	20-Oct-17	20-Nov-17
Gantries		**64**	**187**	**02-Feb-17**	**02-May-17**
A4370	Drill/Pour Install TPI OH Gantry Foundations & Bolt templates (42 EA)	22	77	02-Feb-17	03-Mar-17
A4390	Drill/Pour Install TPIII CL Gantry Foundations & Bolt templates (18 EA)	9	230	02-Feb-17	14-Feb-17
A4410	Install TPIII CL OH Gantries (18EA)	12	230	15-Feb-17	02-Mar-17
A4400	Install TPI OH Gantries (21EA)	42	77	06-Mar-17	02-May-17



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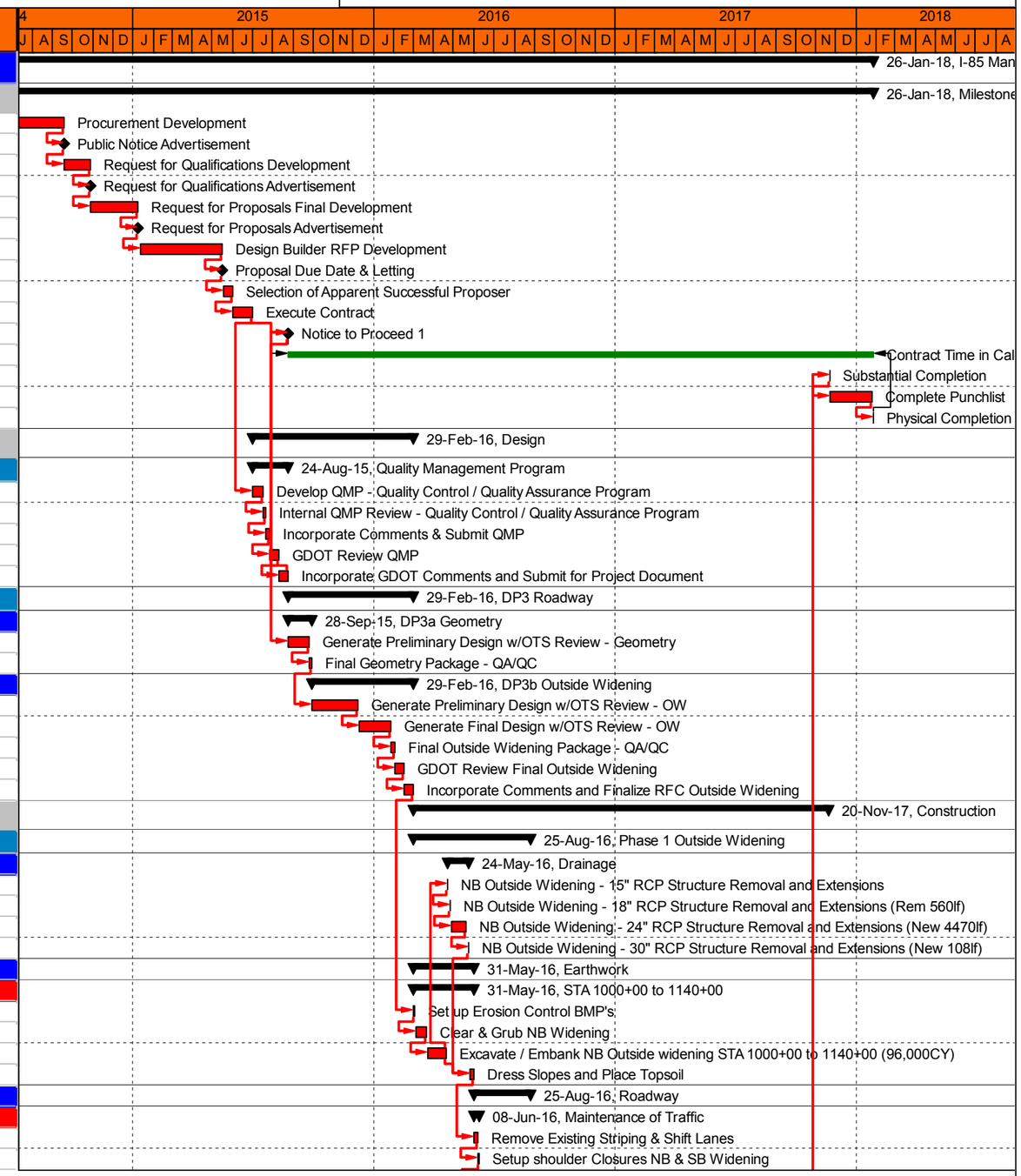
I-85 Managed Lanes
Design Build Estimate & Proposal Schedule

Design Build Detailed Schedule Longest Path

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
I-85 Managed Lanes (PI-110600)		917	0	23-Jun-14	26-Jan-18
Milestones		917	0	23-Jun-14	26-Jan-18
MILE - 0000	Procurement Development	62	0	23-Jun-14	18-Sep-14
MILE - 1000	Public Notice Advertisement	0	0	19-Sep-14	
MILE - 1010	Request for Qualifications Development	28	0	19-Sep-14	28-Oct-14
MILE - 1020	Request for Qualifications Advertisement	0	0		28-Oct-14
MILE - 1030	Request for Proposals Final Development	50	0	29-Oct-14	09-Jan-15
MILE - 1040	Request for Proposals Advertisement	0	0		09-Jan-15
MILE - 1050	Design Builder RFP Development	90	0	12-Jan-15	15-May-15
MILE - 1070	Proposal Due Date & Letting	0	0		15-May-15
MILE - 1060	Selection of Apparent Successful Proposer	10	0	18-May-15	01-Jun-15
MILE - 1080	Execute Contract	22	0	02-Jun-15	01-Jul-15
MILE - 1090	Notice to Proceed 1	0	0	25-Aug-15	
MILE - 1100	Contract Time in Calendar Days	886	0	25-Aug-15	26-Jan-18
MILE - 1130	Substantial Completion	1	0	21-Nov-17	21-Nov-17
MILE - 1140	Complete Punchlist	44	0	22-Nov-17	25-Jan-18
MILE - 1150	Physical Completion Milestone	1	0	26-Jan-18	26-Jan-18
Design		168	0	02-Jul-15	29-Feb-16
Quality Management Program		37	0	02-Jul-15	24-Aug-15
DES - 1000	Develop QMP - Quality Control / Quality Assurance Program	10	0	02-Jul-15	16-Jul-15
DES - 1010	Internal QMP Review - Quality Control / Quality Assurance Program	2	0	17-Jul-15	20-Jul-15
DES - 1020	Incorporate Comments & Submit QMP	5	0	21-Jul-15	27-Jul-15
DES - 1030	GDOT Review QMP	10	0	28-Jul-15	10-Aug-15
DES - 1040	Incorporate GDOT Comments and Submit for Project Document	10	0	11-Aug-15	24-Aug-15
DP3 Roadway		131	0	25-Aug-15	29-Feb-16
DP3a Geometry		24	0	25-Aug-15	28-Sep-15
A1200	Generate Preliminary Design w/OTS Review - Geometry	22	0	25-Aug-15	24-Sep-15
A1210	Final Geometry Package - QA/QC	2	0	25-Sep-15	28-Sep-15
DP3b Outside Widening		107	0	29-Sep-15	29-Feb-16
A1240	Generate Preliminary Design w/OTS Review - OW	50	0	29-Sep-15	08-Dec-15
A1320	Generate Final Design w/OTS Review - OW	33	0	09-Dec-15	26-Jan-16
A1330	Final Outside Widening Package - QA/QC	4	0	27-Jan-16	01-Feb-16
A1340	GDOT Review Final Outside Widening	10	0	02-Feb-16	15-Feb-16
A1350	Incorporate Comments and Finalize RFC Outside Widening	10	0	16-Feb-16	29-Feb-16
Construction		441	0	01-Mar-16	20-Nov-17
Phase 1 Outside Widening		119	0	01-Mar-16	25-Aug-16
Drainage		23	0	21-Apr-16	24-May-16
A2350	NB Outside Widening - 15" RCP Structure Removal and Extensions	2	0	21-Apr-16	22-Apr-16
A2360	NB Outside Widening - 18" RCP Structure Removal and Extensions (Rem 560lf)	2	0	25-Apr-16	26-Apr-16
A2370	NB Outside Widening - 24" RCP Structure Removal and Extensions (New 4470lf)	17	0	27-Apr-16	20-May-16
A2380	NB Outside Widening - 30" RCP Structure Removal and Extensions (New 108lf)	2	0	23-May-16	24-May-16
Earthwork		61	0	01-Mar-16	31-May-16
STA 1000+00 to 1140+00		61	0	01-Mar-16	31-May-16
A2320	Set up Erosion Control BMP's	3	0	01-Mar-16	03-Mar-16
A2310	Clear & Grub NB Widening	10	0	04-Mar-16	21-Mar-16
A2180	Excavate / Embank NB Outside widening STA 1000+00 to 1140+00 (96,000CY)	21	0	22-Mar-16	20-Apr-16
A2340	Dress Slopes and Place Topsoil	4	0	25-May-16	31-May-16
Roadway		58	0	01-Jun-16	25-Aug-16
Maintenance of Traffic		6	0	01-Jun-16	08-Jun-16
A2570	Remove Existing Striping & Shift Lanes	4	0	01-Jun-16	06-Jun-16
A2580	Setup shoulder Closures NB & SB Widening	2	0	07-Jun-16	08-Jun-16



Remaining Level of Effort | Actual Work | Critical Remaining W...
Actual Level of Effort | Remaining Work | Milestone

TASK filter: Longest Path.

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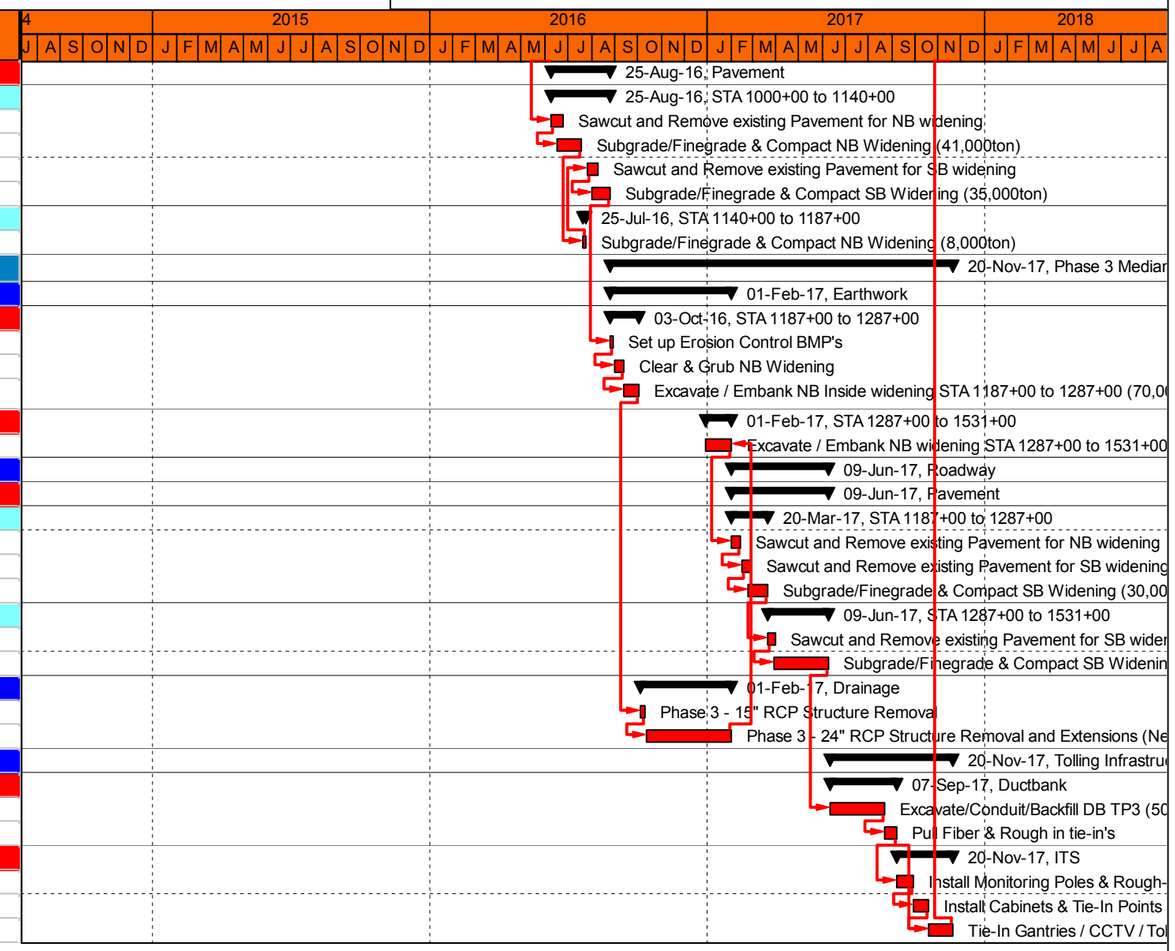
Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
Pavement		52	0	09-Jun-16	25-Aug-16
STA 1000+00 to 1140+00		52	0	09-Jun-16	25-Aug-16
A2590	Sawcut and Remove existing Pavement for NB widening	11	0	09-Jun-16	24-Jun-16
A2600	Subgrade/Finegrade & Compact NB Widening (41,000ton)	21	0	17-Jun-16	19-Jul-16
A2660	Sawcut and Remove existing Pavement for SB widening	11	0	26-Jul-16	09-Aug-16
A2670	Subgrade/Finegrade & Compact SB Widening (35,000ton)	17	0	02-Aug-16	25-Aug-16
STA 1140+00 to 1187+00		4	0	20-Jul-16	25-Jul-16
A3260	Subgrade/Finegrade & Compact NB Widening (8,000ton)	4	0	20-Jul-16	25-Jul-16
Phase 3 Median Widening		315	0	26-Aug-16	20-Nov-17
Earthwork		100	0	26-Aug-16	01-Feb-17
STA 1187+00 to 1287+00		25	0	26-Aug-16	03-Oct-16
A3370	Set up Erosion Control BMP's	3	0	26-Aug-16	30-Aug-16
A3360	Clear & Grub NB Widening	8	0	31-Aug-16	12-Sep-16
A3350	Excavate / Embank NB Inside widening STA 1187+00 to 1287+00 (70,000CY)	14	0	13-Sep-16	03-Oct-16
STA 1287+00 to 1531+00		21	0	29-Dec-16	01-Feb-17
A3510	Excavate / Embank NB widening STA 1287+00 to 1531+00 (101,000CY)	21	0	29-Dec-16	01-Feb-17
Roadway		83	0	02-Feb-17	09-Jun-17
Pavement		83	0	02-Feb-17	09-Jun-17
STA 1187+00 to 1287+00		28	0	02-Feb-17	20-Mar-17
A3820	Sawcut and Remove existing Pavement for NB widening	8	0	02-Feb-17	14-Feb-17
A3890	Sawcut and Remove existing Pavement for SB widening	8	0	16-Feb-17	28-Feb-17
A3900	Subgrade/Finegrade & Compact SB Widening (30,000ton)	15	0	24-Feb-17	20-Mar-17
STA 1287+00 to 1531+00		55	0	21-Mar-17	09-Jun-17
A4060	Sawcut and Remove existing Pavement for SB widening	8	0	21-Mar-17	31-Mar-17
A4070	Subgrade/Finegrade & Compact SB Widening (105,000ton)	50	0	29-Mar-17	09-Jun-17
Drainage		75	0	04-Oct-16	01-Feb-17
A3440	Phase 3 - 15" RCP Structure Removal	6	0	04-Oct-16	11-Oct-16
A3450	Phase 3 - 24" RCP Structure Removal and Extensions (New 18,000lf)	69	0	13-Oct-16	01-Feb-17
Tolling Infrastructure		114	0	12-Jun-17	20-Nov-17
Ductbank		62	0	12-Jun-17	07-Sep-17
A4440	Excavate/Conduit/Backfill DB TP3 (50,000)	50	0	12-Jun-17	21-Aug-17
A4450	Pull Fiber & Rough in tie-in's	12	0	22-Aug-17	07-Sep-17
ITS		52	0	08-Sep-17	20-Nov-17
A4430	Install Monitoring Poles & Rough-in Electrical	15	0	08-Sep-17	28-Sep-17
A4480	Install Cabinets & Tie-In Points	15	0	29-Sep-17	19-Oct-17
A4460	Tie-In Gantries / CCTV / Tolling Infrastructure Points	22	0	20-Oct-17	20-Nov-17



Remaining Level of Effort | Actual Work | Critical Remaining W...
Actual Level of Effort | Remaining Work | ◆ Milestone

TASK filter: Longest Path.

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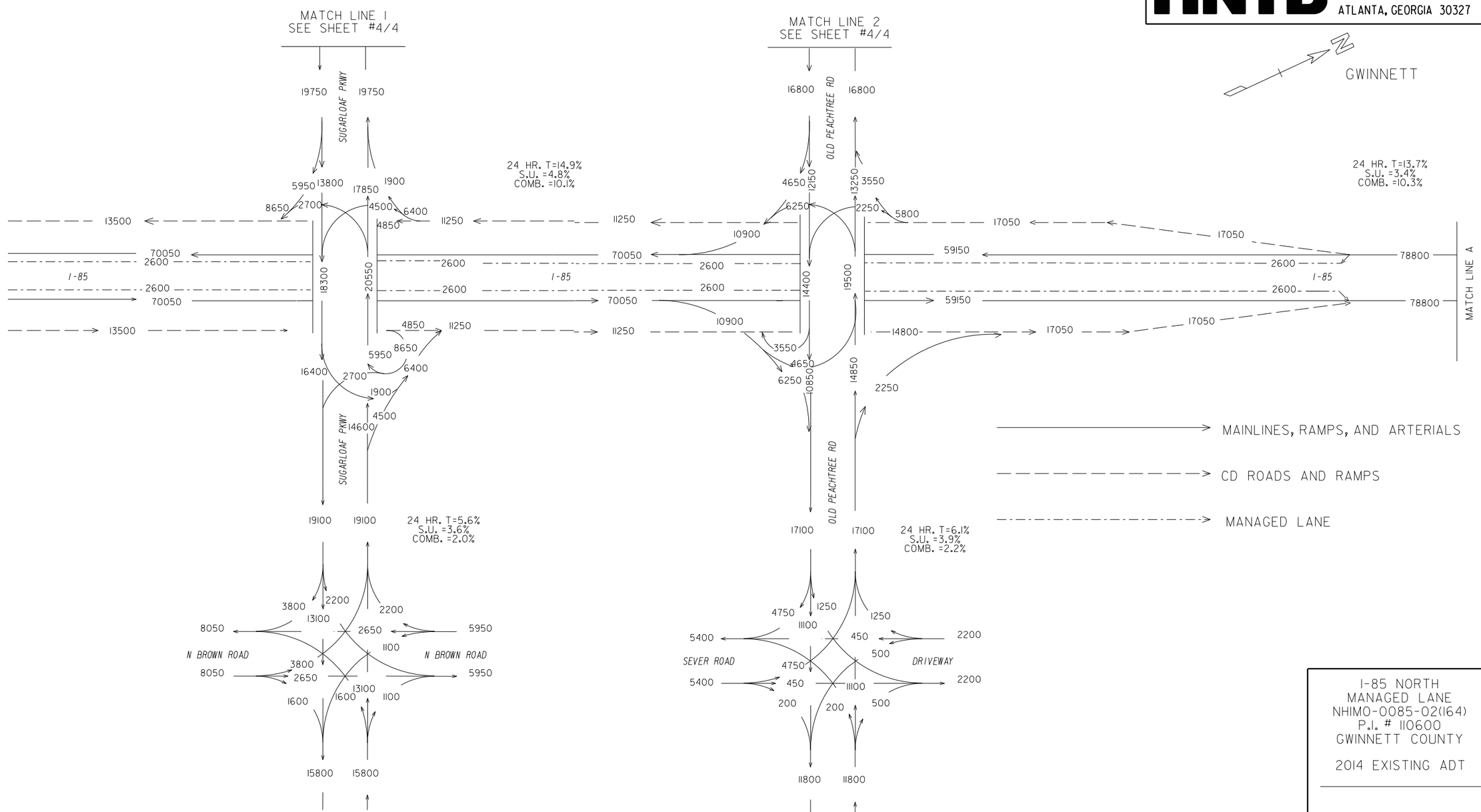
Appendix E. Traffic Diagrams

SHEET # 1/ 4

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2014 Existing ADT



I-85 NORTH
MANAGED LANE
NHIM0-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2014 EXISTING ADT

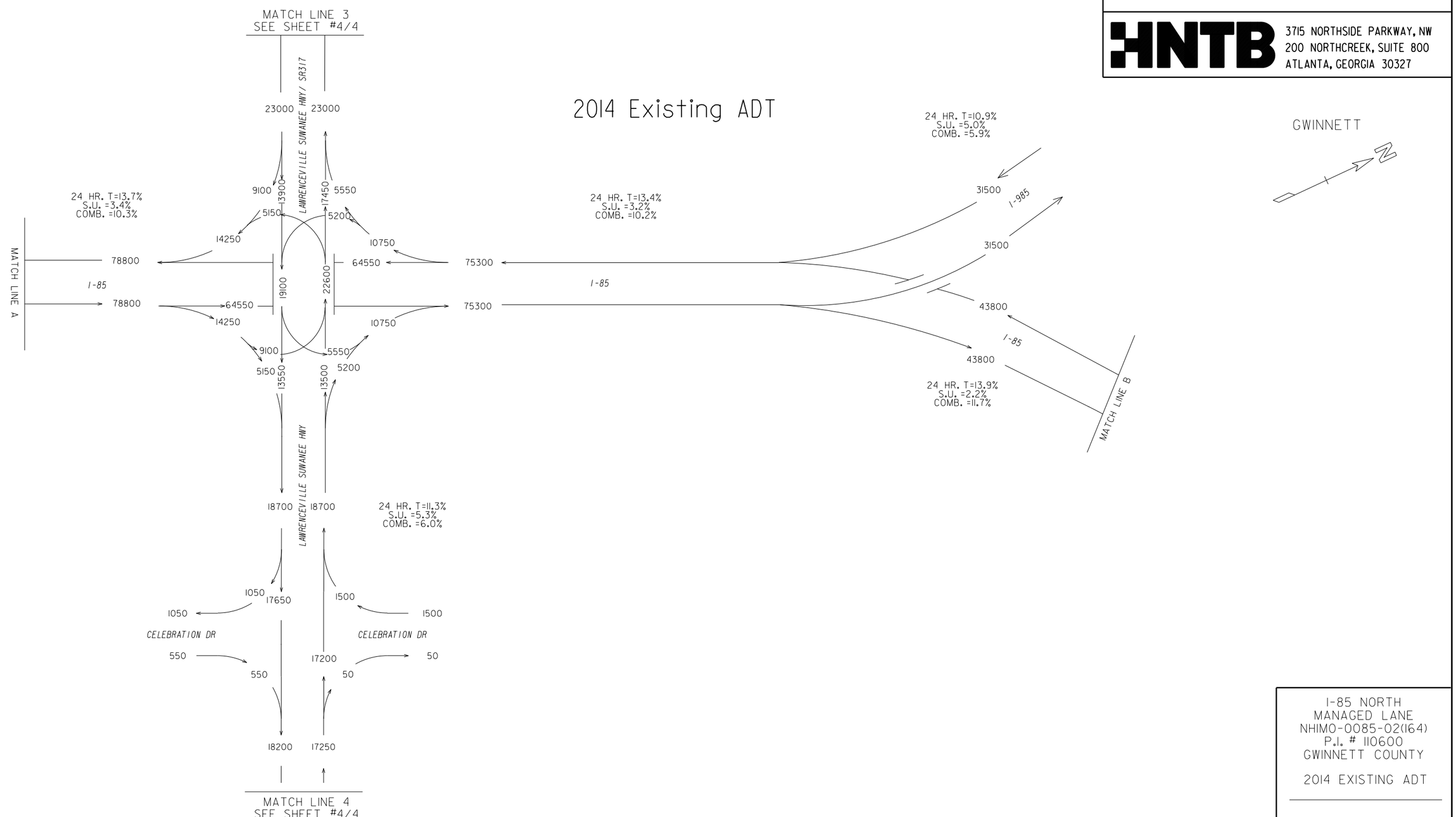
KAM
5/2014

SHEET # 2 / 4

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2014 Existing ADT



I-85 NORTH
MANAGED LANE
NHIM0-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2014 EXISTING ADT

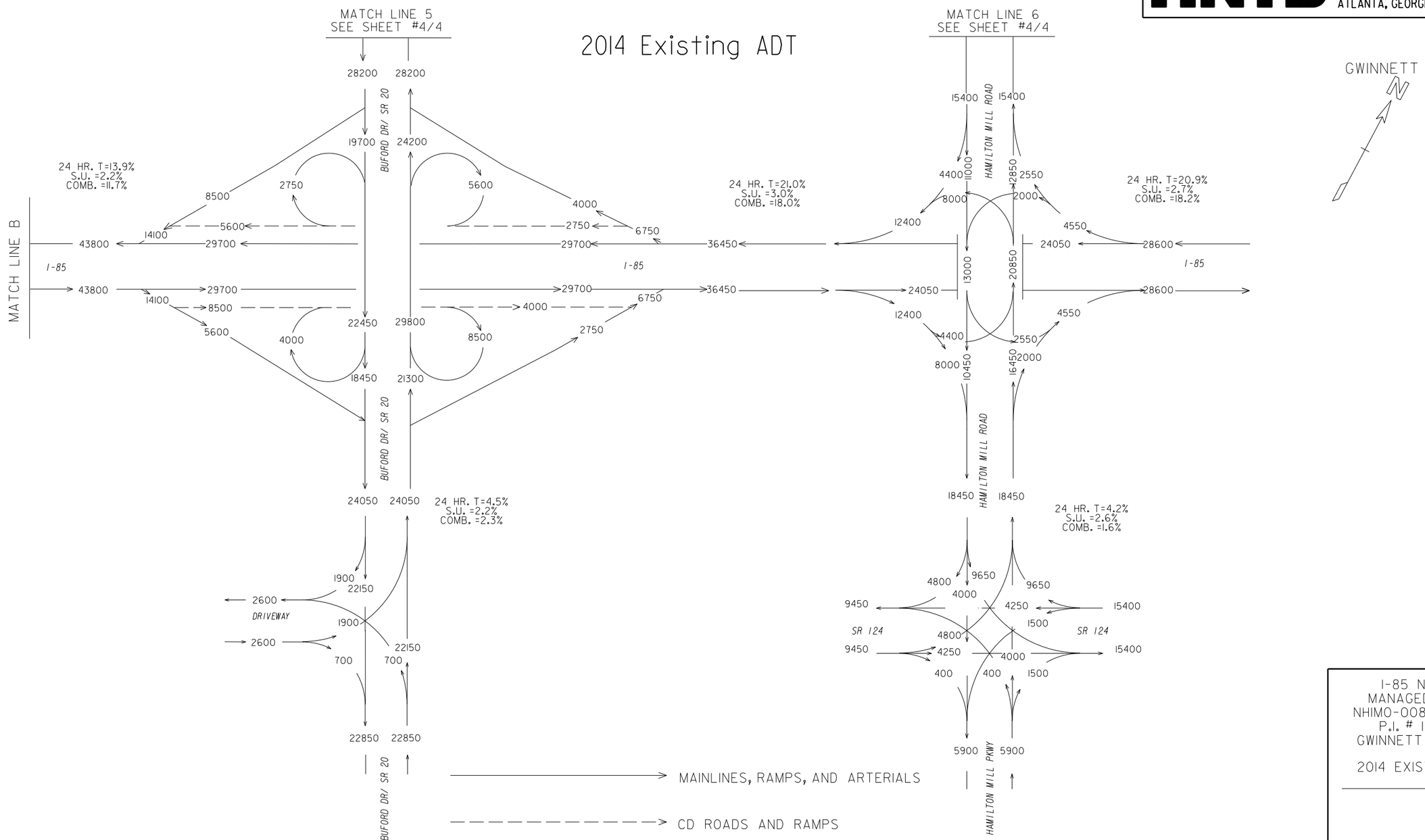
KAM
5/2014

SHEET # 3 / 4

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2014 Existing ADT



I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

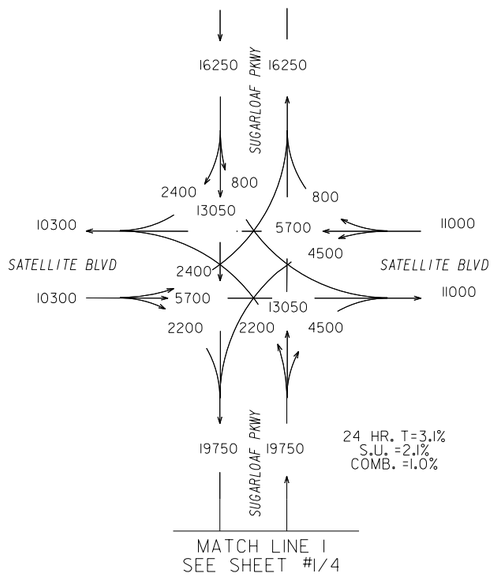
2014 EXISTING ADT

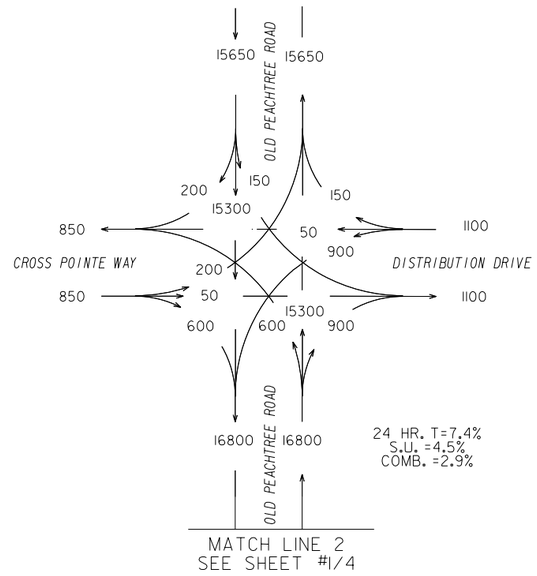
KAM
5/2014

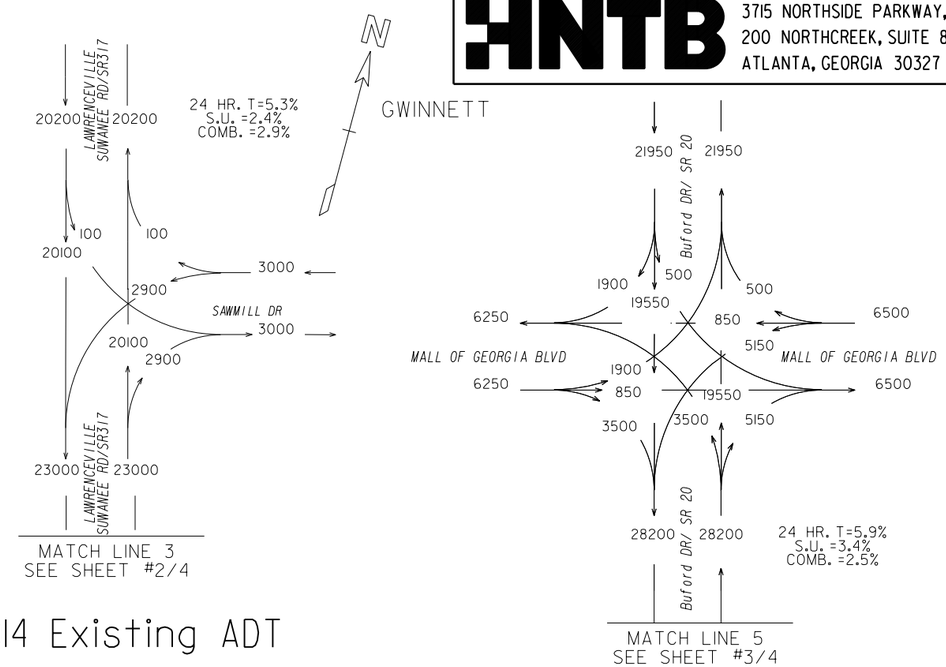
SHEET # 4 / 4

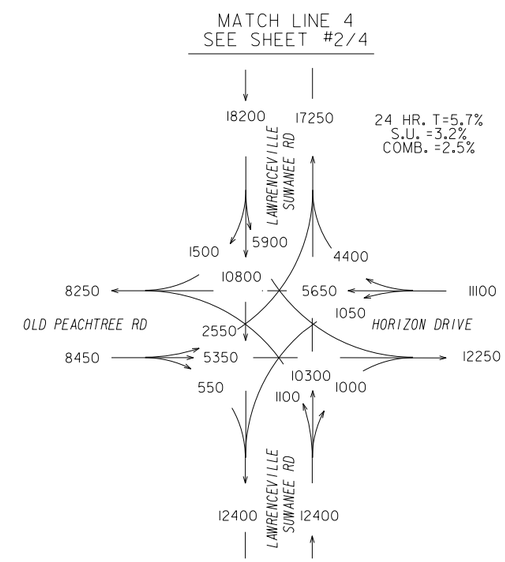
GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

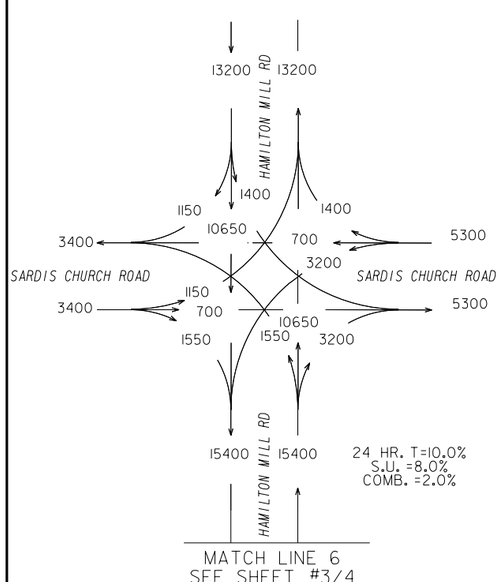
HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327











2014 Existing ADT

I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2014 EXISTING ADT

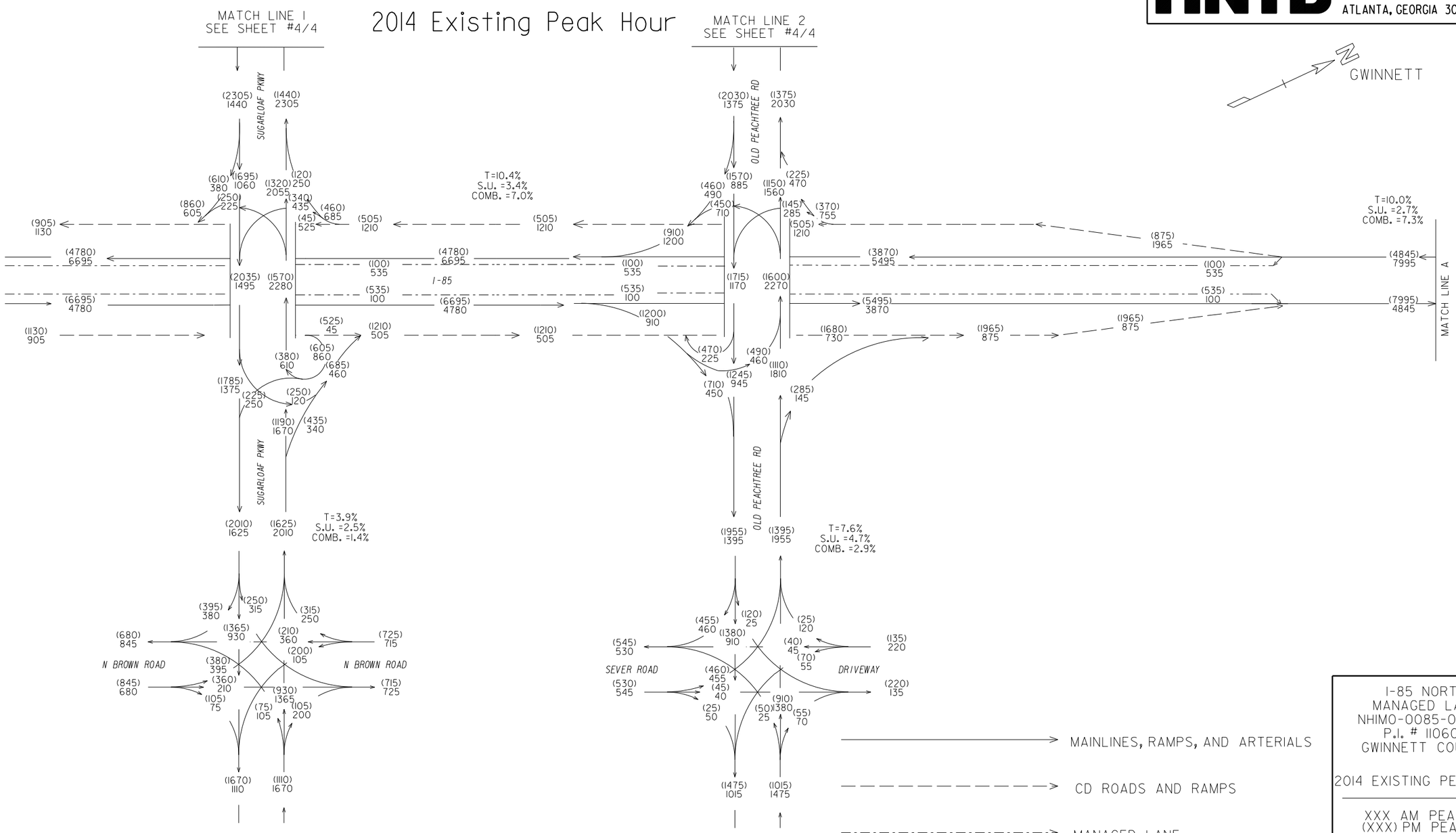
KAM
5/2014

SHEET # 1/ 4

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2014 Existing Peak Hour



I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2014 EXISTING PEAK HOUR

XXX AM PEAK
(XXX) PM PEAK

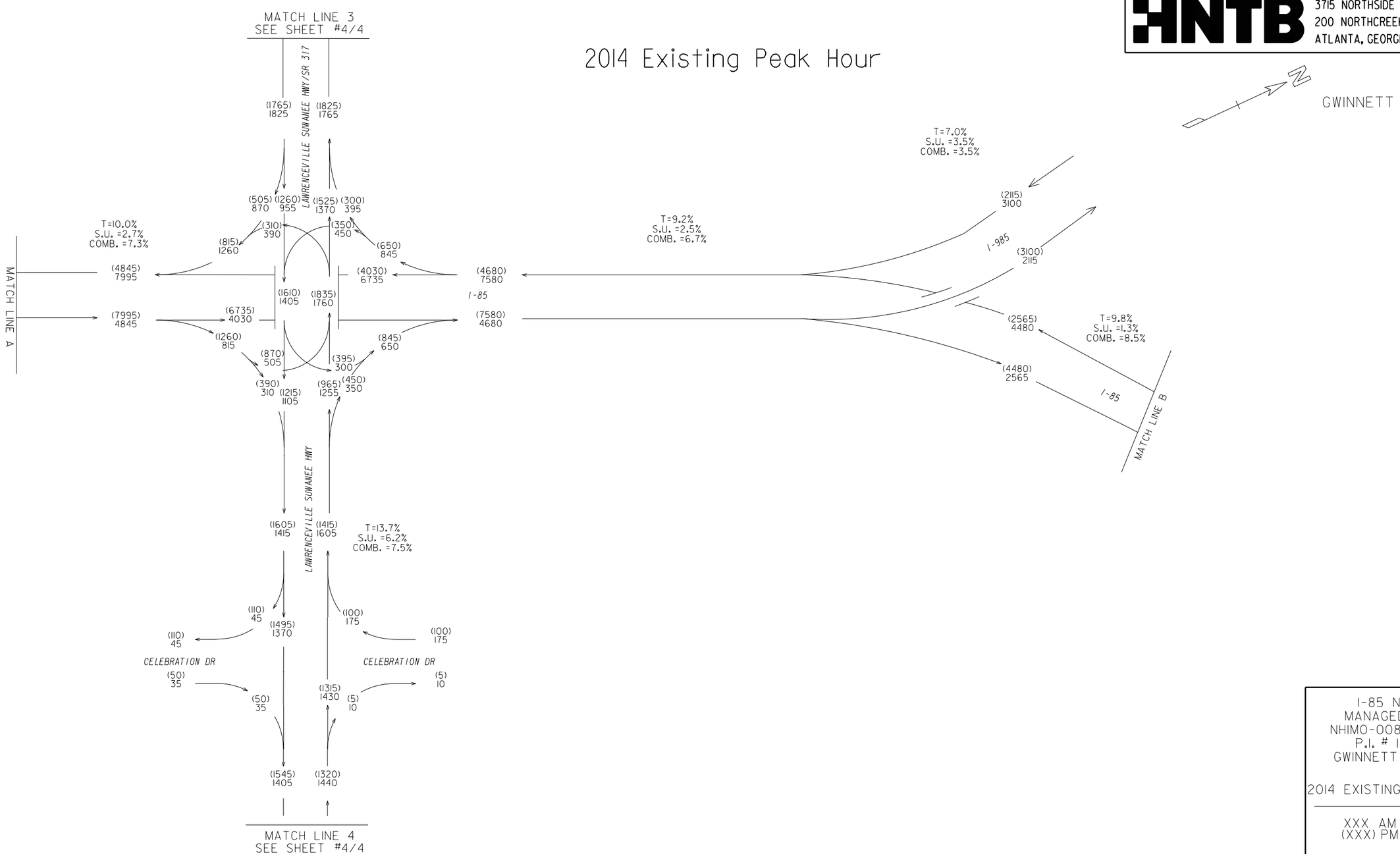
KAM
5/2014

SHEET # 2 / 4

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2014 Existing Peak Hour



I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2014 EXISTING PEAK HOUR

XXX AM PEAK
(XXX) PM PEAK

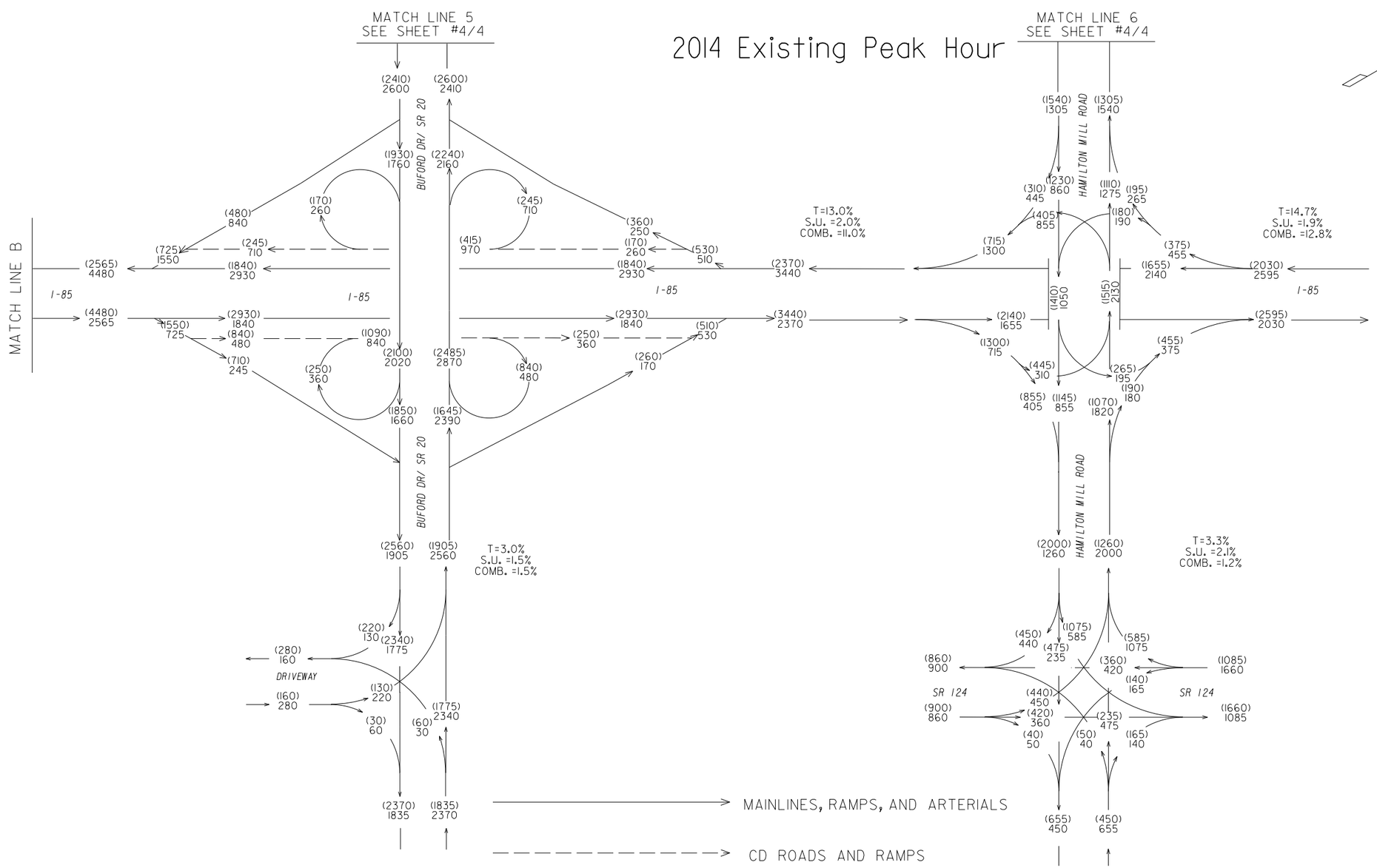
KAM
5/2014

SHEET # 3 / 4

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2014 Existing Peak Hour



I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2014 EXISTING PEAK HOUR

XXX AM PEAK
(XXX) PM PEAK

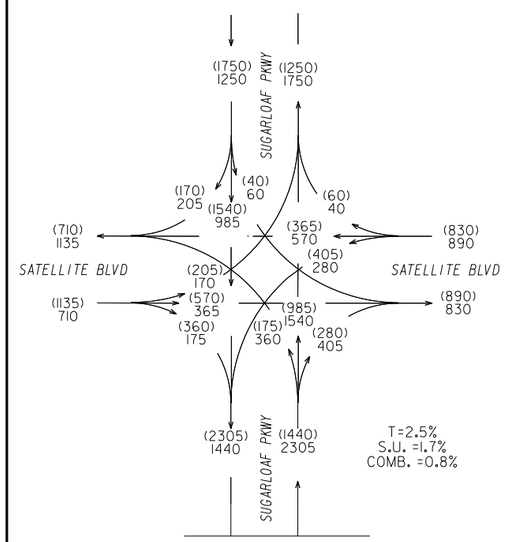
KAM
5/2014

SHEET # 4 / 4

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2014 Existing Peak Hour



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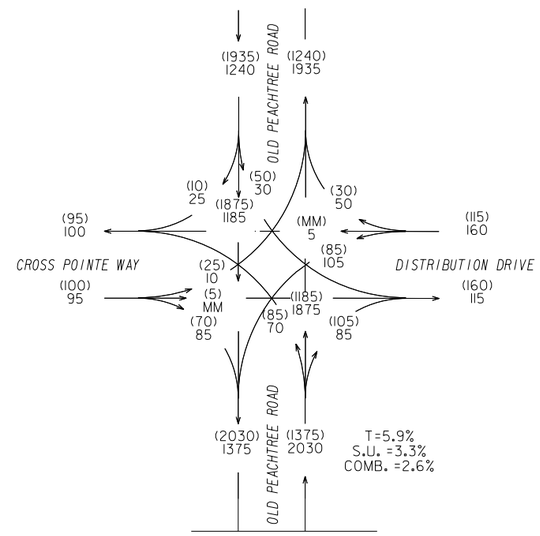

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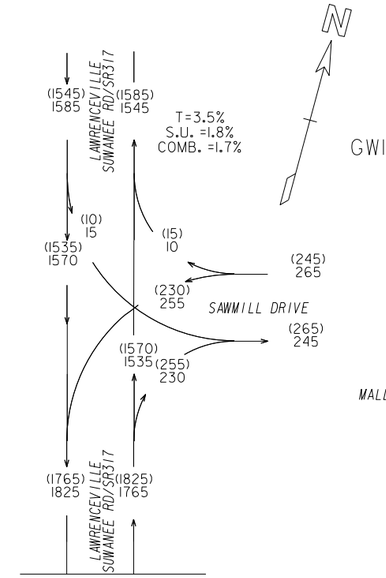

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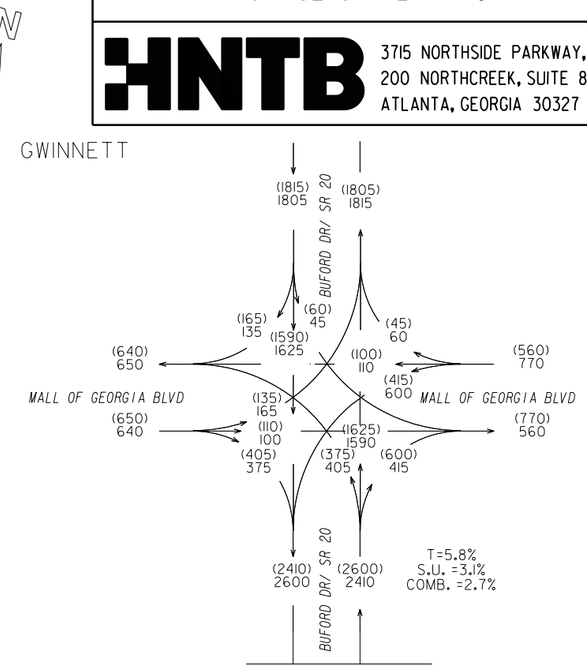

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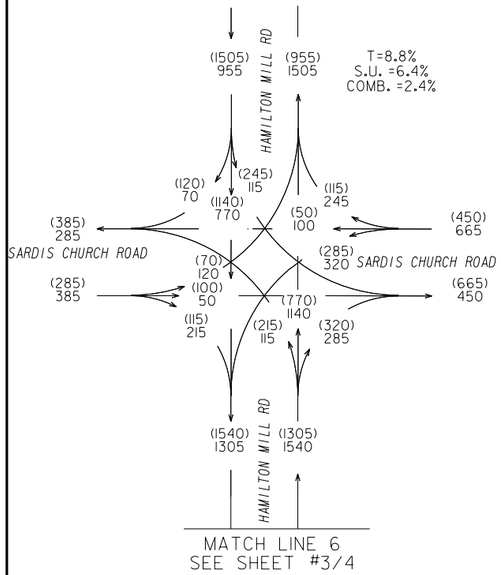

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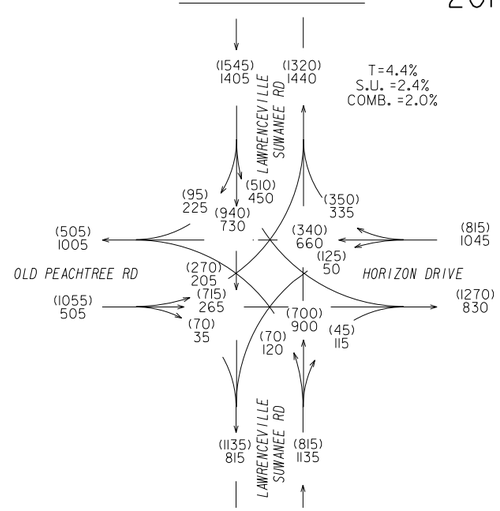
SEE SHEET #2/4



I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2014 EXISTING PEAK HOUR

XXX AM PEAK
(XXX) PM PEAK

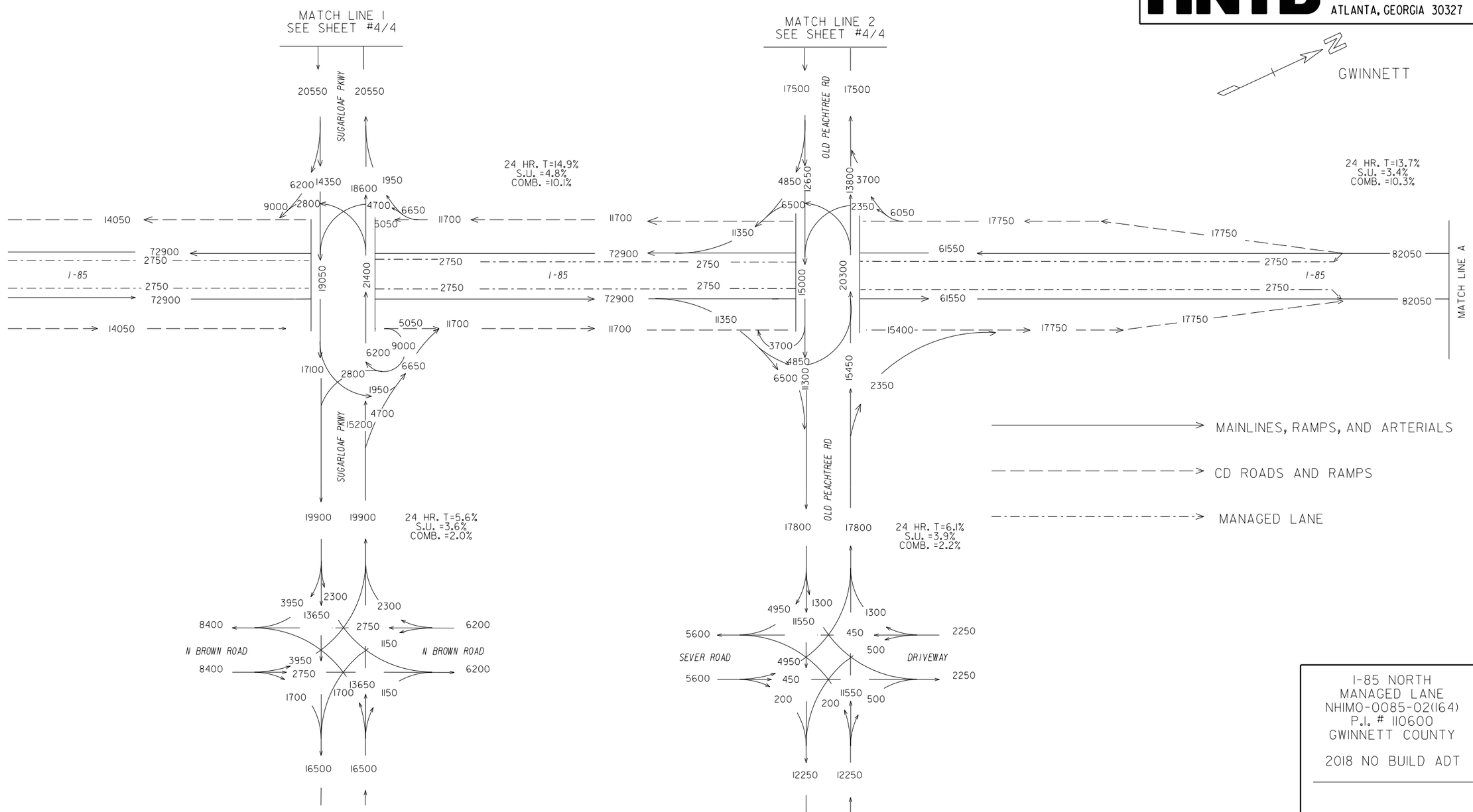
KAM
5/2014

SHEET # 1/ 4

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2018 No Build ADT



I-85 NORTH
MANAGED LANE
NHIM0-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2018 NO BUILD ADT

KAM
7/2014

SHEET # 2 / 4

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

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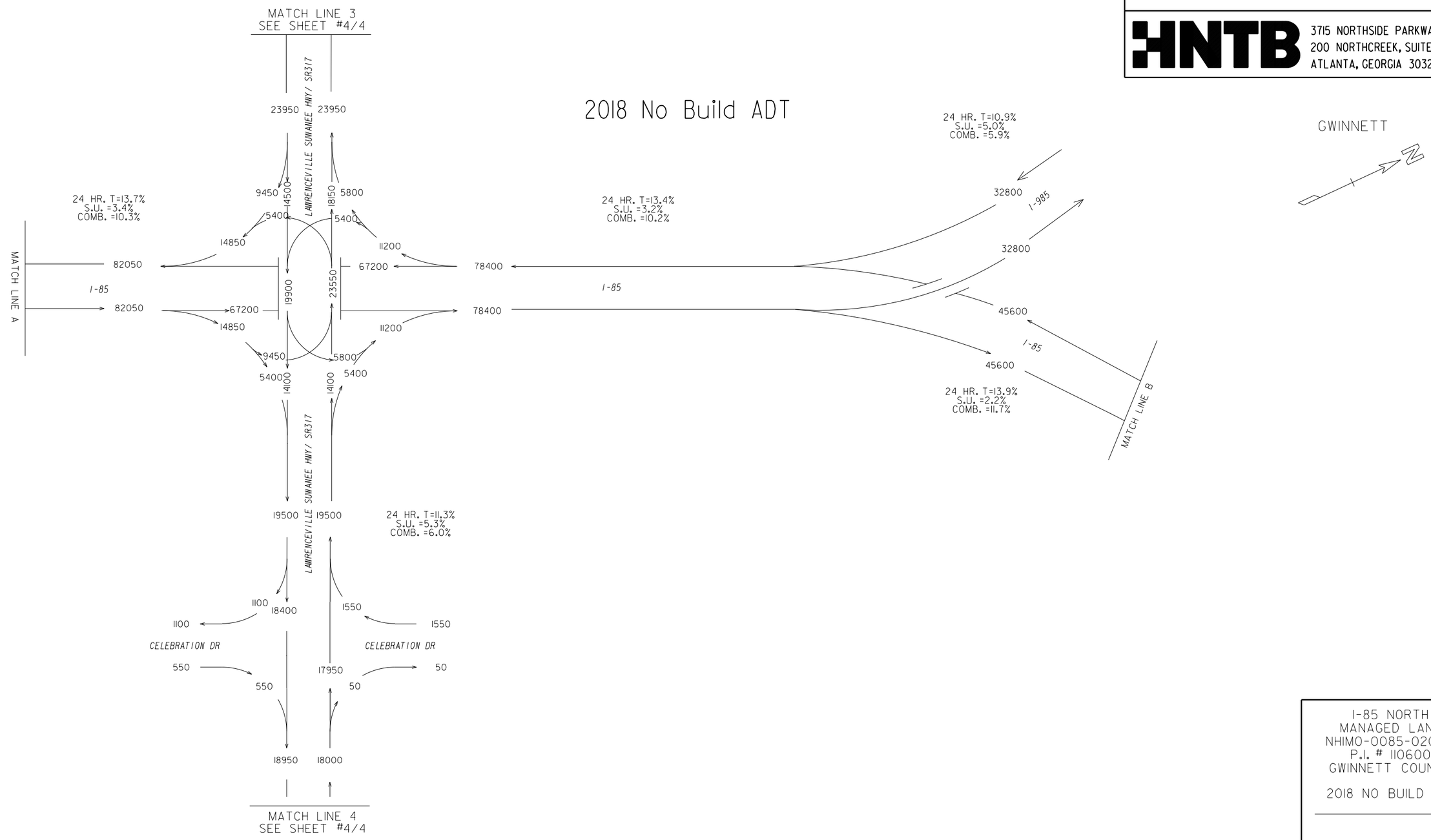
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2018 No Build ADT



I-85 NORTH
MANAGED LANE
NHIM0-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2018 NO BUILD ADT

KAM
7/2014

SHEET # 3 / 4

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

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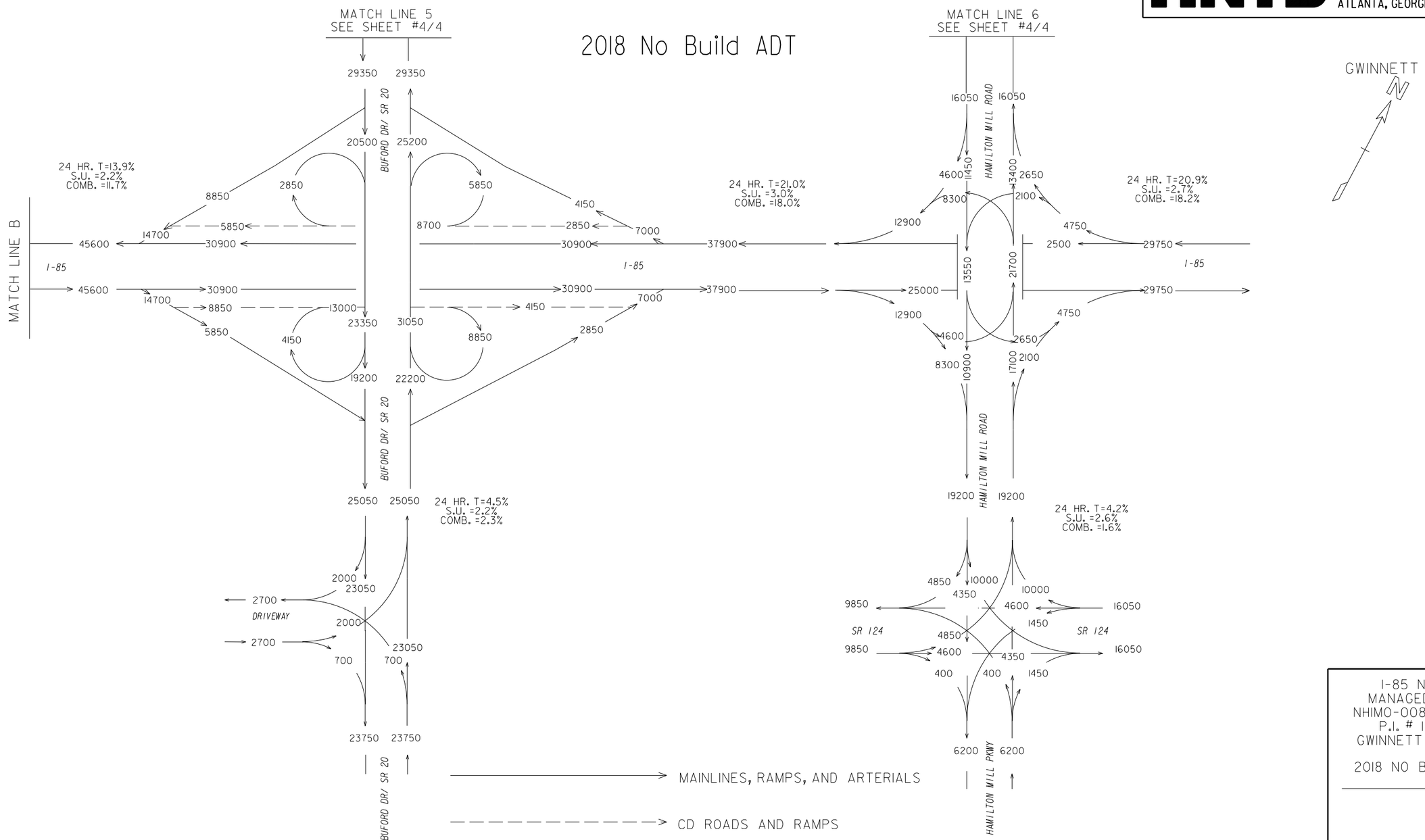
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2018 No Build ADT



I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

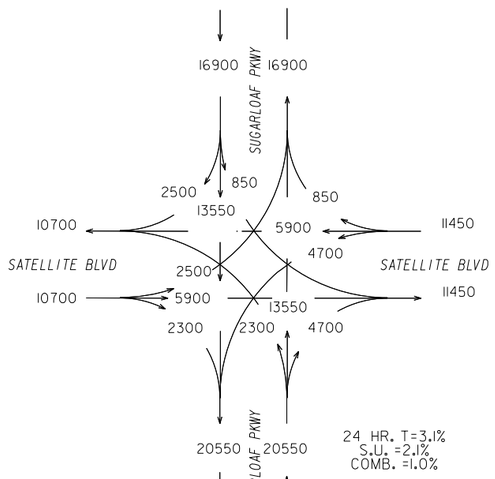
2018 NO BUILD ADT

KAM
7/2014

SHEET # 4 / 4

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327



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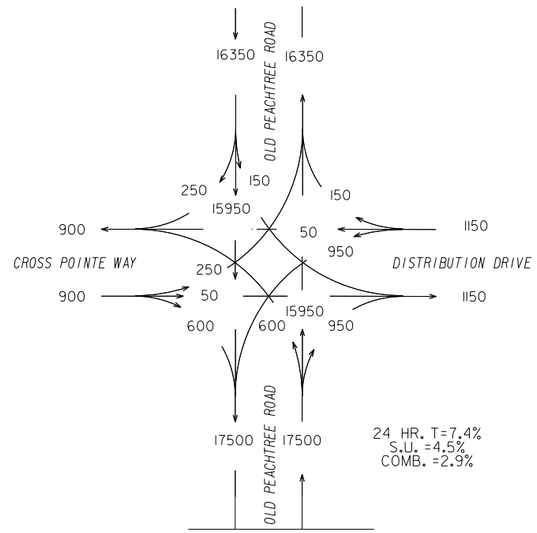

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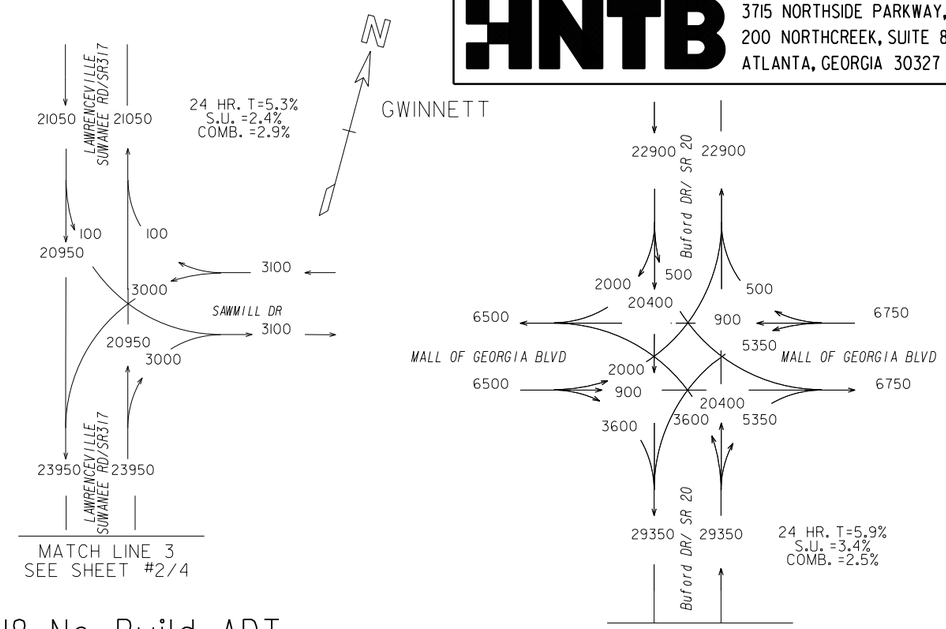

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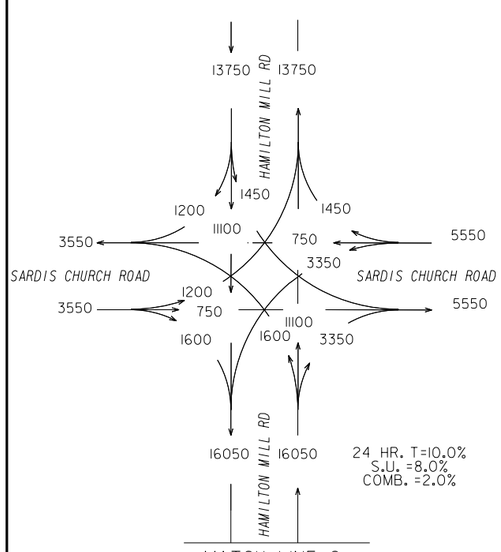
2018 No Build ADT



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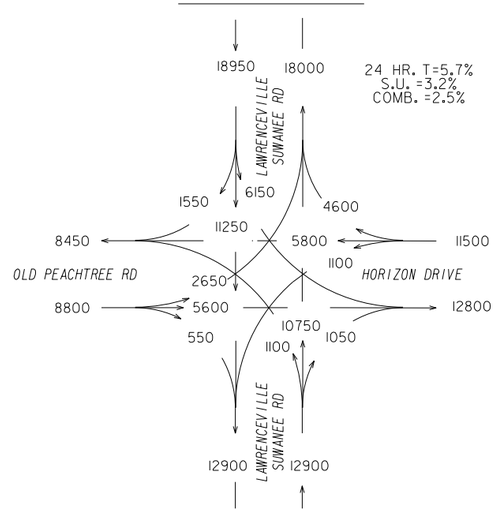


I-85 NORTH
MANAGED LANE
NHIM0-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2018 NO BUILD ADT

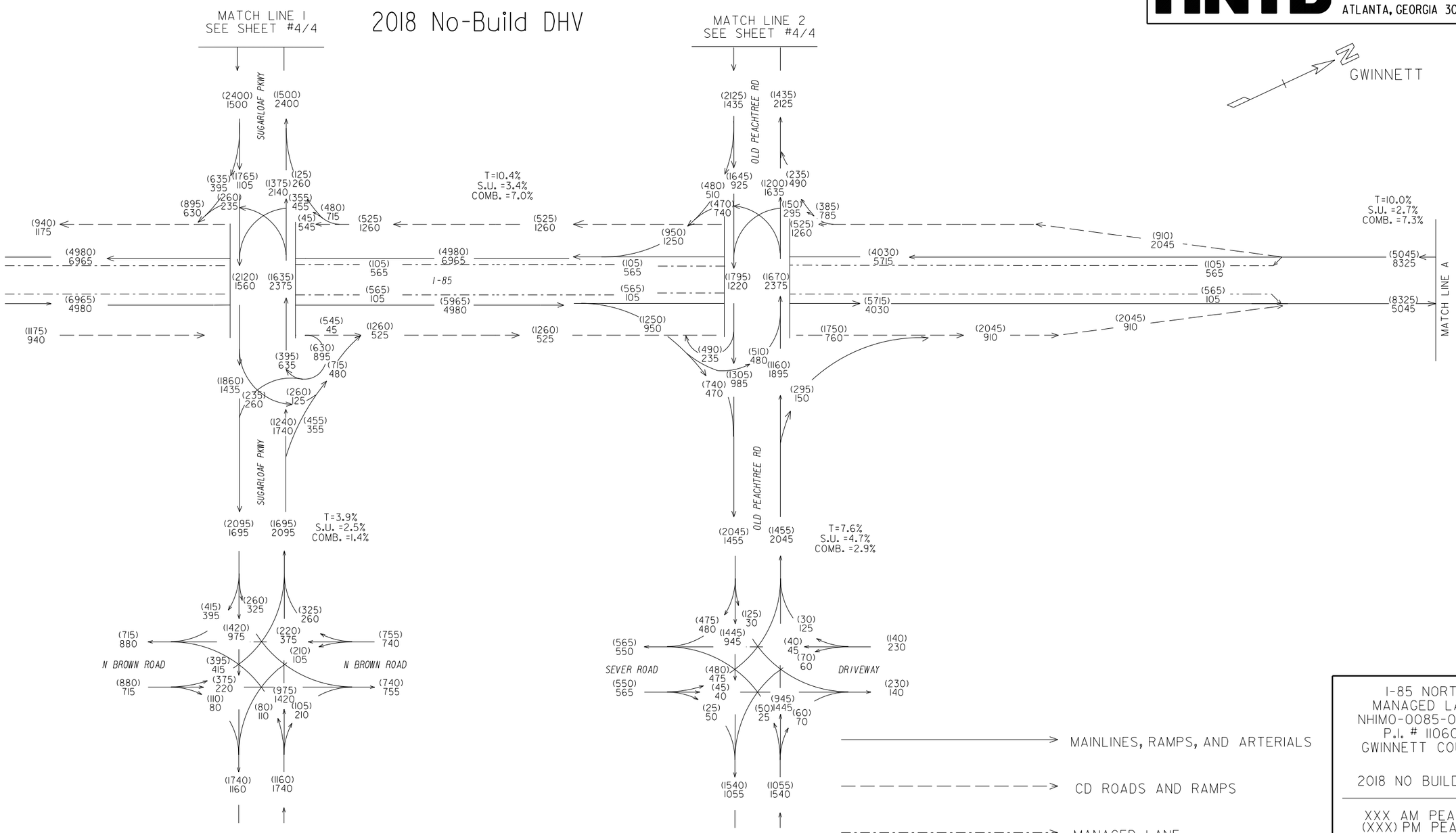
KAM
7/2014

SHEET # 1/ 4

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2018 No-Build DHV



I-85 NORTH
MANAGED LANE
NHIM0-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2018 NO BUILD DHV

XXX AM PEAK
(XXX) PM PEAK

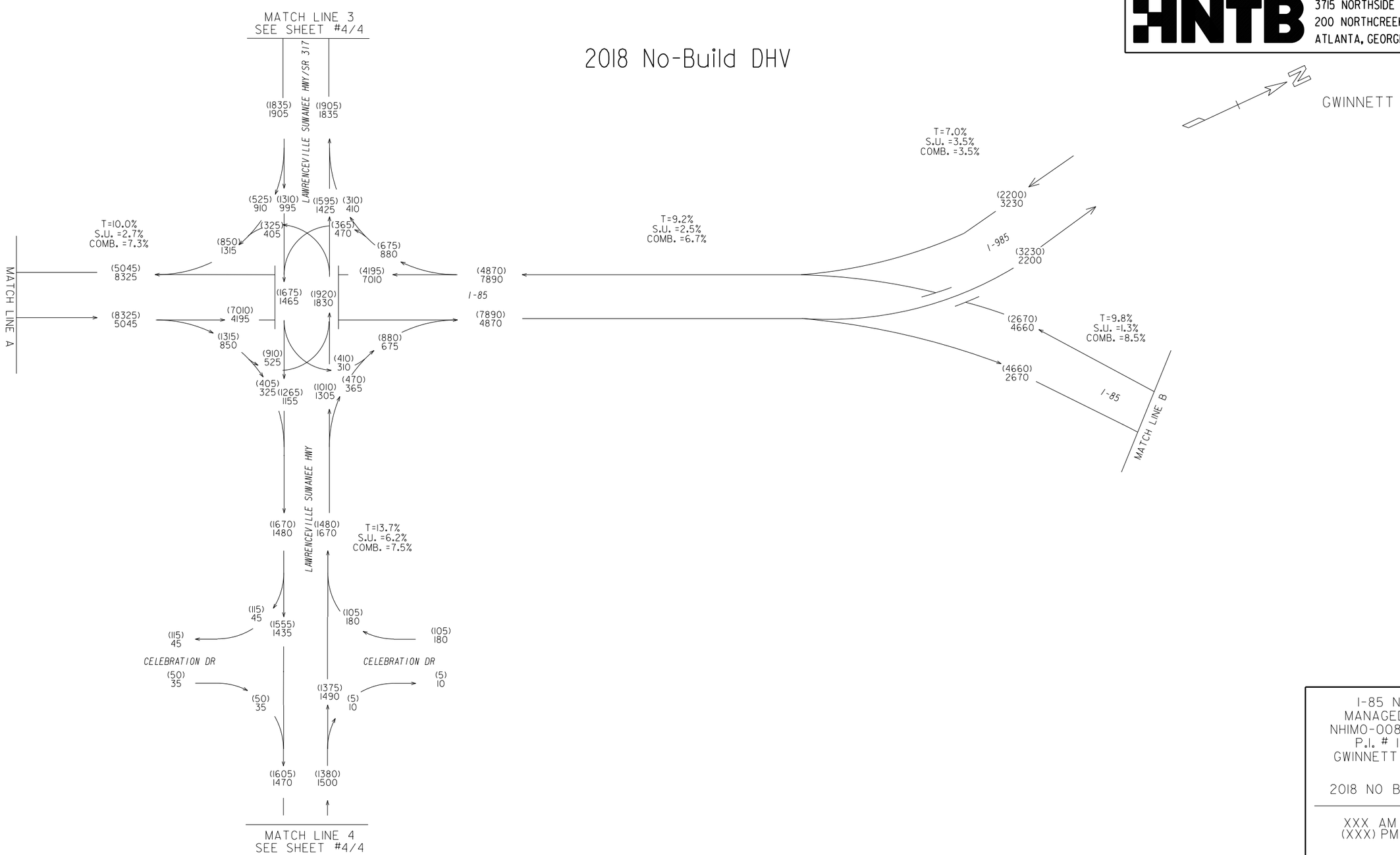
KAM
7/2014

SHEET # 2 / 4

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2018 No-Build DHV



I-85 NORTH
MANAGED LANE
NHIM0-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2018 NO BUILD DHV

XXX AM PEAK
(XXX) PM PEAK

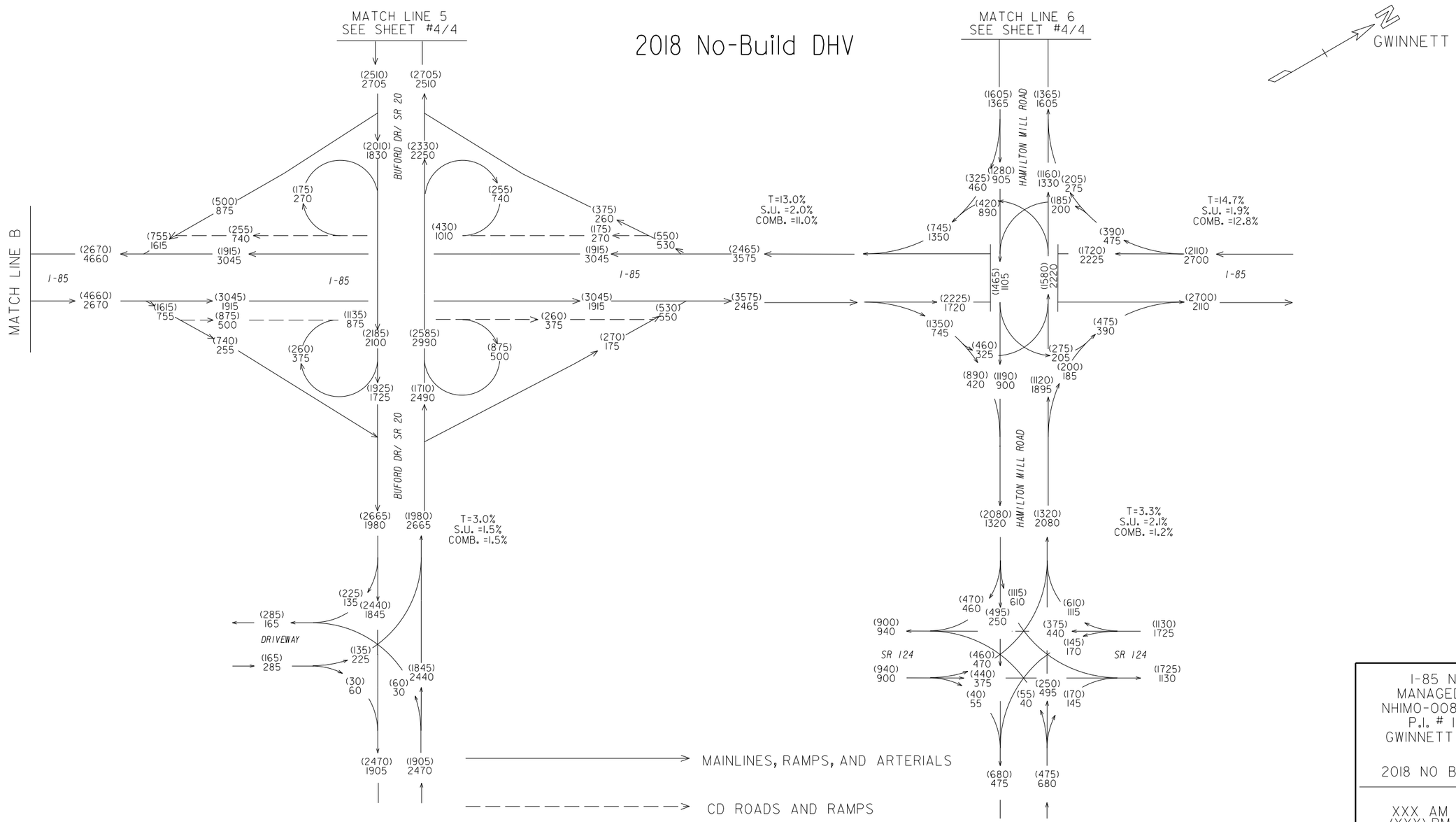
KAM
7/2014

SHEET # 3 / 4

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2018 No-Build DHV



I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2018 NO BUILD DHV

XXX AM PEAK
(XXX) PM PEAK

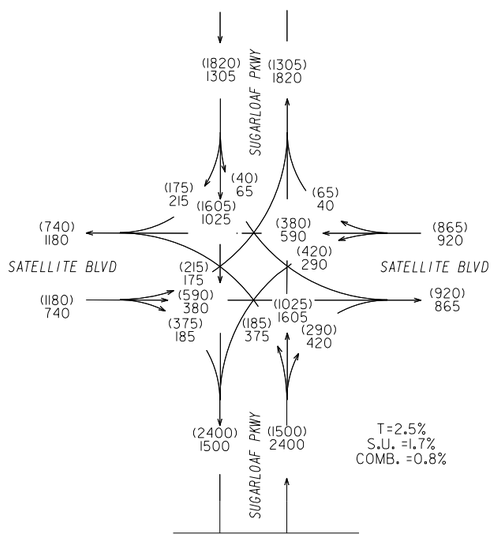
KAM
7/2014

SHEET # 4 / 4

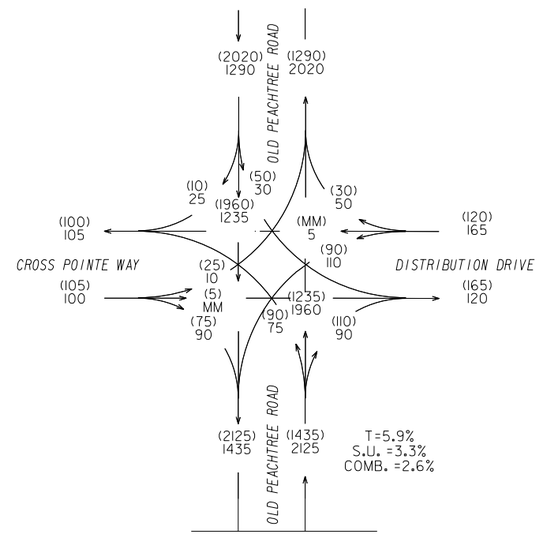
GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

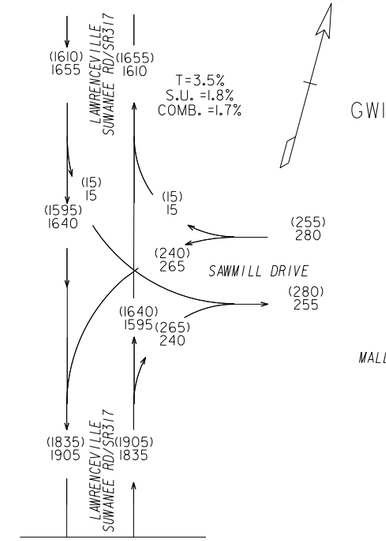
2018 No-Build DHV



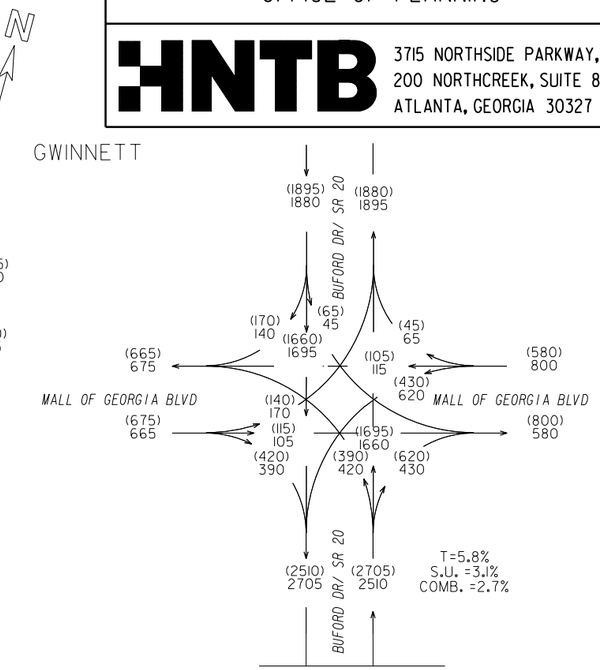
MATCH LINE 1
SEE SHEET #1/4



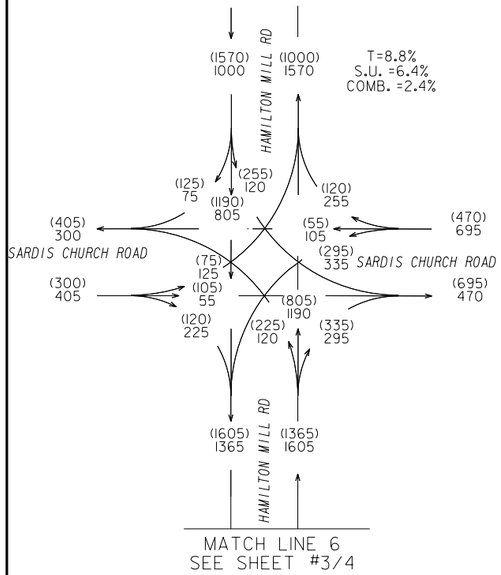
MATCH LINE 2
SEE SHEET #1/4



MATCH LINE 3
SEE SHEET #2/4

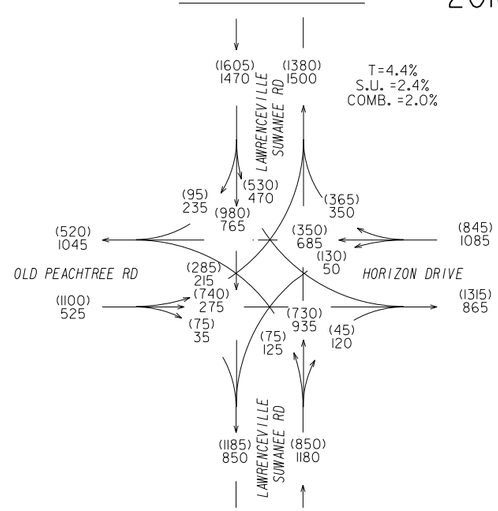


MATCH LINE 5
SEE SHEET #3/4



MATCH LINE 6
SEE SHEET #3/4

MATCH LINE 4
SEE SHEET #2/4



I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2018 NO BUILD DHV

XXX AM PEAK
(XXX) PM PEAK

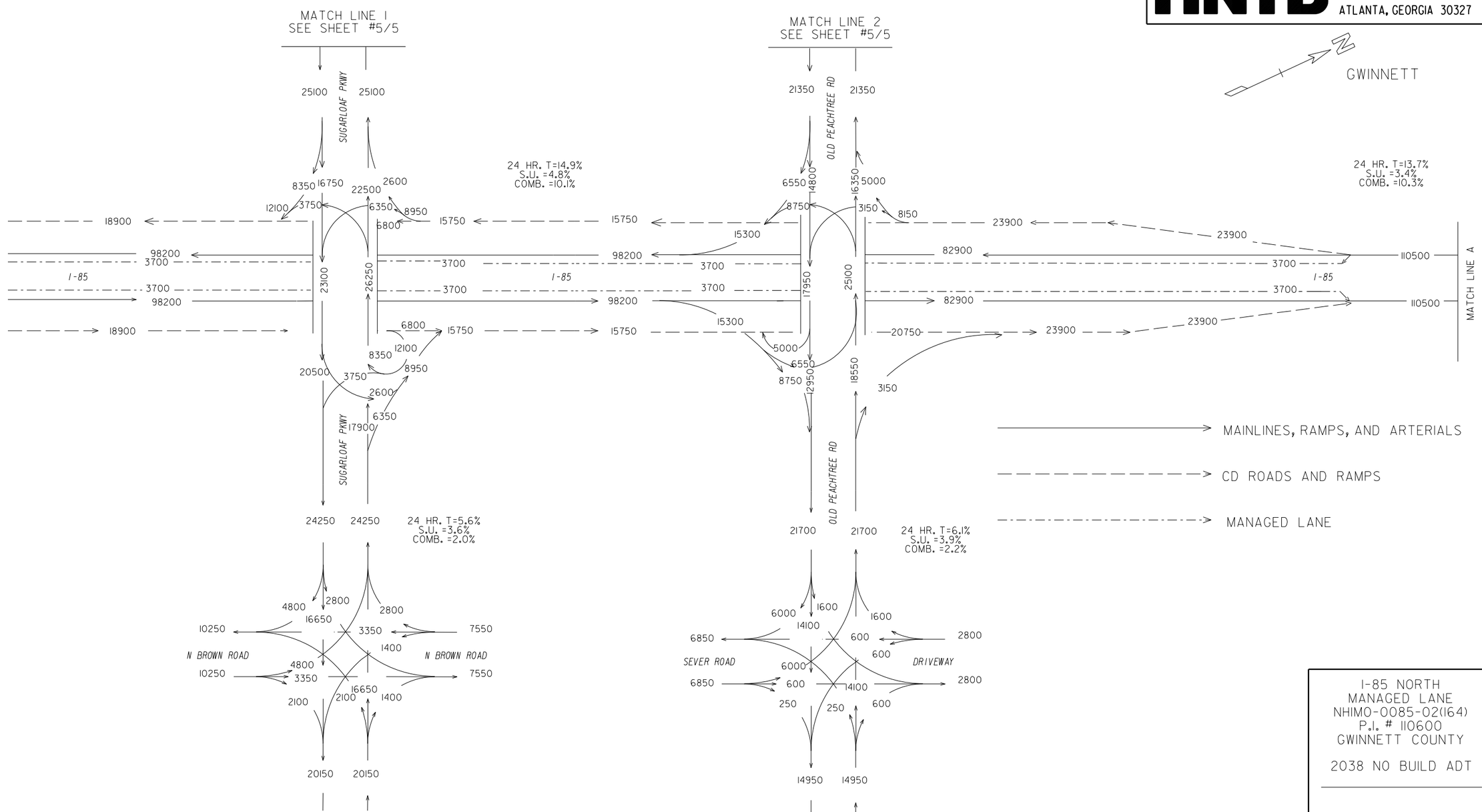
KAM
8/2014

SHEET # 1/ 5

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2038 No Build ADT



I-85 NORTH
MANAGED LANE
NHIM0-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2038 NO BUILD ADT

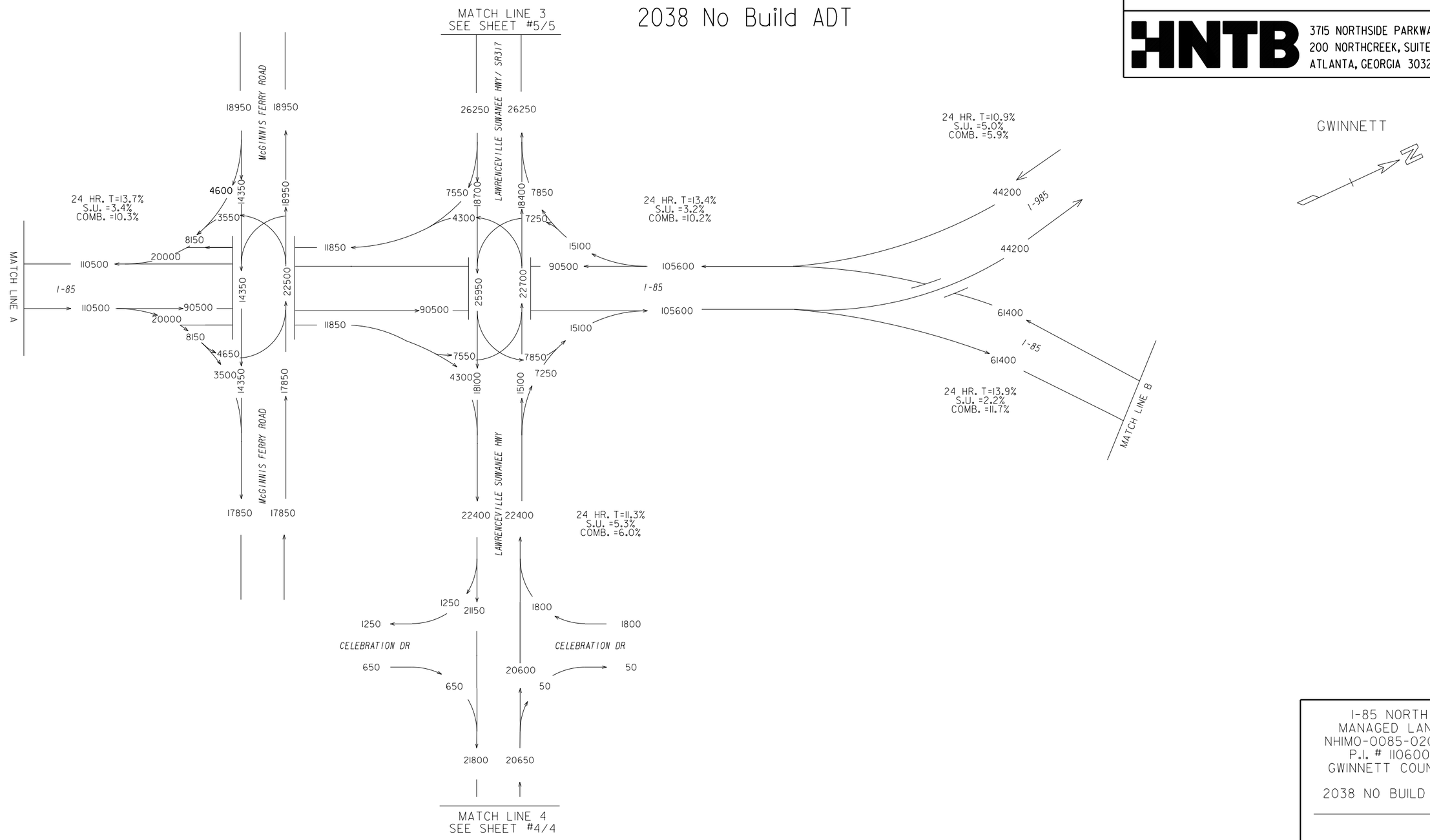
KAM
7/2014

SHEET #2 / 5

2038 No Build ADT

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327



I-85 NORTH
MANAGED LANE
NHIM0-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2038 NO BUILD ADT

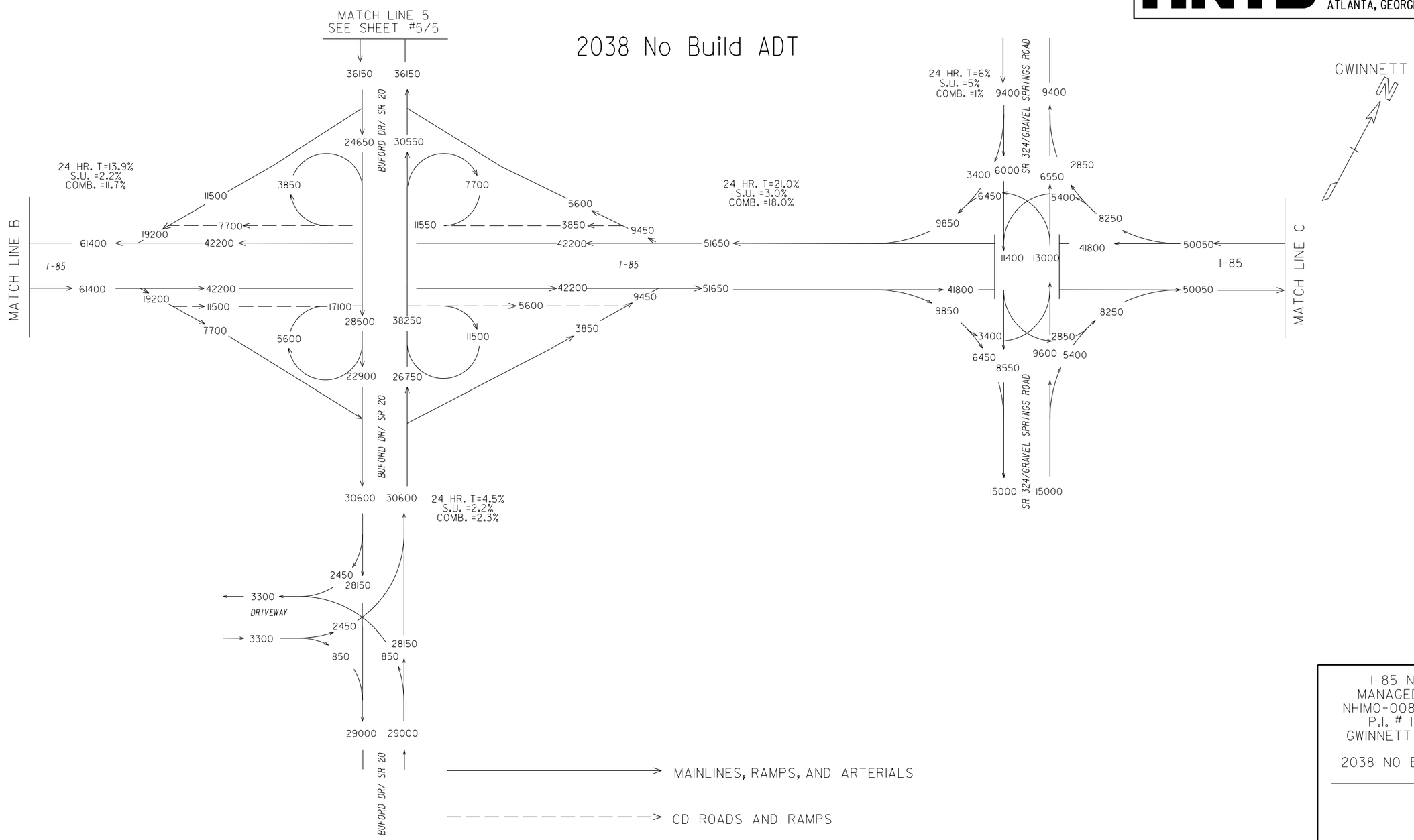
KAM
7/2014

SHEET # 3 / 5

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2038 No Build ADT



I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2038 NO BUILD ADT

KAM
8/2014

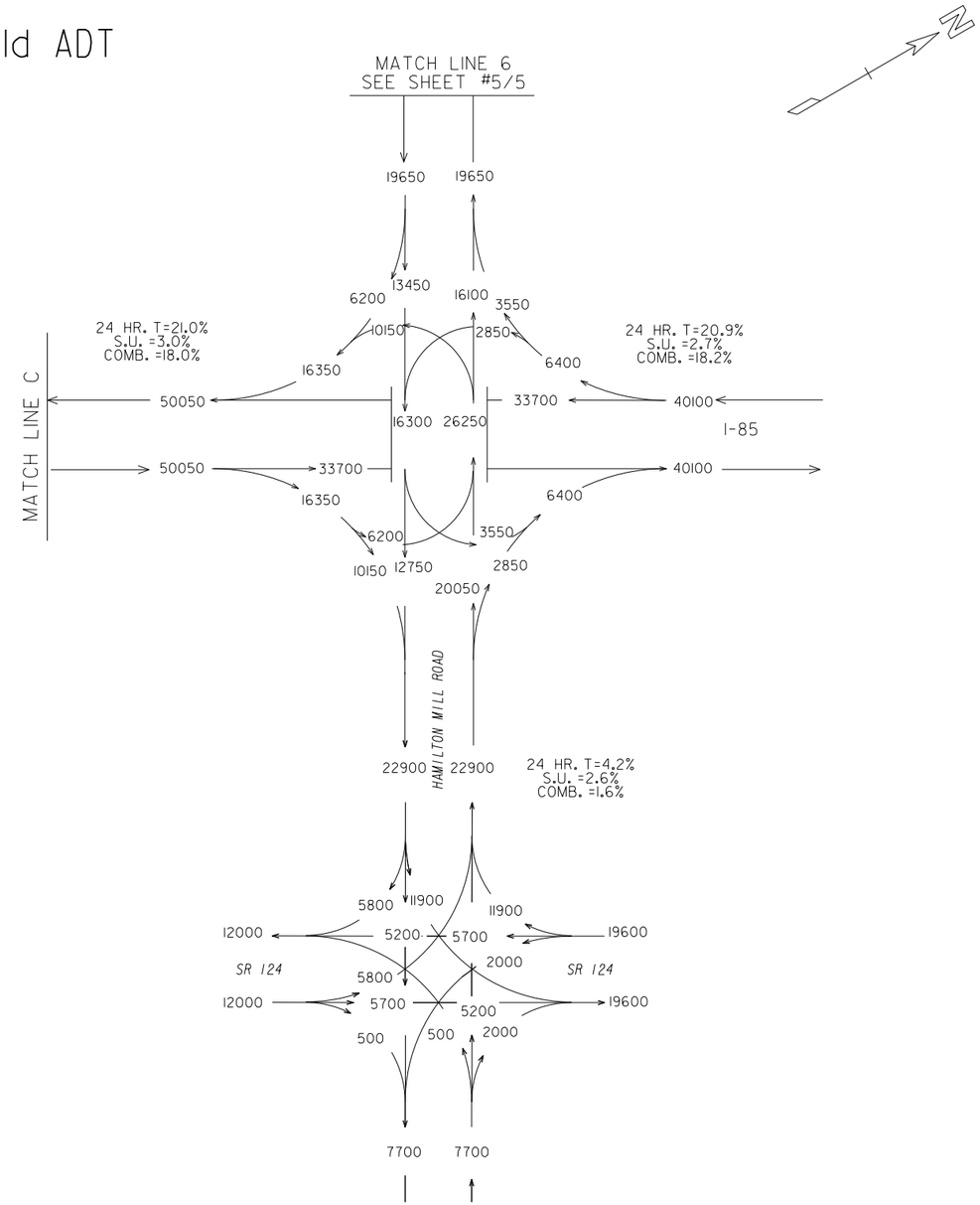
SHEET # 4 / 5

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

GWINNETT

2038 No Build ADT



I-85 NORTH
MANAGED LANE
NHIM0-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

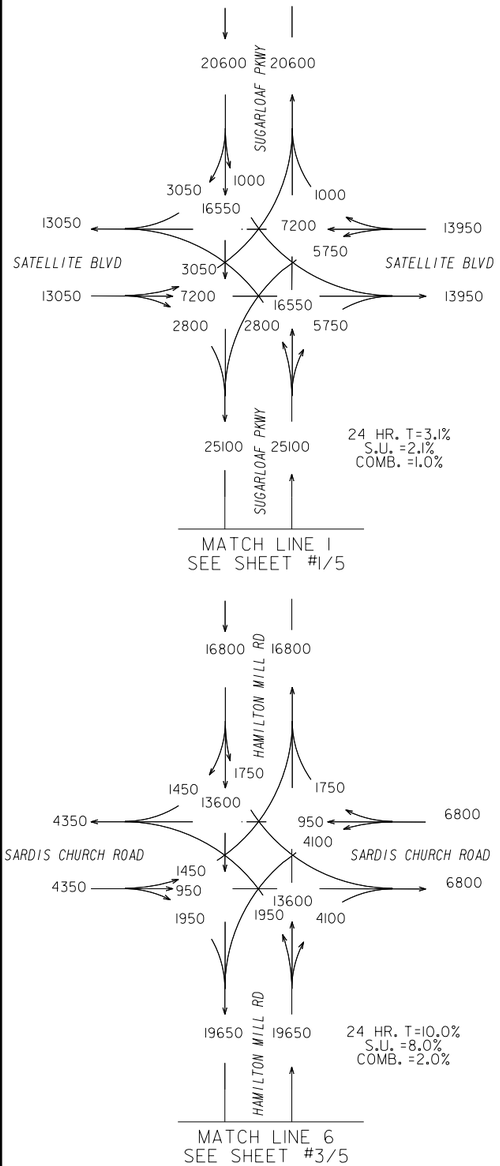
2038 NO BUILD ADT

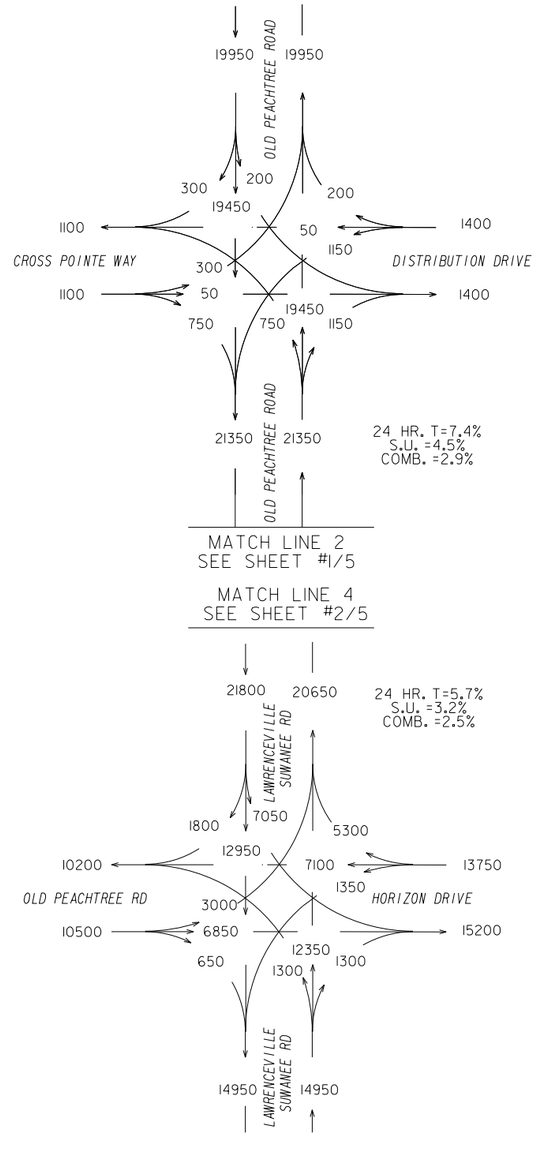
KAM
7/2014

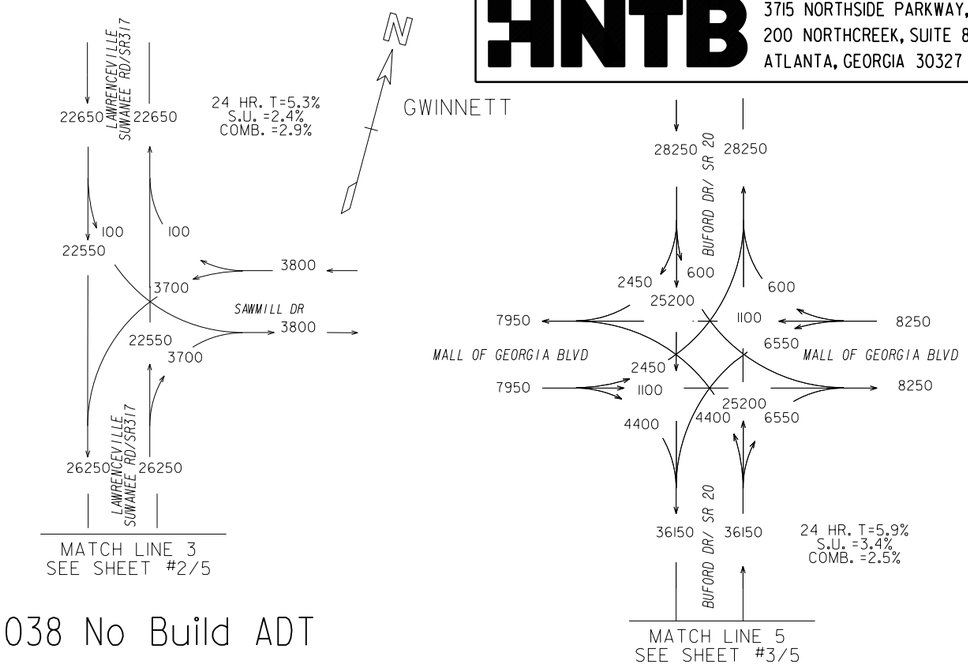
SHEET # 5 / 5

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327







2038 No Build ADT

I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2038 NO BUILD ADT

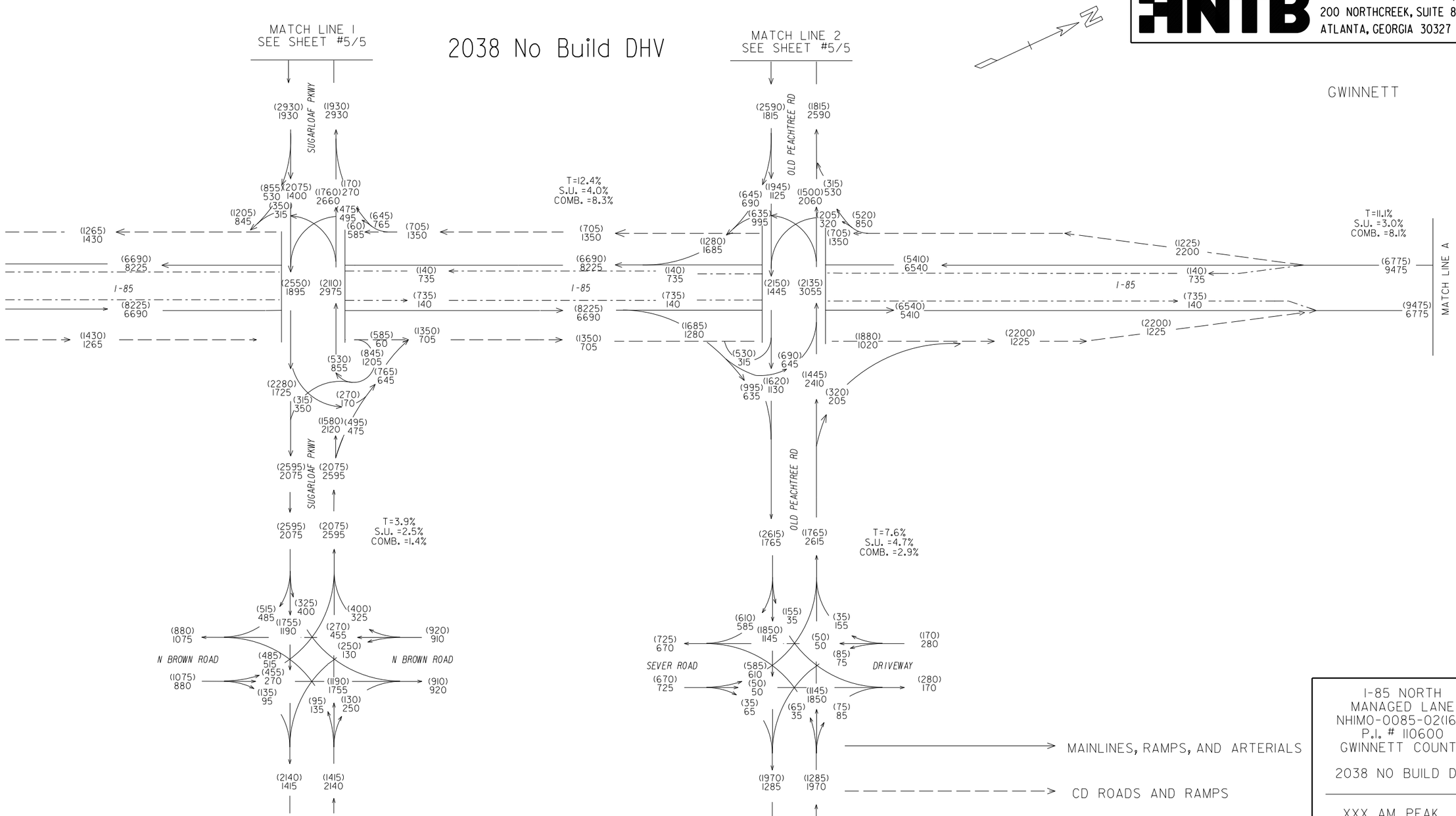
KAM
7/2014

SHEET # 1/ 5

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2038 No Build DHV



I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2038 NO BUILD DHV

XXX AM PEAK
(XXX) PM PEAK

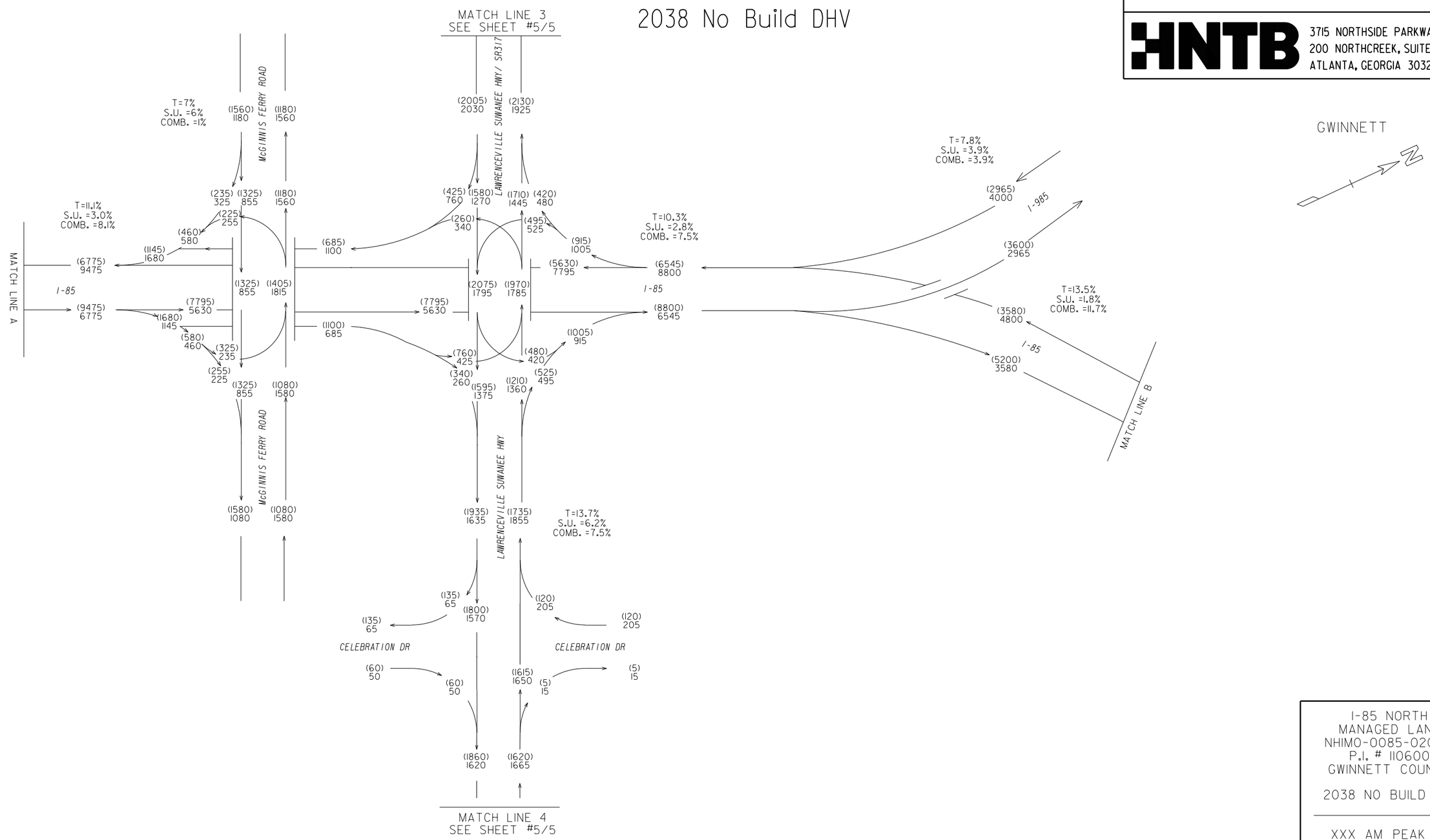
KAM
7/2014

SHEET #2 / 5

2038 No Build DHV

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327



I-85 NORTH
MANAGED LANE
NHIM0-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2038 NO BUILD DHV

XXX AM PEAK
(XXX) PM PEAK

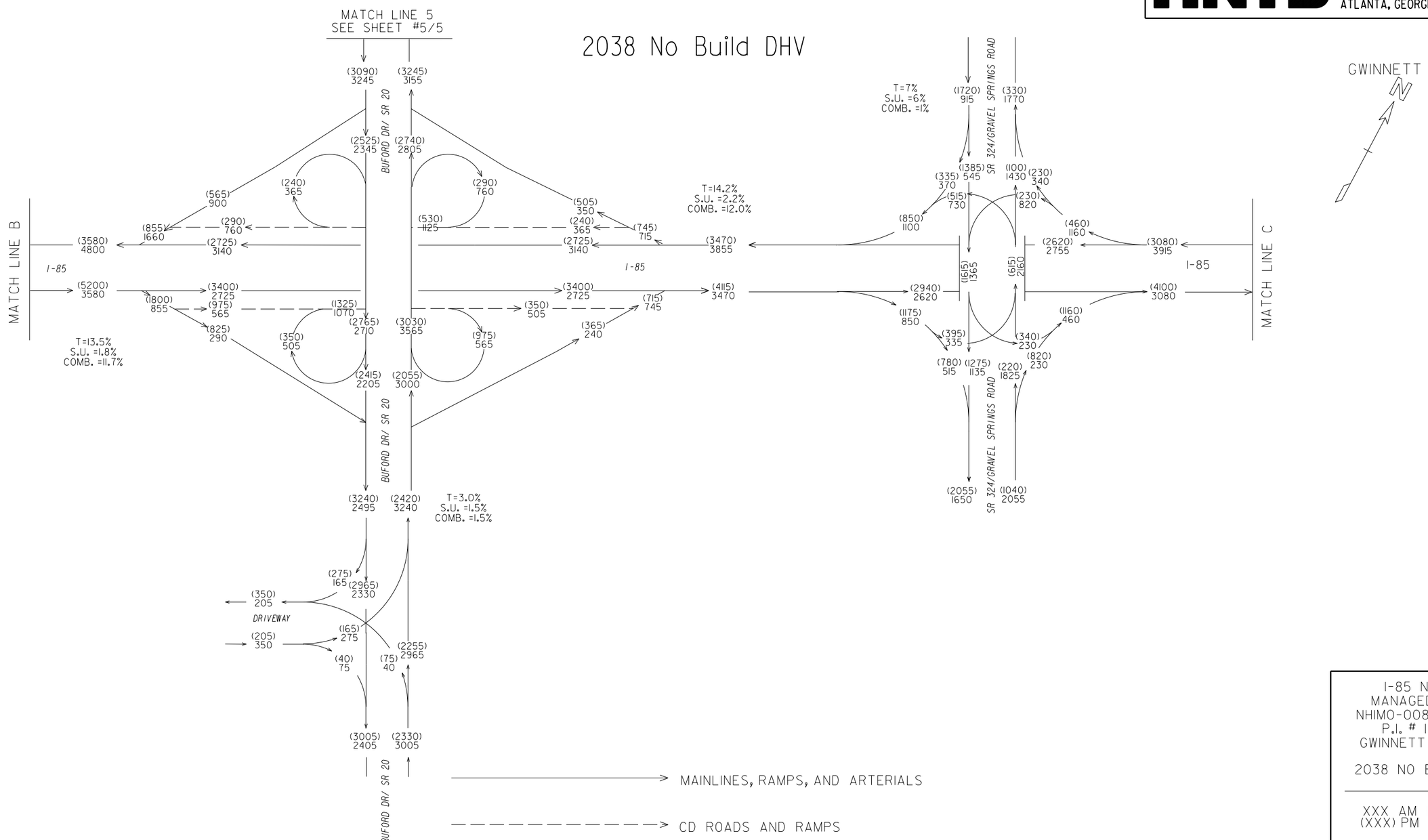
KAM
7/2014

SHEET # 3 / 5

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2038 No Build DHV



I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2038 NO BUILD DHV

XXX AM PEAK
(XXX) PM PEAK

KAM
7/2014

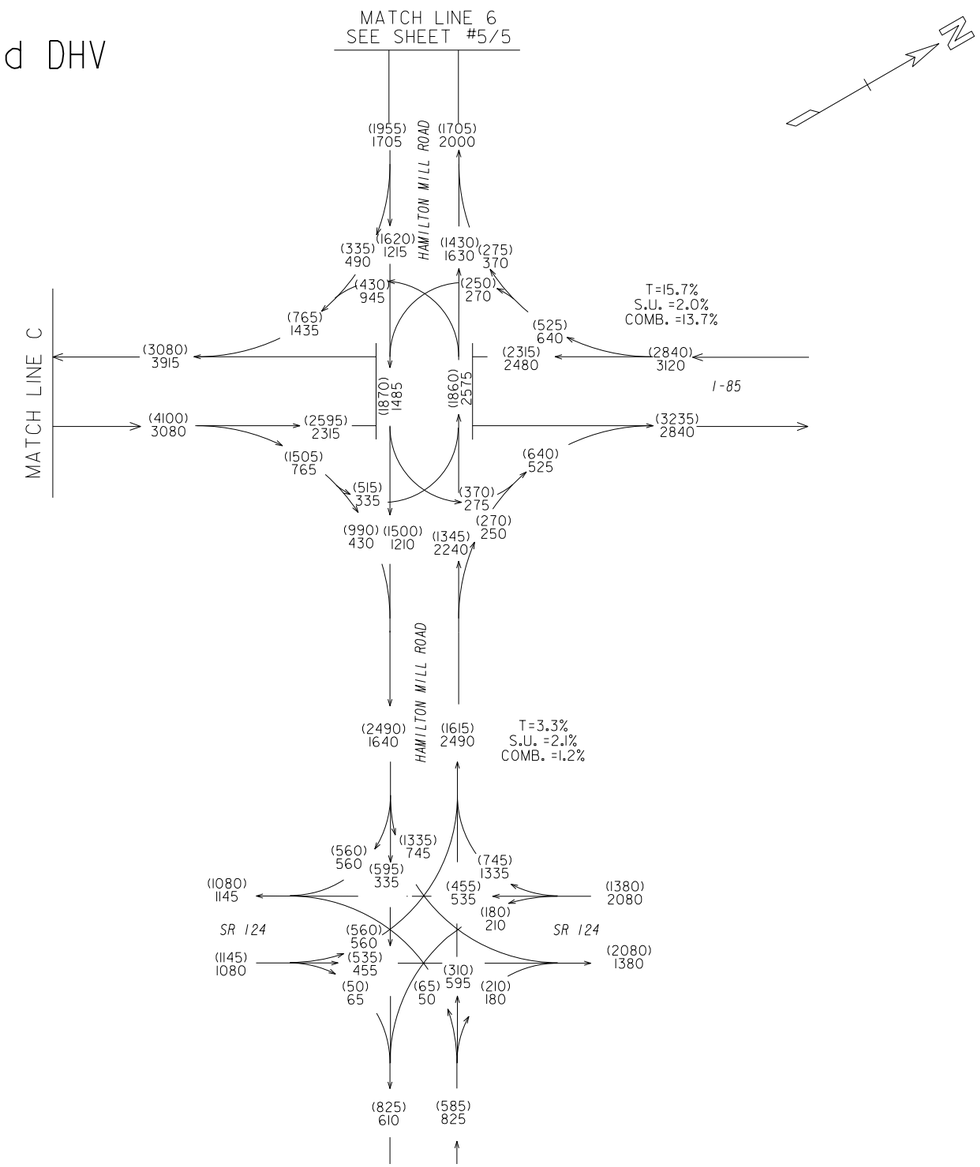
SHEET # 4 / 5

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

GWINNETT

2038 No Build DHV



I-85 NORTH
MANAGED LANE
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P.I. # 110600
GWINNETT COUNTY

2038 NO BUILD DHV

XXX AM PEAK
(XXX) PM PEAK

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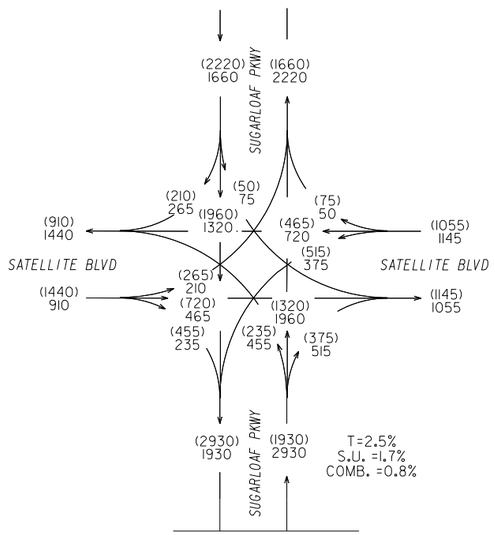
SHEET # 5 / 5

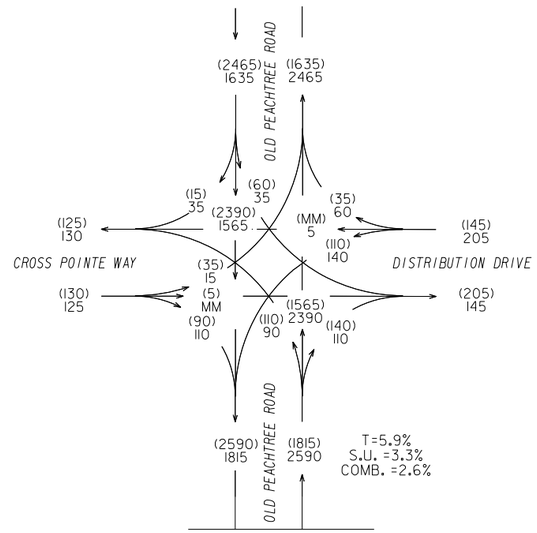
GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

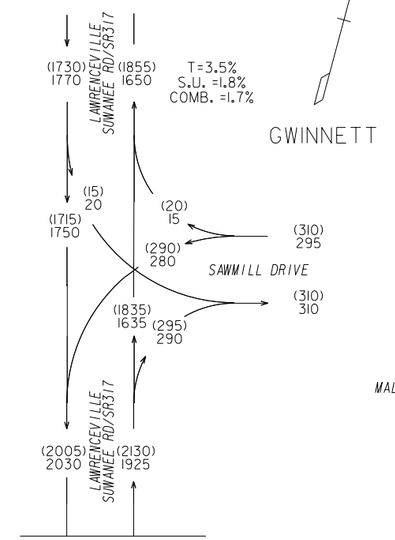
2038 No Build DHV



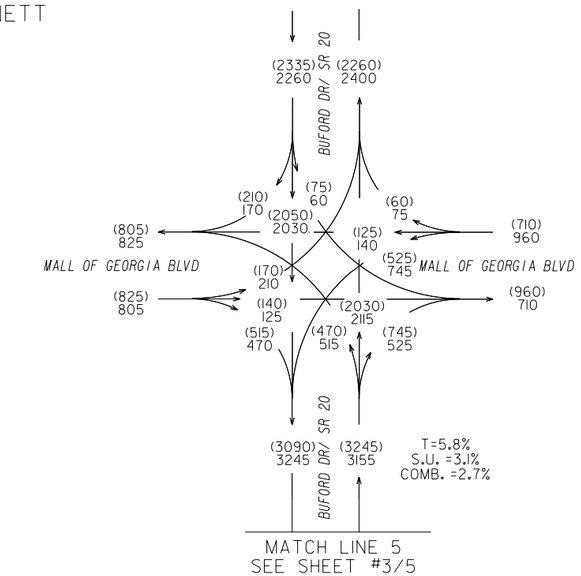
MATCH LINE 1
SEE SHEET #1/5



MATCH LINE 2
SEE SHEET #1/5



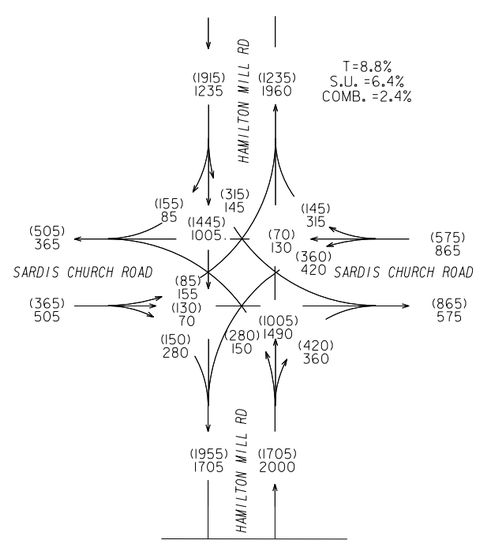
MATCH LINE 3
SEE SHEET #2/5



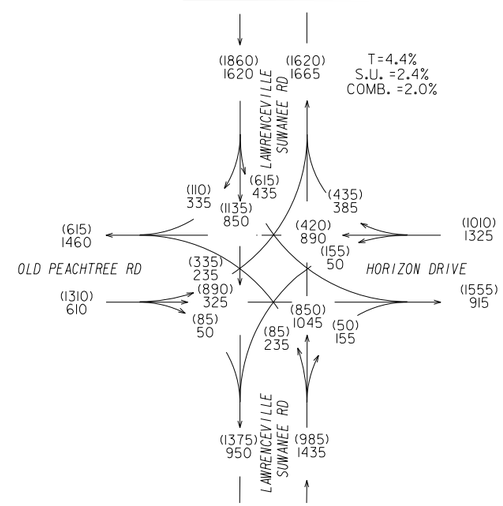
MATCH LINE 5
SEE SHEET #3/5

GWINNETT

MATCH LINE 4
SEE SHEET #2/5



MATCH LINE 6
SEE SHEET #4/5



I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

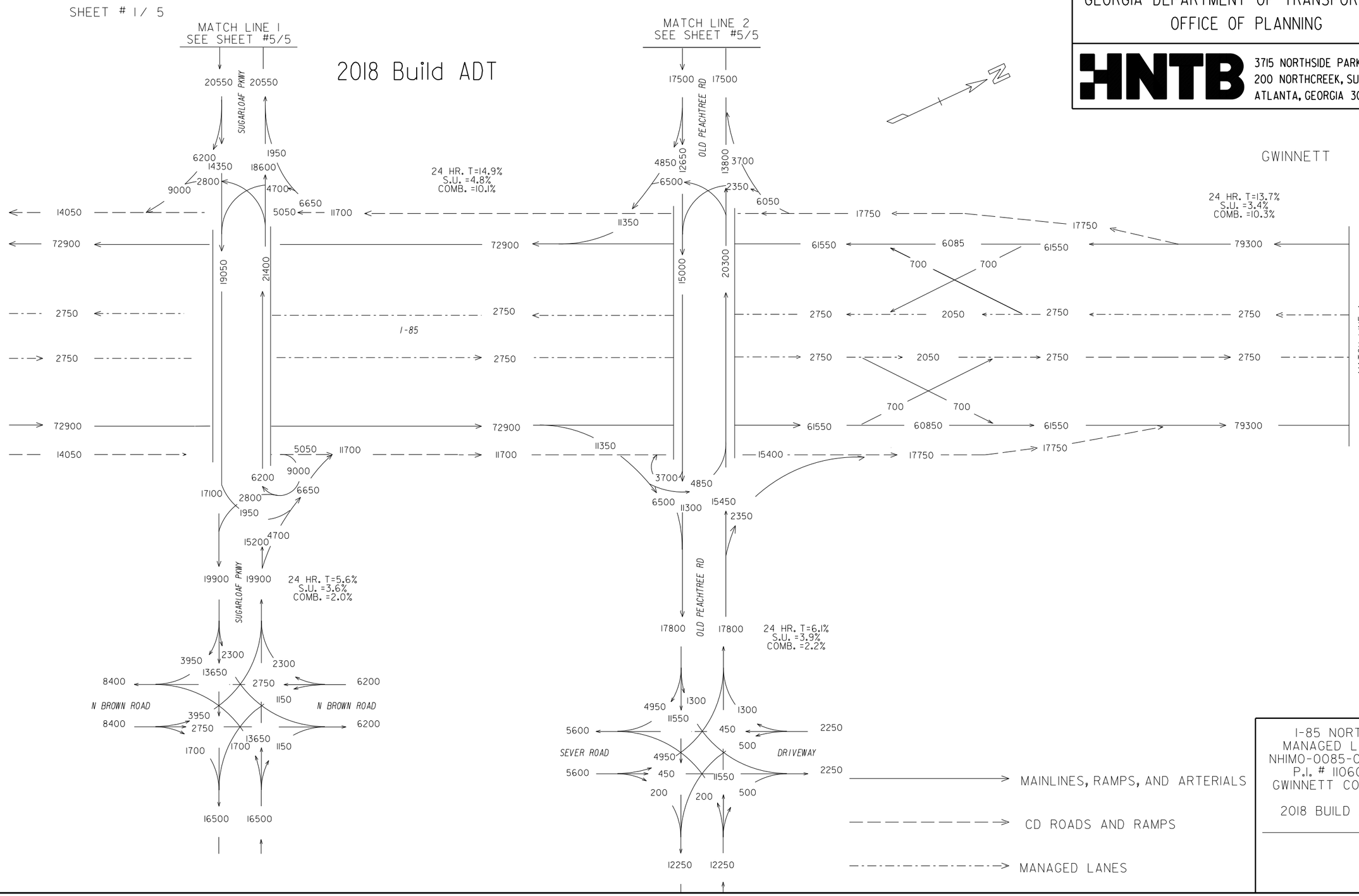
2038 NO BUILD DHV

XXX AM PEAK
(XXX) PM PEAK

KAM
8/2014

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327



I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2018 BUILD ADT

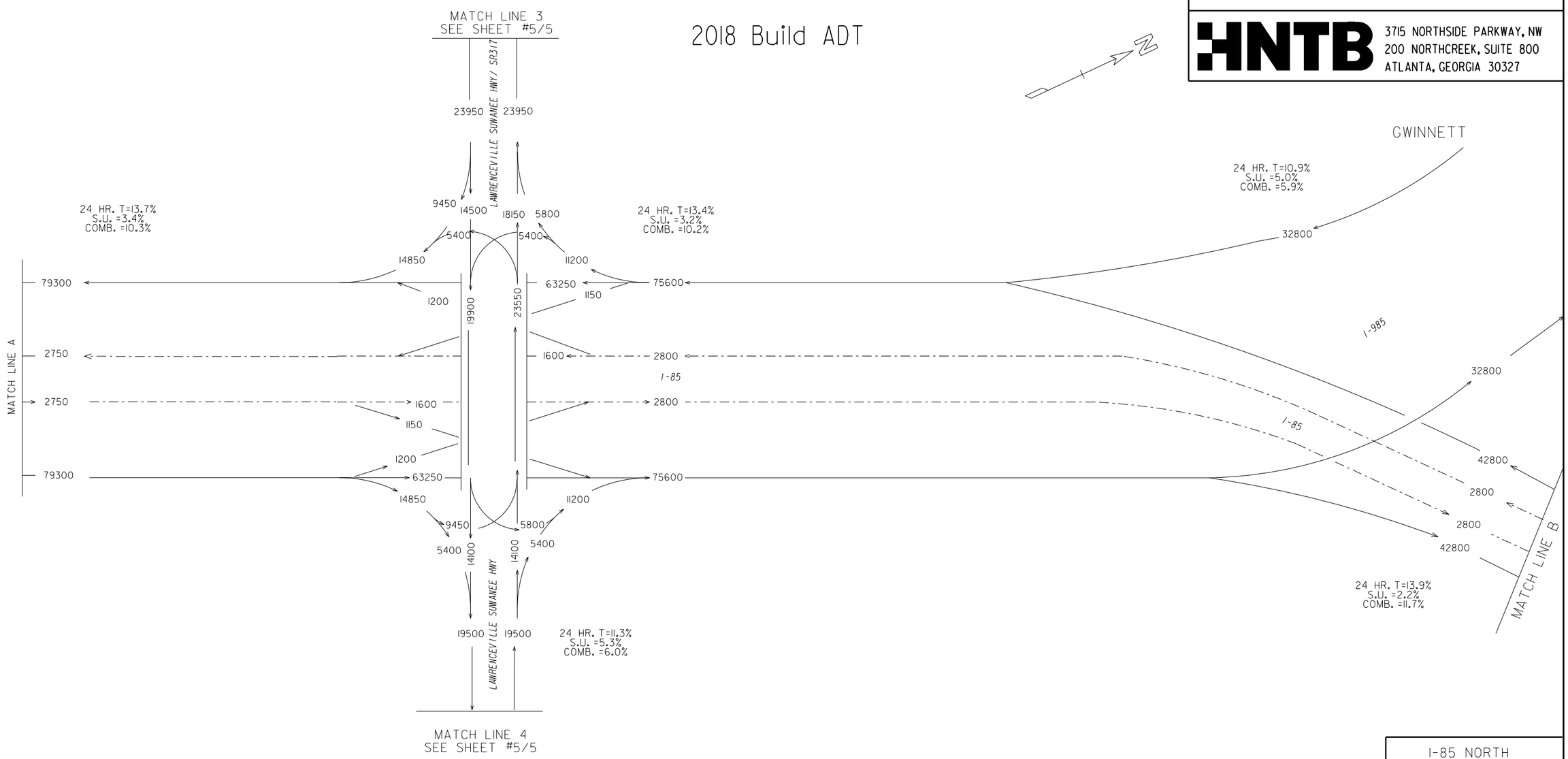
KAM
7/2014

SHEET #2 / 5

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2018 Build ADT



MAINLINES, RAMPS, AND ARTERIALS

MANAGED LANES

I-85 NORTH
MANAGED LANE
NHIM0-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2018 BUILD ADT

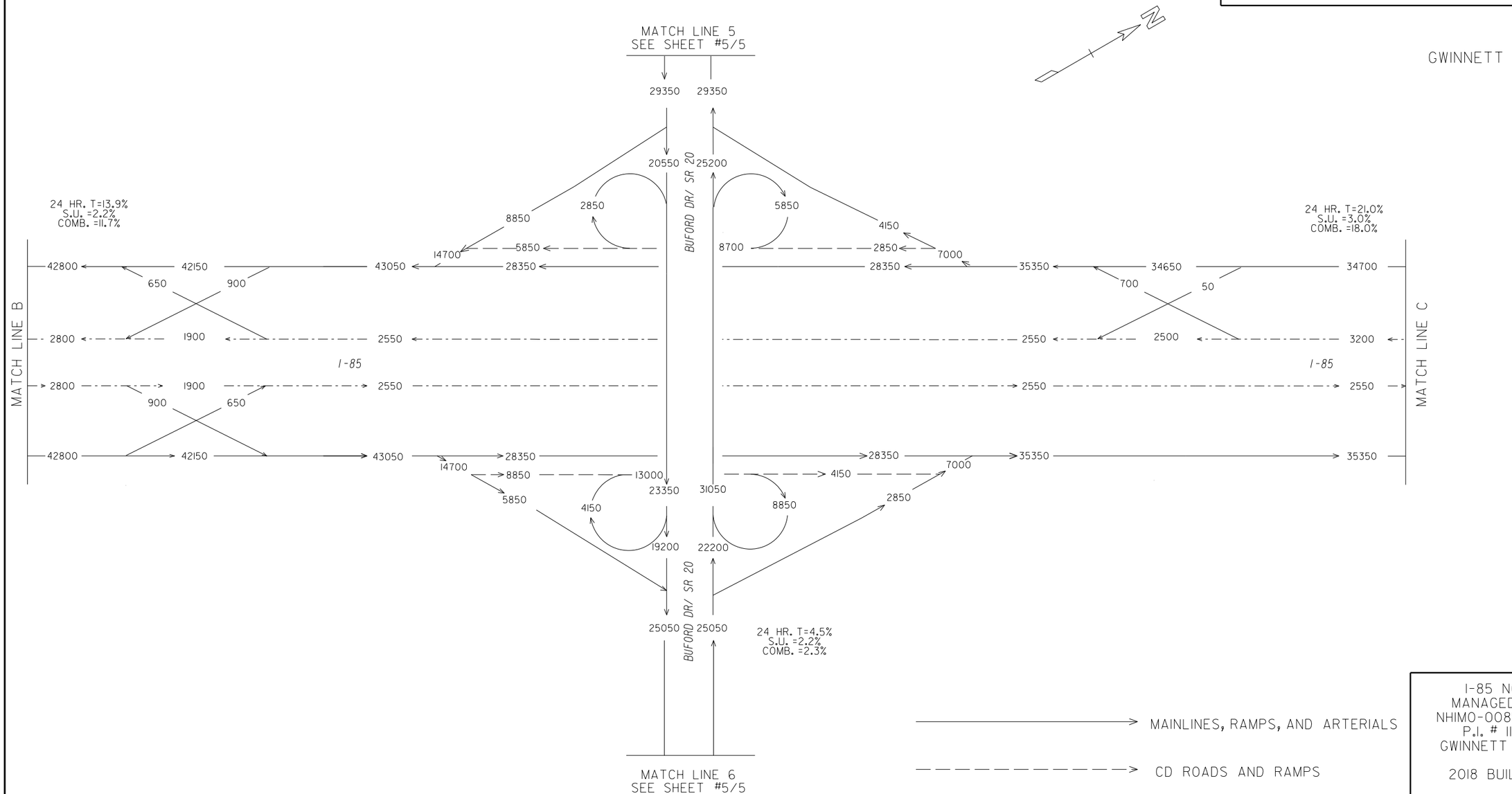
KAM
8/2014

SHEET # 3 / 5

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2018 Build ADT



I-85 NORTH
MANAGED LANE
NHIM0-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2018 BUILD ADT

KAM
7/2014

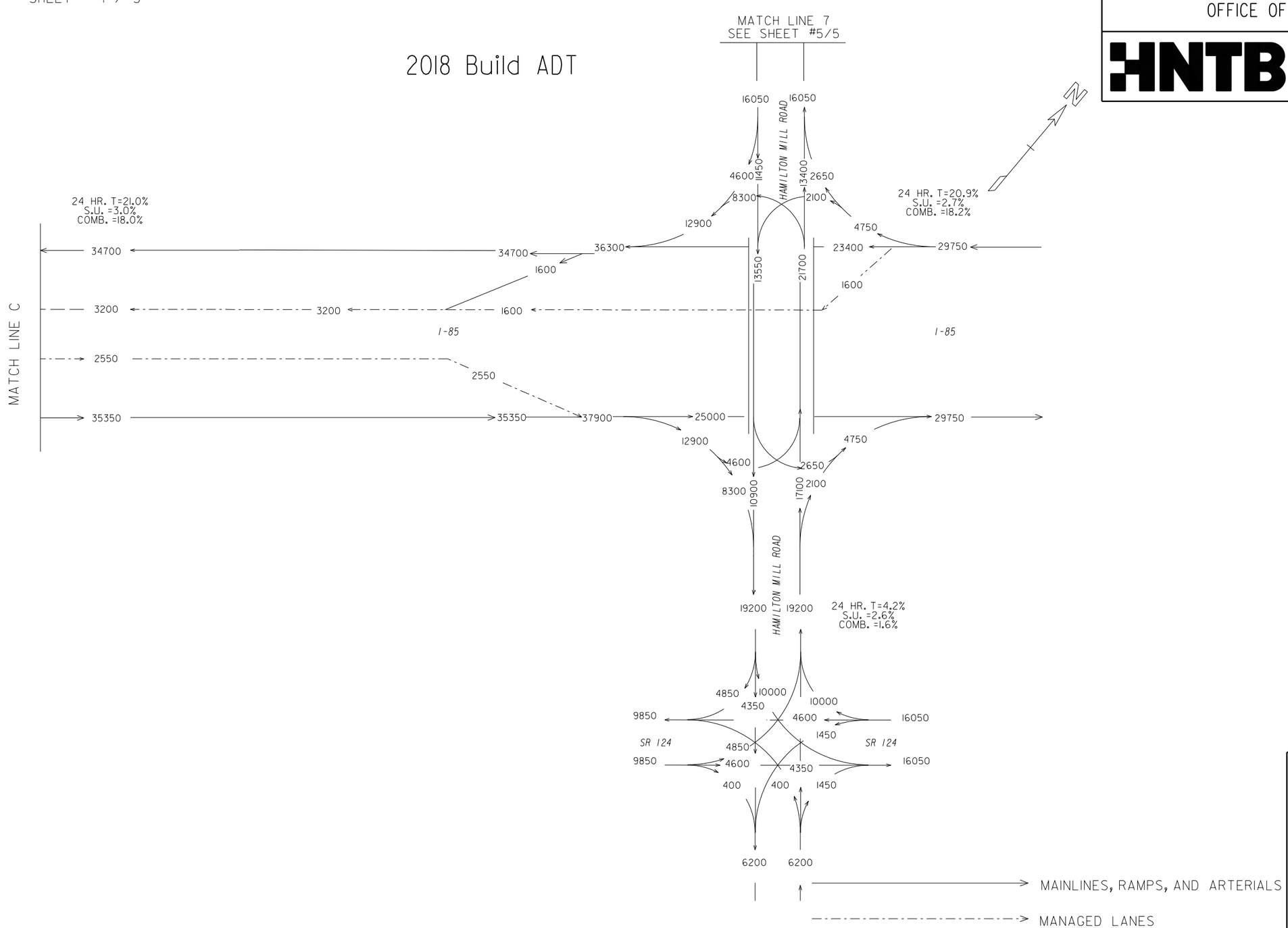
SHEET # 4 / 5

2018 Build ADT

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

GWINNETT



I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2018 BUILD ADT

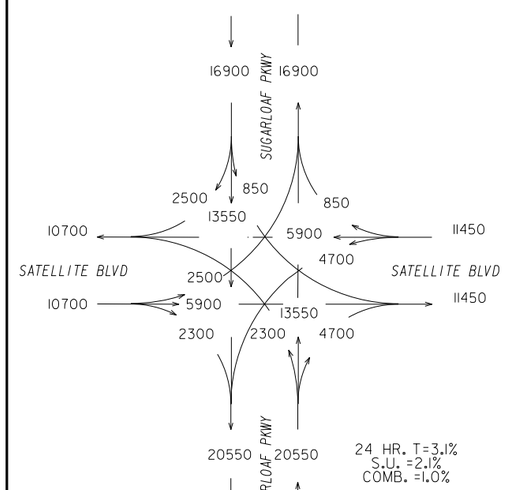
KAM
7/2014

SHEET # 5 / 5

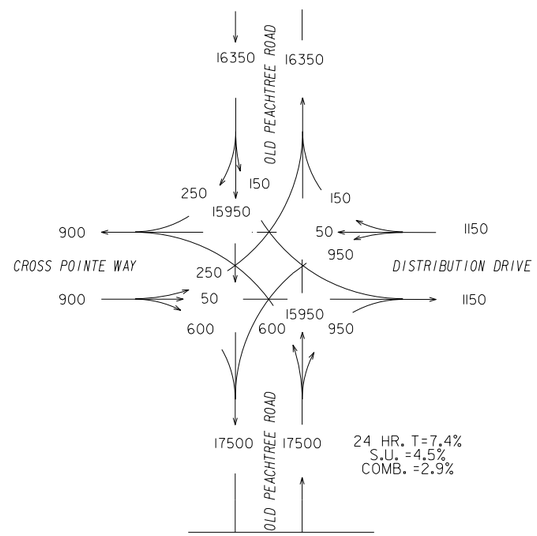
2018 Build ADT

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

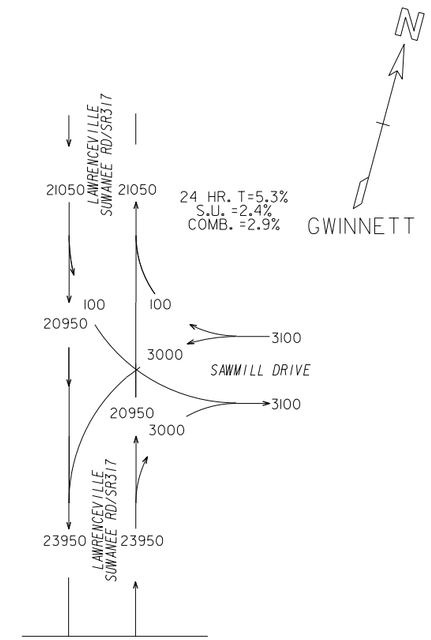
HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327



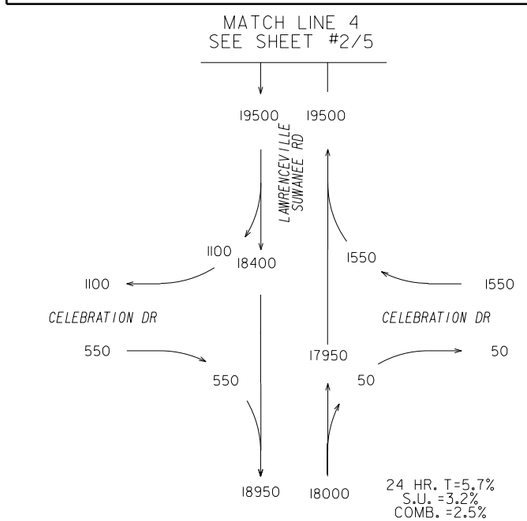
MATCH LINE 1
SEE SHEET #1/5

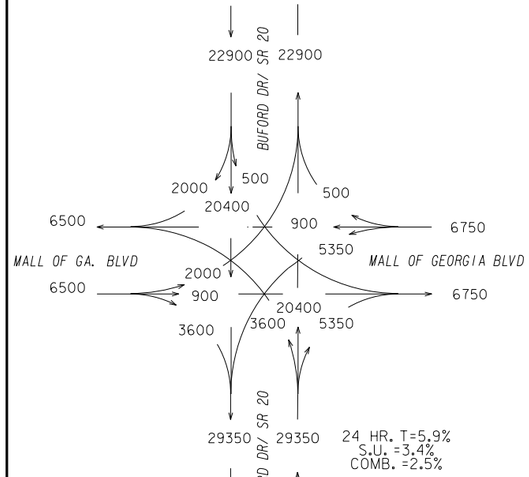


MATCH LINE 2
SEE SHEET #1/5



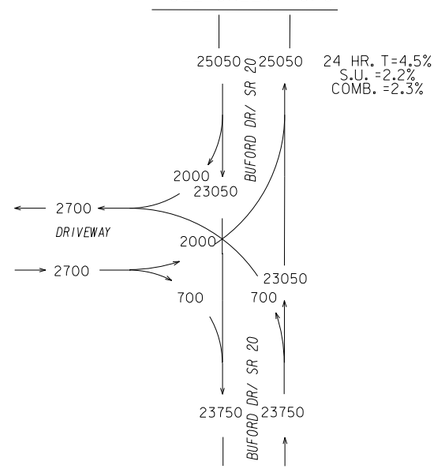
MATCH LINE 3
SEE SHEET #2/5

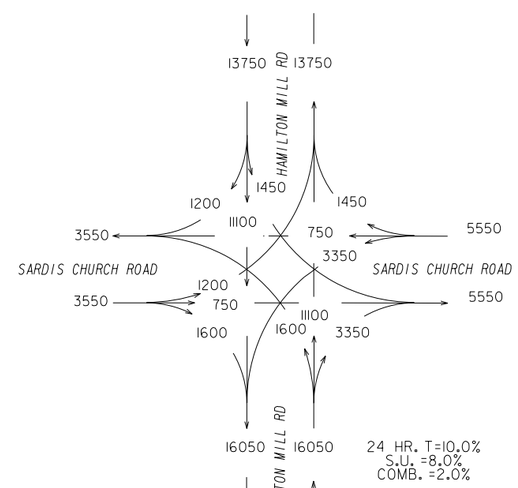




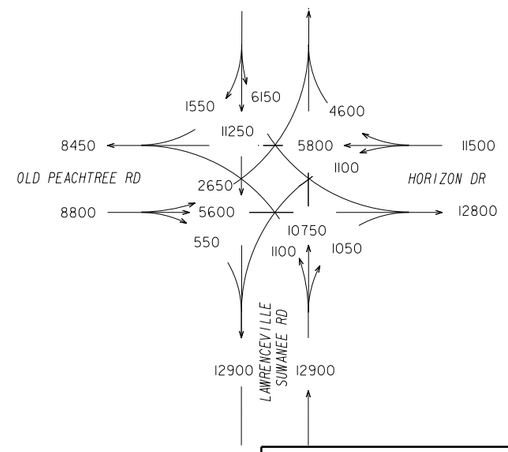
MATCH LINE 5
SEE SHEET #3/5

MATCH LINE 6
SEE SHEET #3/5





MATCH LINE 7
SEE SHEET #4/5



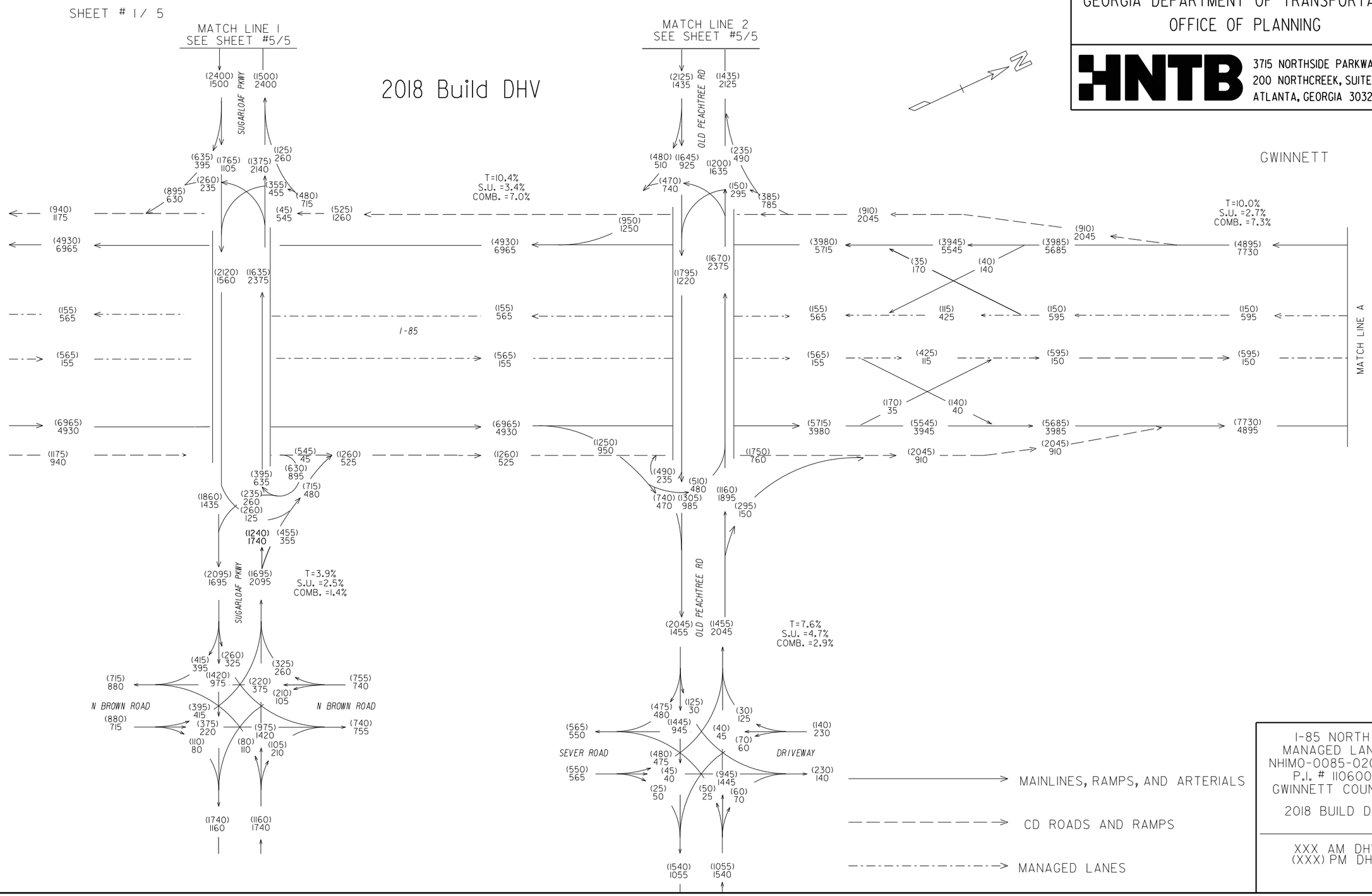
I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2018 BUILD ADT

KAM
8/2014

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327



I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2018 BUILD DHV

XXX AM DHV
(XXX) PM DHV

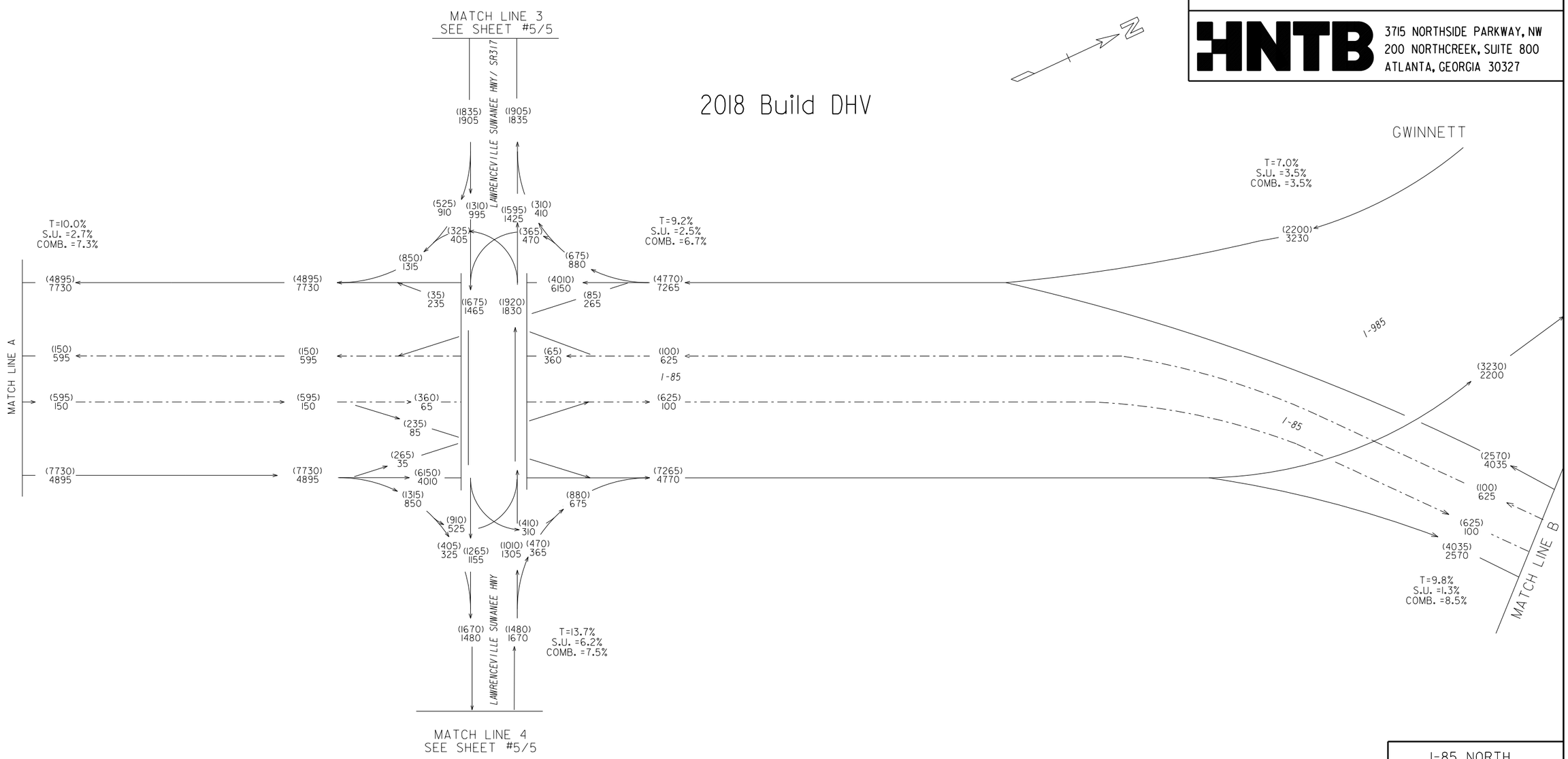
KAM
7/2014

SHEET #2 / 5

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

2018 Build DHV



MAINLINES, RAMPS, AND ARTERIALS

MANAGED LANES

I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2018 BUILD DHV

XXX AM DHV
(XXX) PM DHV

KAM
7/2014

SHEET # 3 / 5

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

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3715 NORTHSIDE PARKWAY, NW
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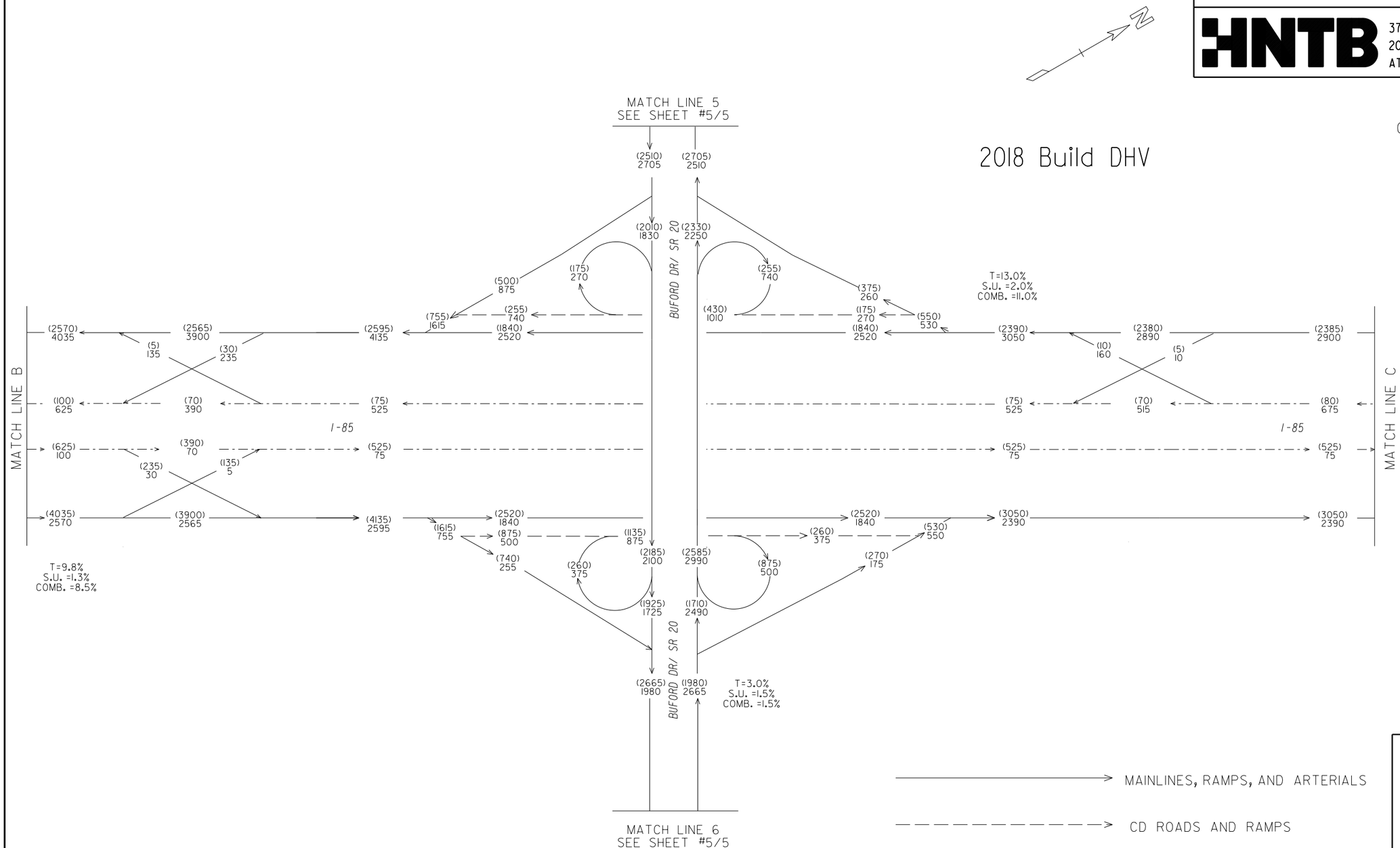
GWINNETT

2018 Build DHV



I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2018 BUILD DHV

XXX AM DHV
(XXX) PM DHV

KAM
7/2014

SHEET # 4 / 5

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OFFICE OF PLANNING

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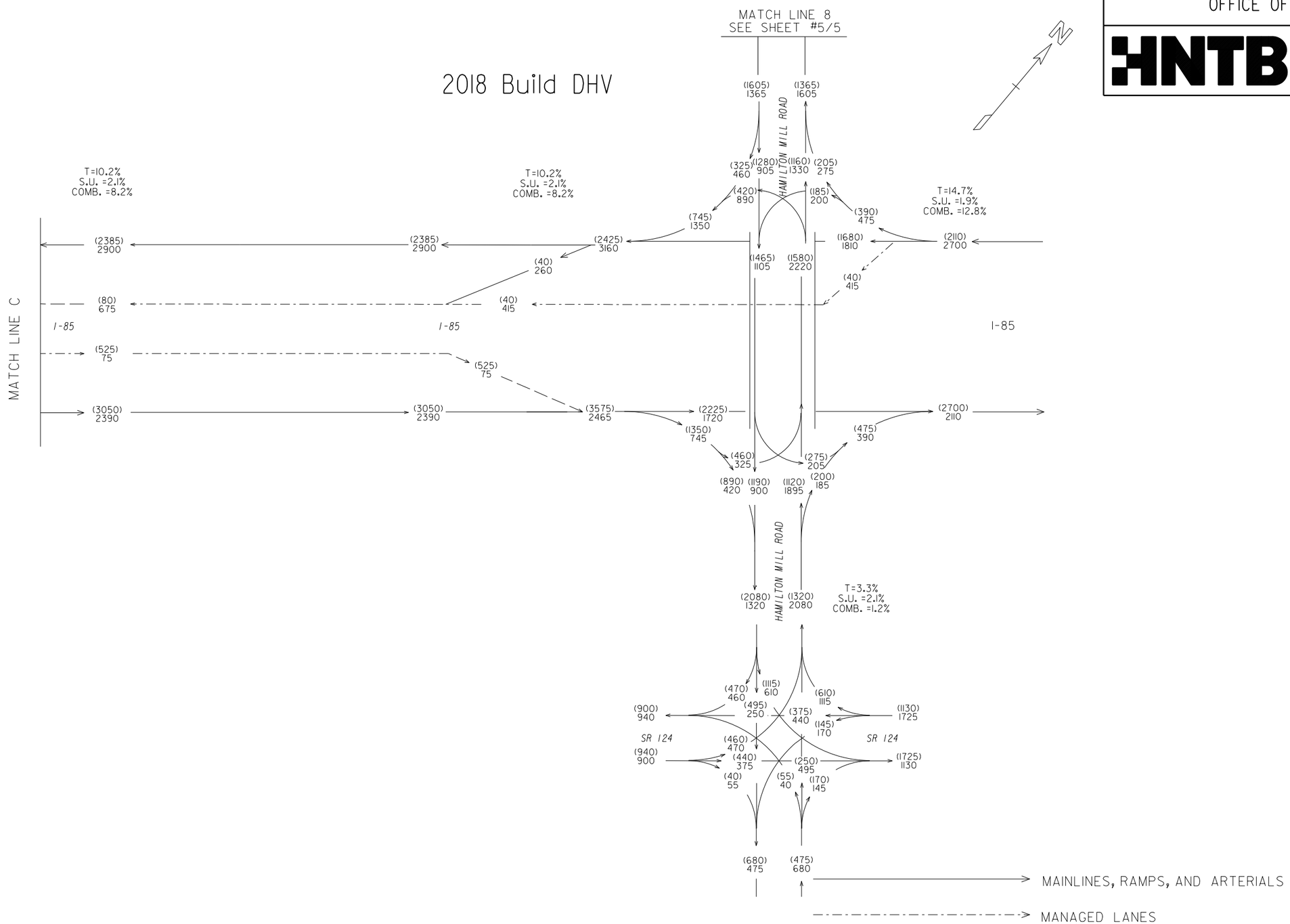
ATLANTA, GEORGIA 30327

GWINNETT

2018 Build DHV



I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2018 BUILD DHV

XXX AM DHV
(XXX) PM DHV

KAM
7/2014

SHEET # 5 / 5

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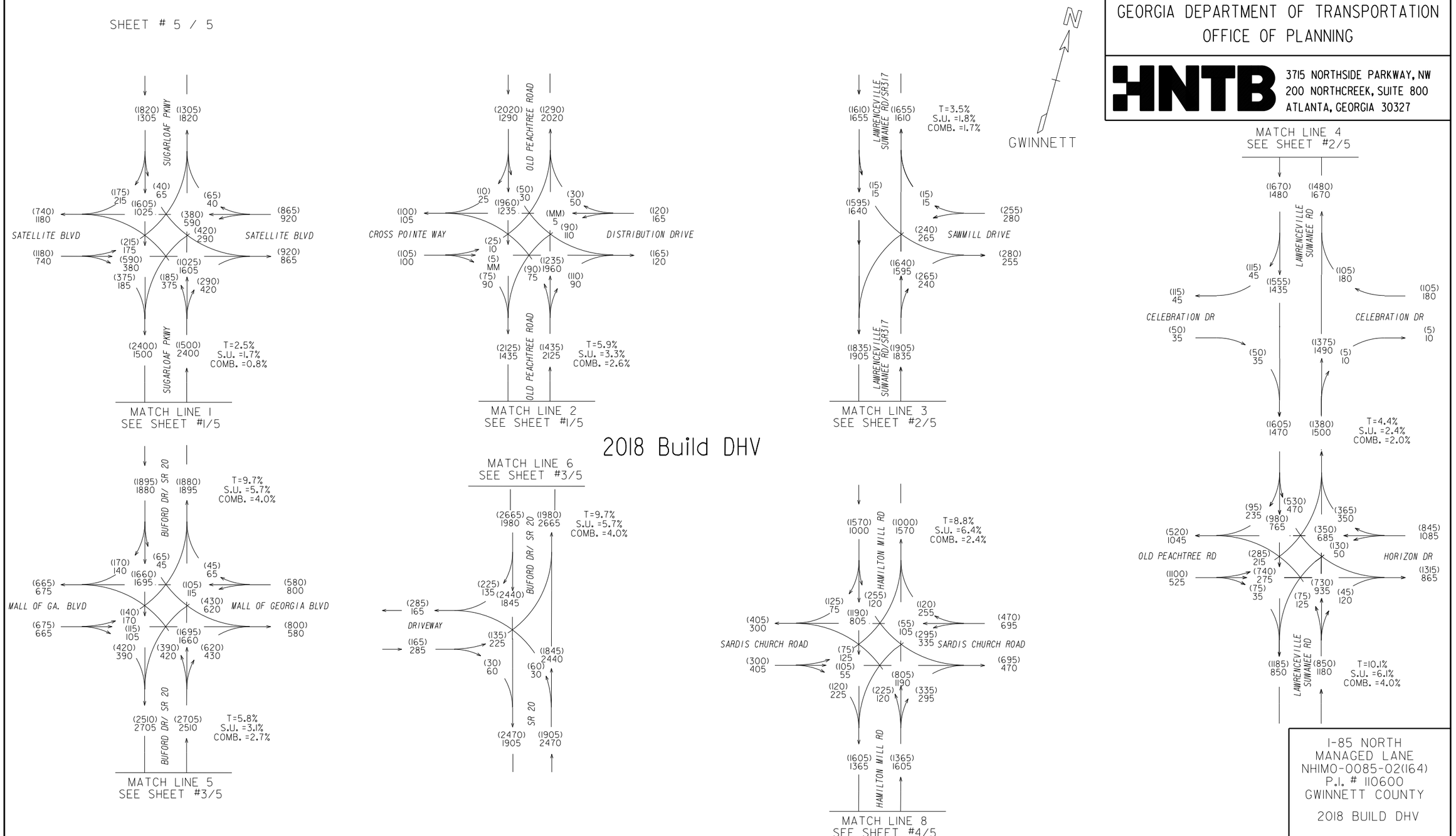
2018 Build DHV



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MANAGED LANE
NHIMO-0085-02(164)
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GWINNETT COUNTY

2018 BUILD DHV

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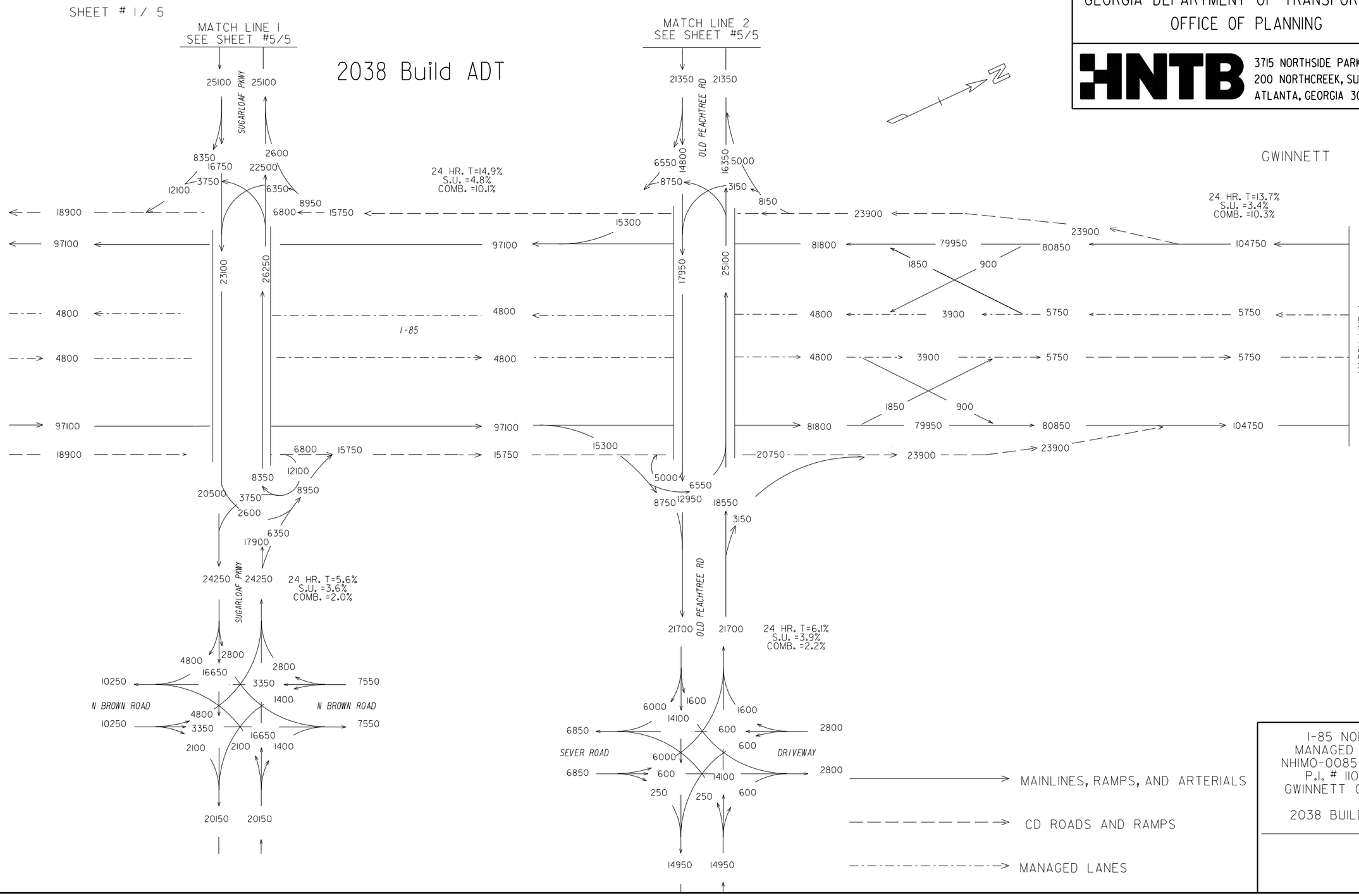

I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2038 BUILD ADT

KAM
7/2014

SHEET #2 / 5

2038 Build ADT

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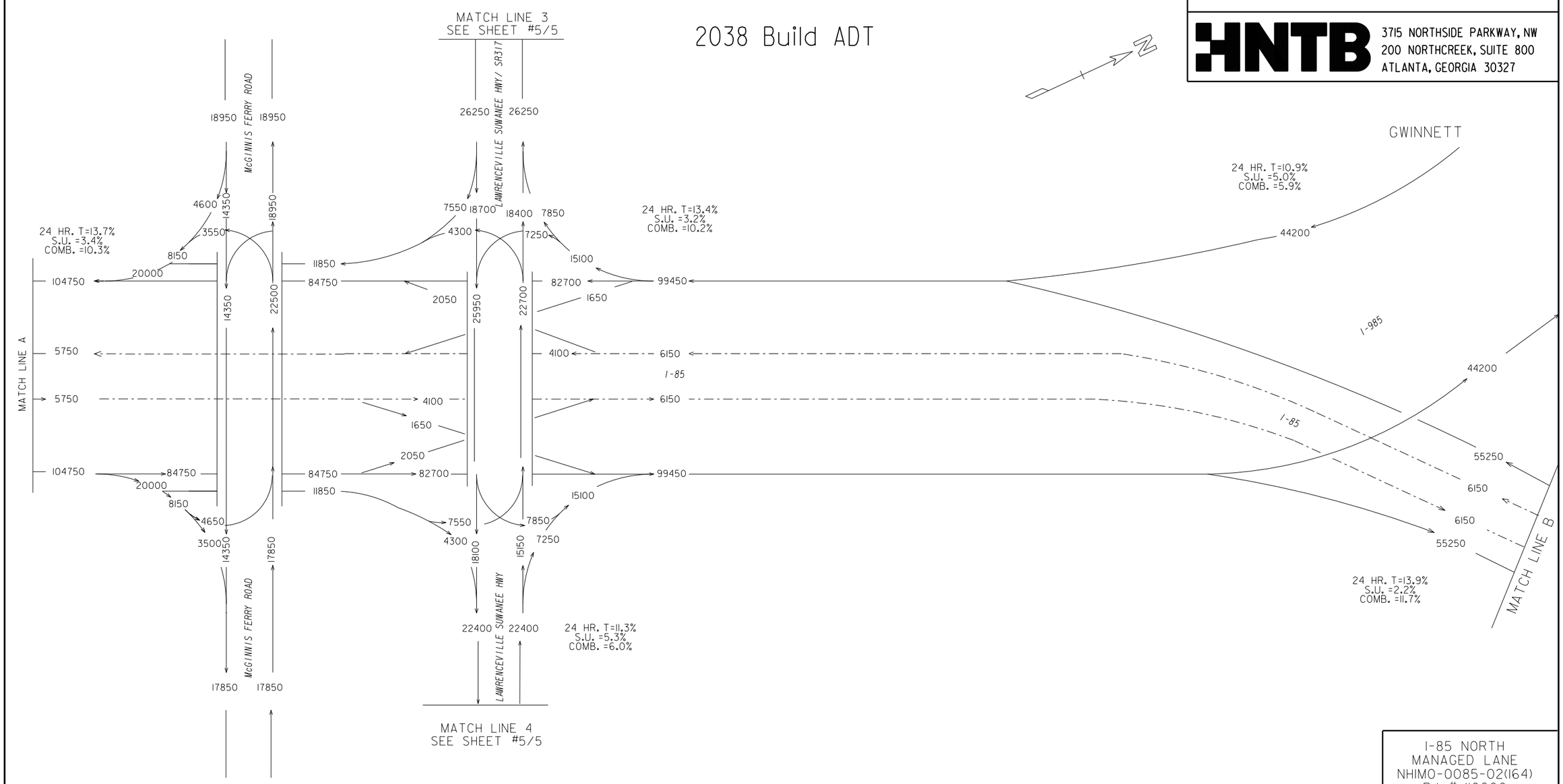

I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2038 BUILD ADT

MAINLINES, RAMPS, AND ARTERIALS

MANAGED LANES

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SHEET # 3 / 5

2038 Build ADT

GEORGIA DEPARTMENT OF TRANSPORTATION
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HNTB
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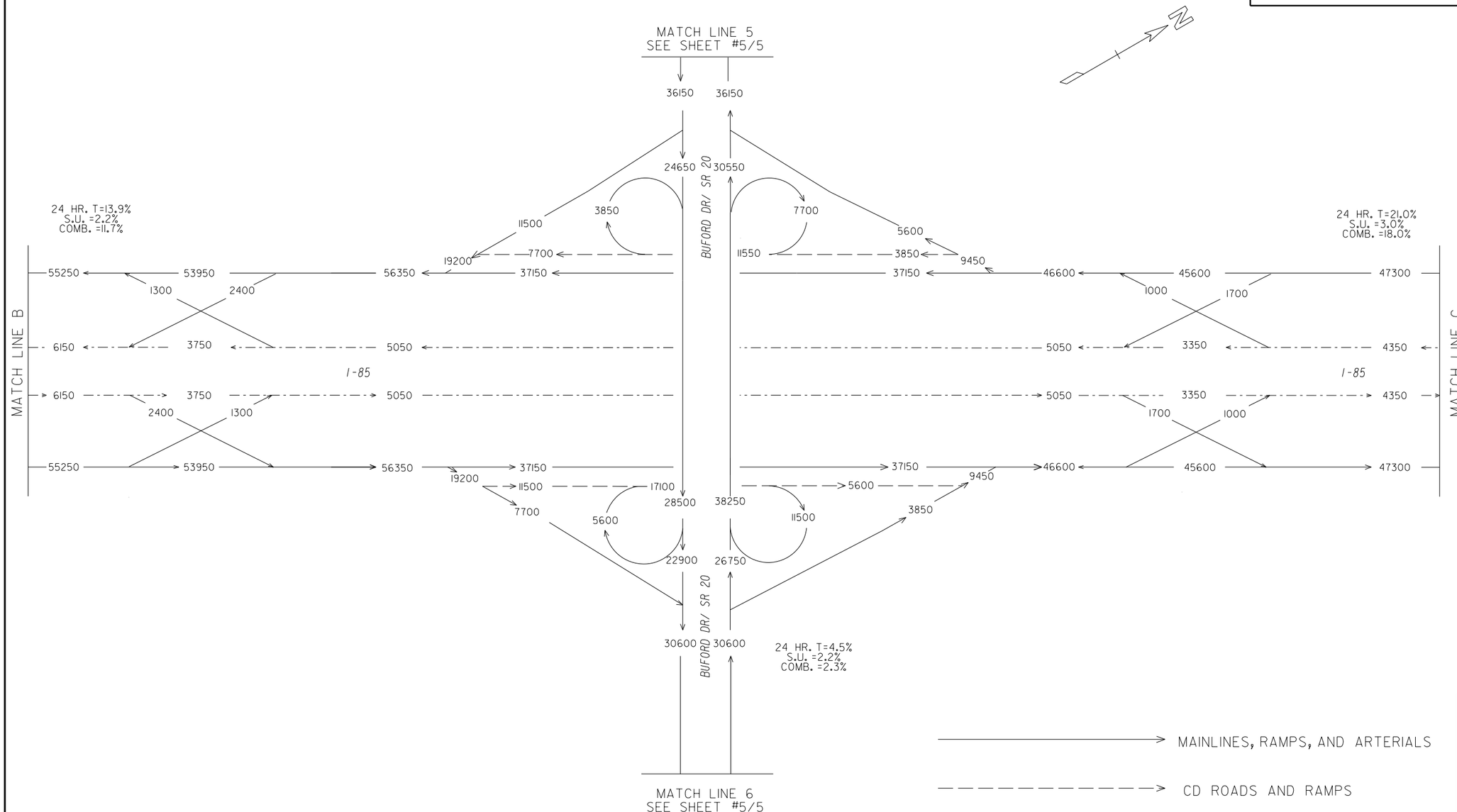
ATLANTA, GEORGIA 30327

GWINNETT



I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2038 BUILD ADT

KAM
7/2014

SHEET # 4 / 5

2038 Build ADT

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
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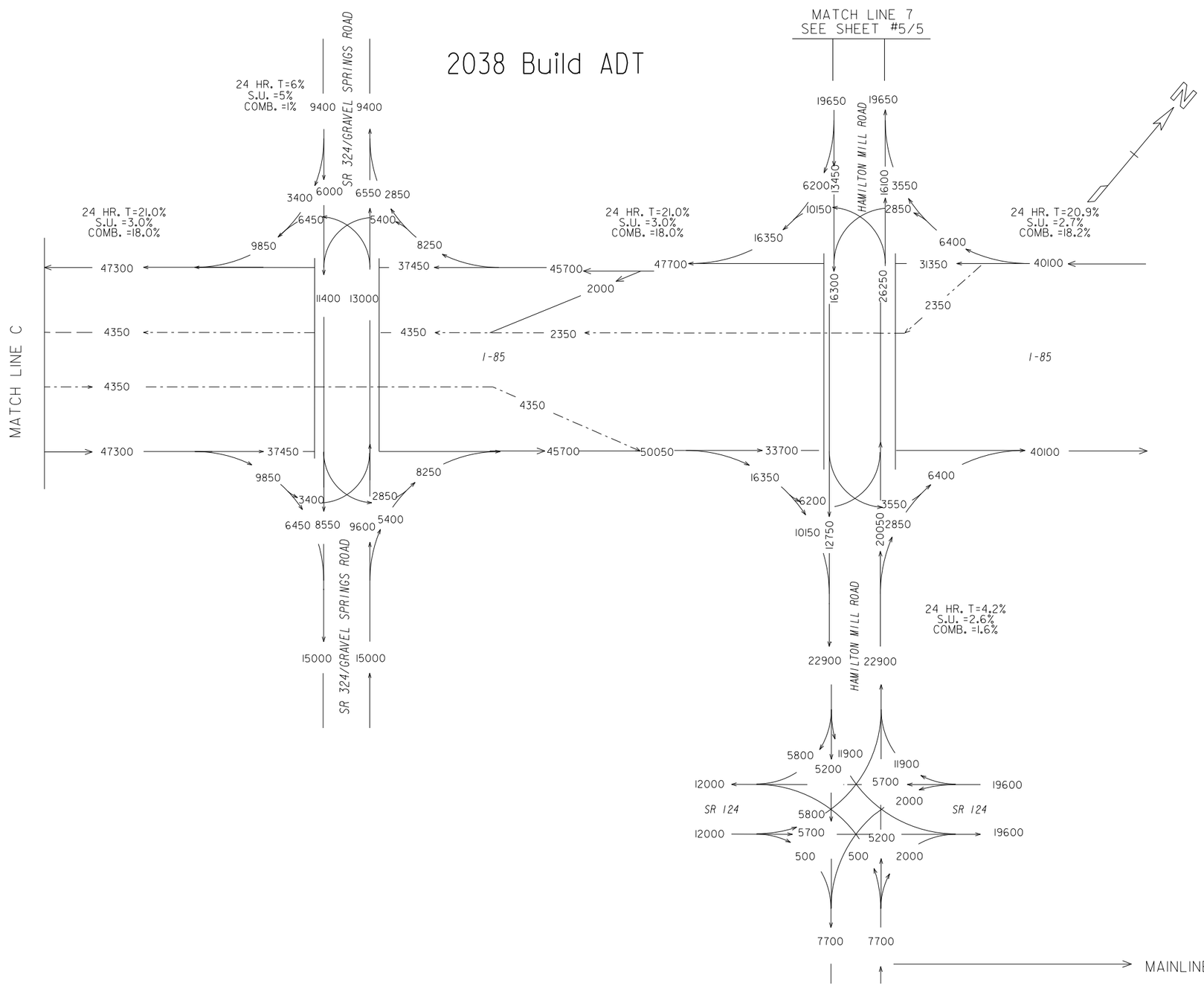
ATLANTA, GEORGIA 30327

GWINNETT



I-85 NORTH
MANAGED LANE
NHIM0-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2038 BUILD ADT

KAM
7/2014

SHEET # 5 / 5

2038 Build ADT

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

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3715 NORTHSIDE PARKWAY, NW
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ATLANTA, GEORGIA 30327

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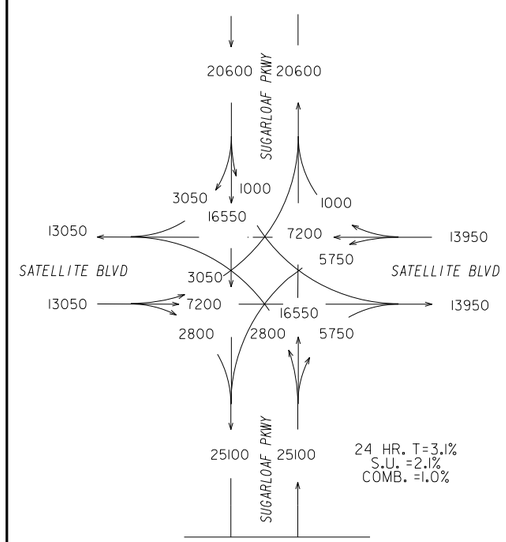
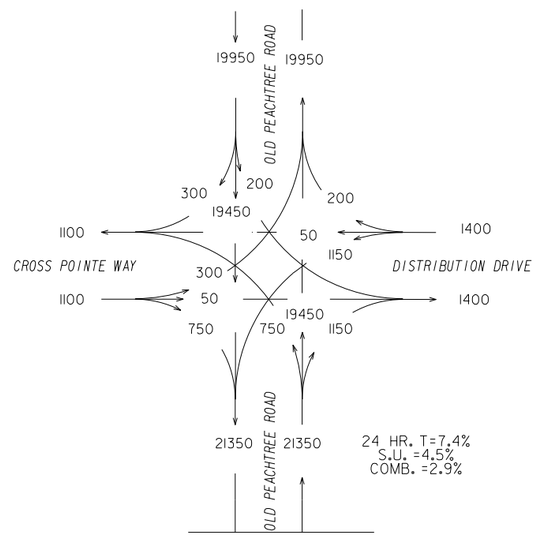
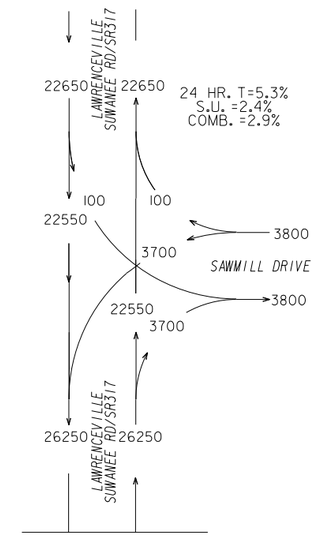
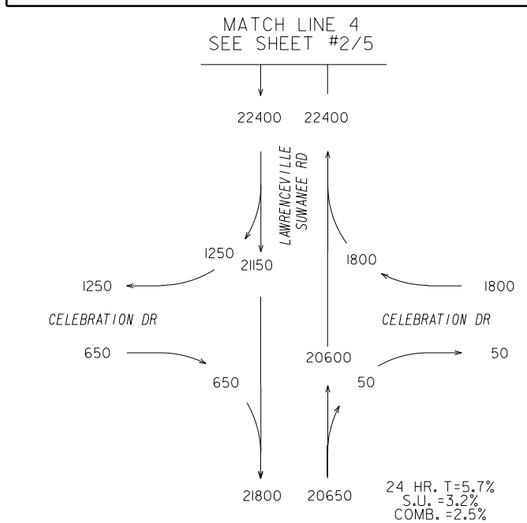
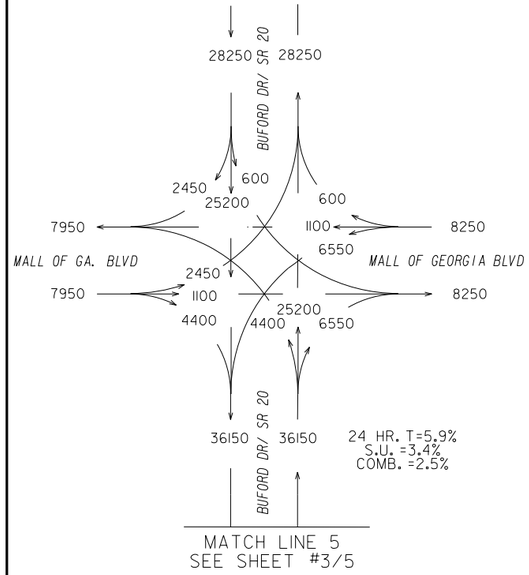
GWINNETT

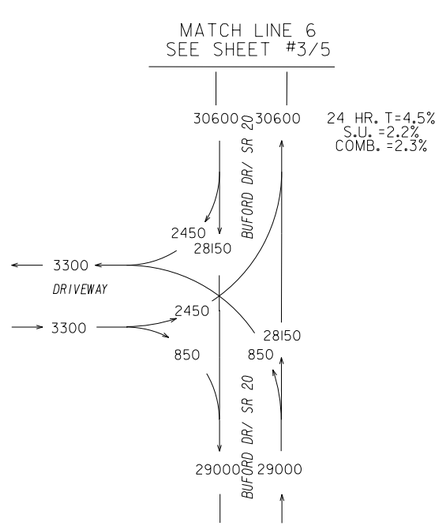


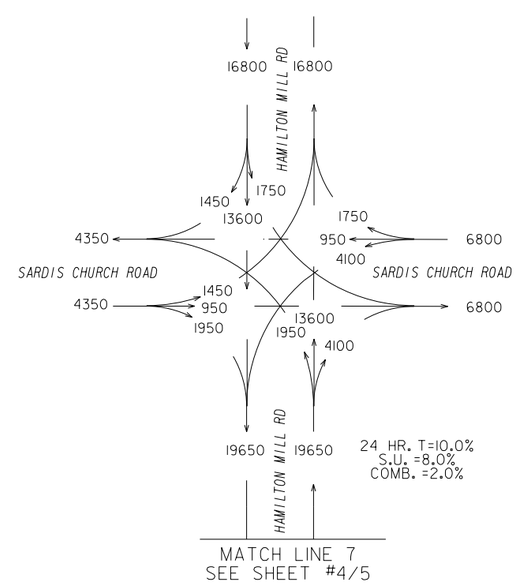


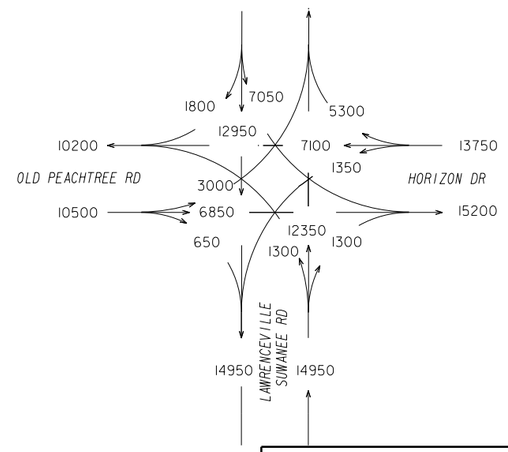












I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2038 BUILD ADT

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GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

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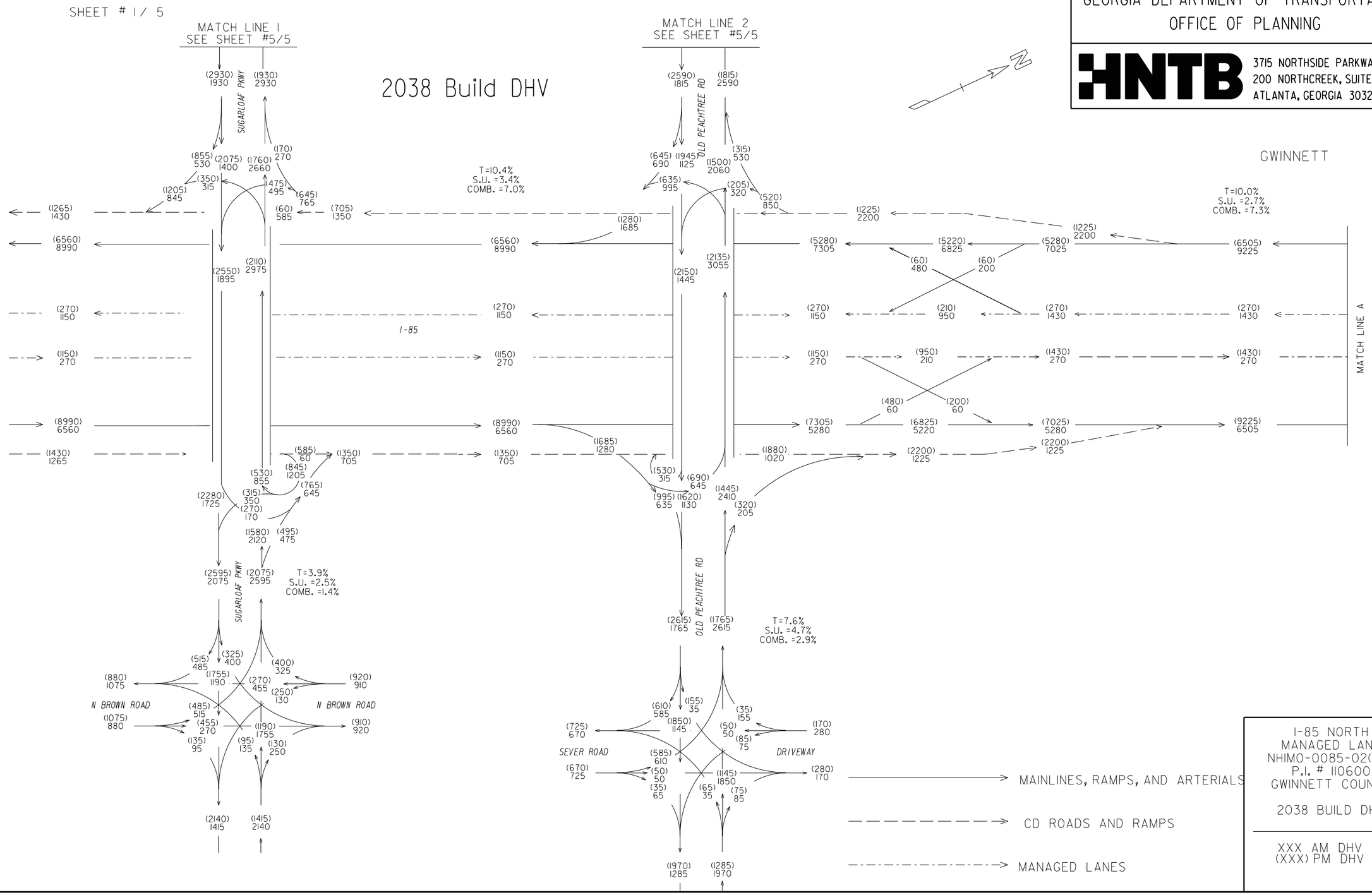

I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2038 BUILD DHV

XXX AM DHV
(XXX) PM DHV

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SHEET #2 / 5

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OFFICE OF PLANNING

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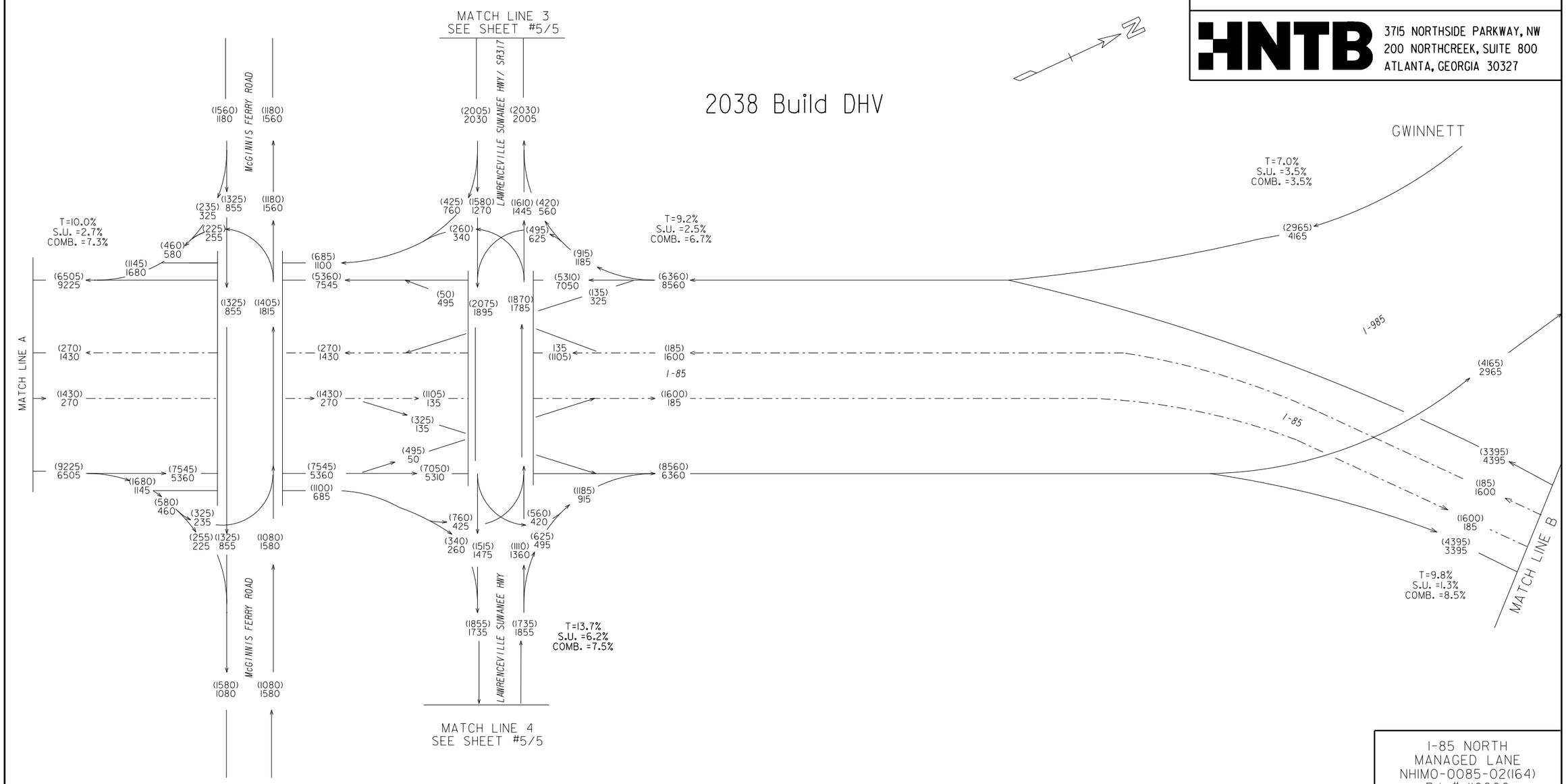
2038 Build DHV



MAINLINES, RAMPS, AND ARTERIALS

MANAGED LANES

I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2038 BUILD DHV

XXX AM DHV
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8/2014

SHEET # 3 / 5

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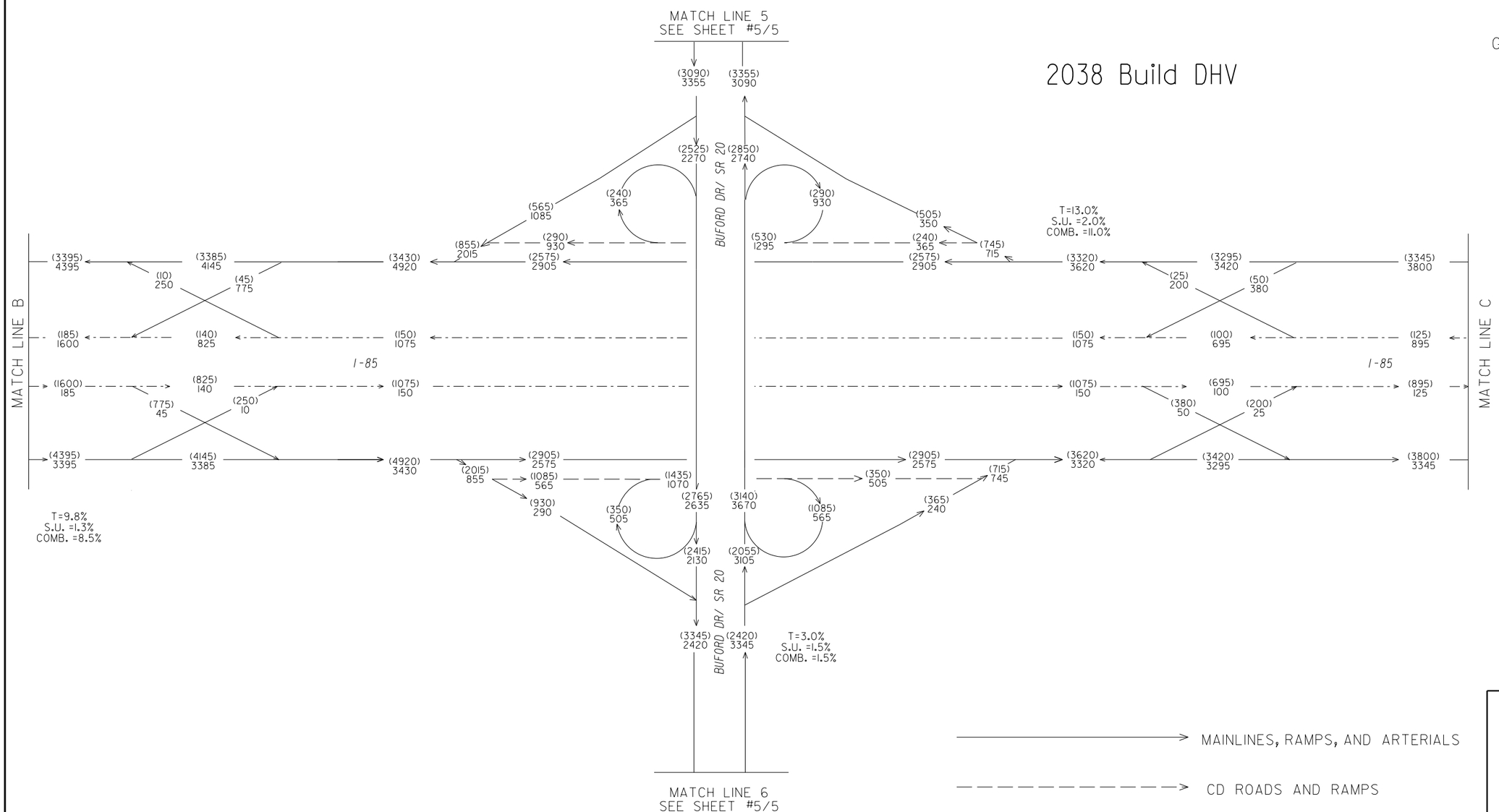
GWINNETT

2038 Build DHV



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

MANAGED LANES

I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

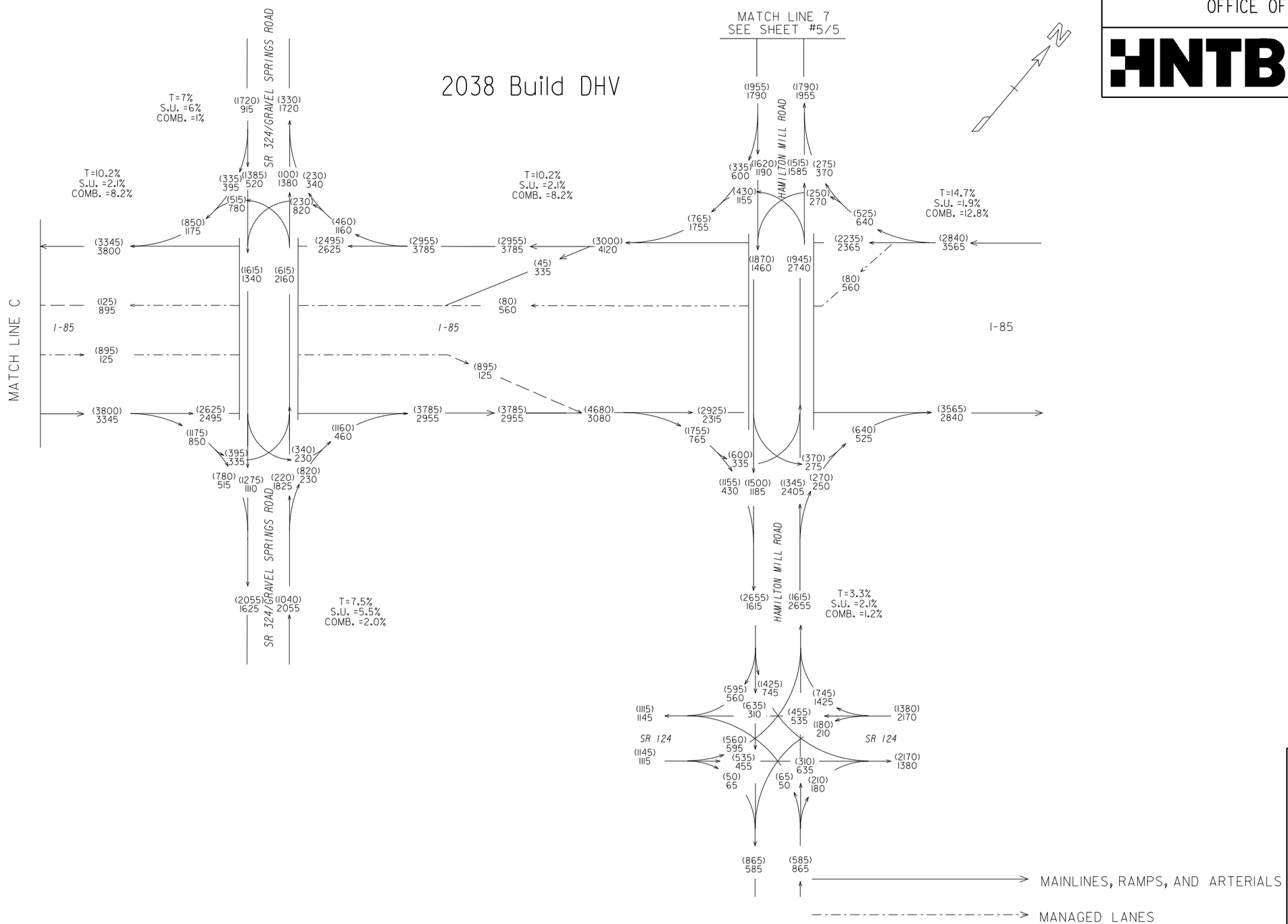
2038 BUILD DHV

XXX AM DHV
(XXX) PM DHV

KAM
7/2014

SHEET # 4 / 5

2038 Build DHV



GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

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MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2038 BUILD DHV

XXX AM DHV
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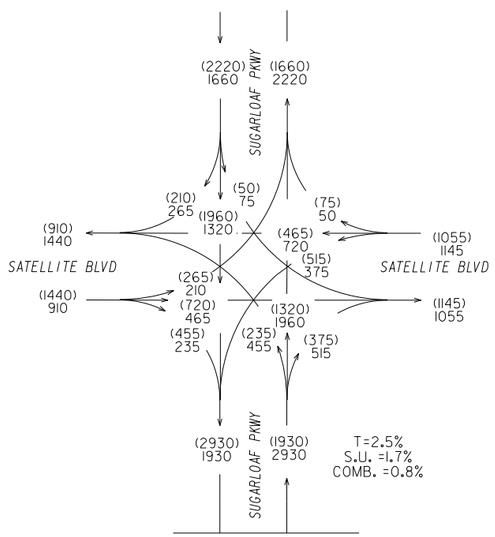
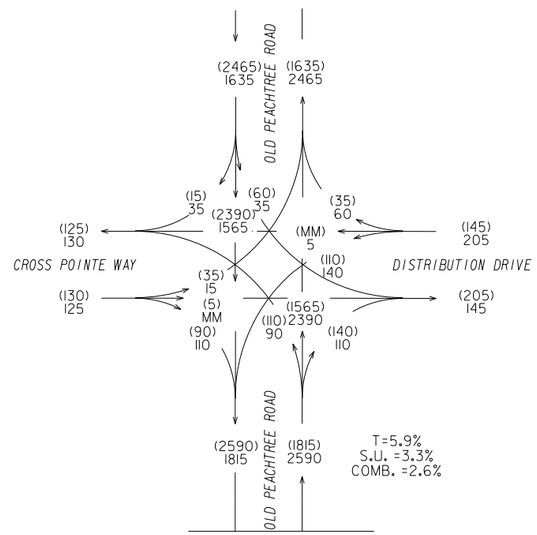
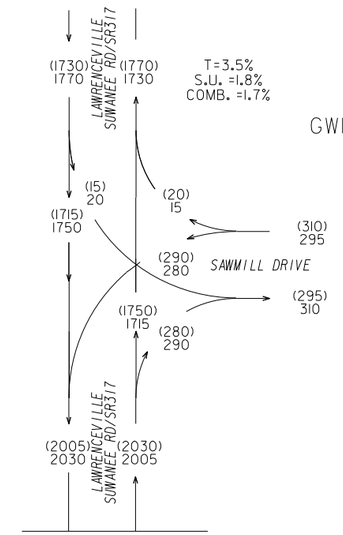
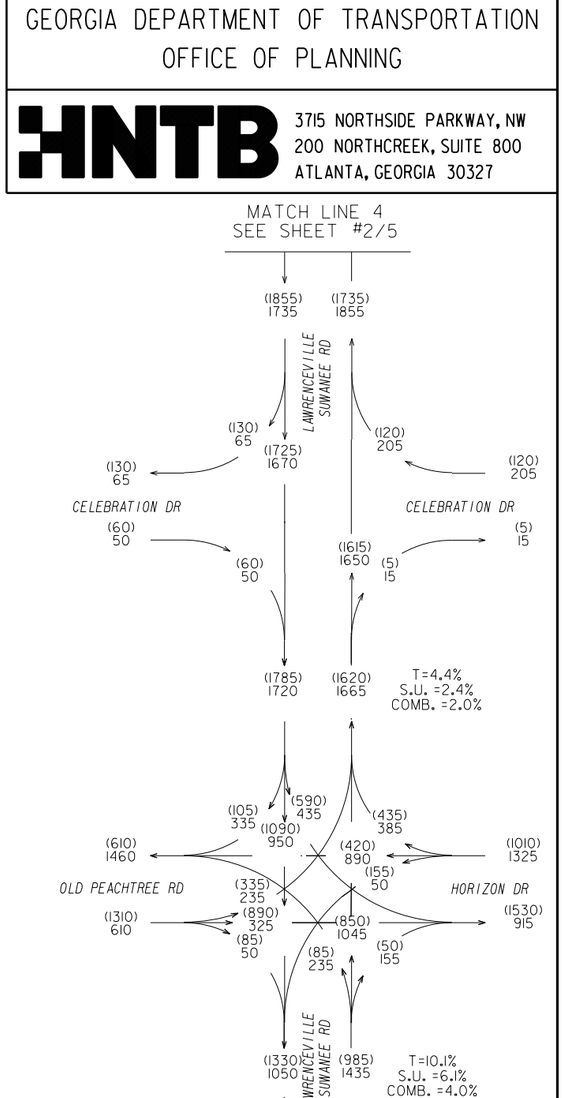
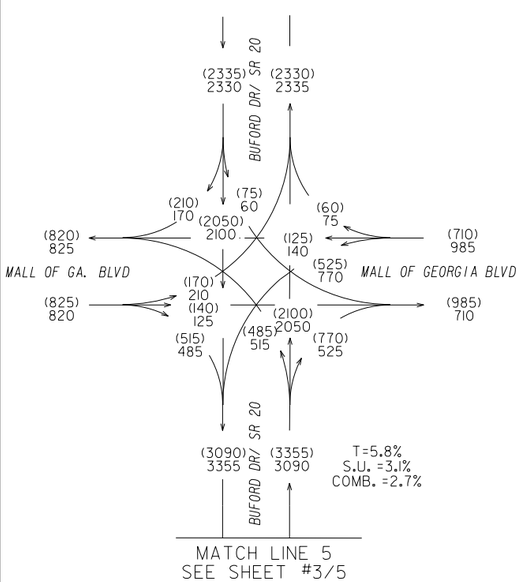
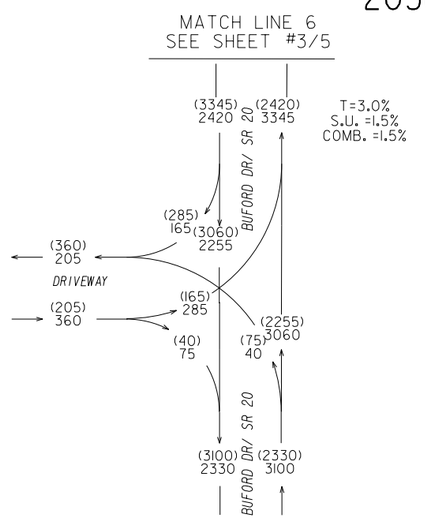


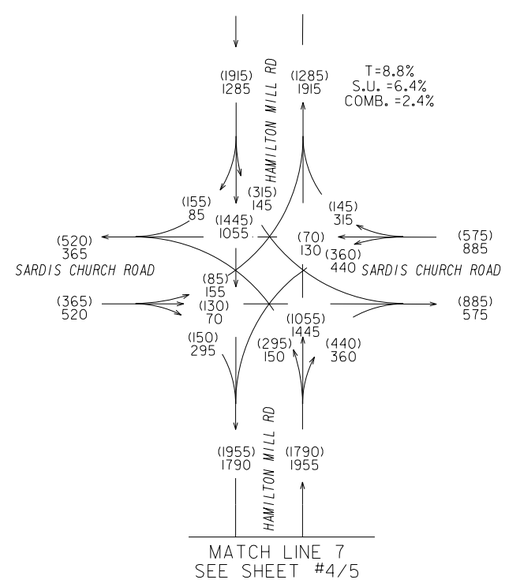












I-85 NORTH
MANAGED LANE
NHIMO-0085-02(164)
P.I. # 110600
GWINNETT COUNTY

2038 BUILD DHV

XXX AM DHV
(XXX) PM DHV

KAM
7/2014

Appendix F. Shoulder Width Design Exception Letter

DESIGN EXCEPTIONS

I-85 HOT from Lawrenceville- Suwannee Road to Hamilton Mill Road
Project Number: NH-IM-85-2(164)
Counties: Gwinnett
P.I. Number: 110600

HNTB Work Order No. 48033

Georgia Department of Transportation

Department of Transportation
State of Georgia
Innovative Program Delivery

January, 2013

Shoulder Width
Revision 2

HNTB

HNTB Corporation
Engineers Architects Planners

3715 Northside Parkway
200 Northcreek, Suite 800
Atlanta, GA 30327

Telephone (404) 946-5700
Facsimile (404) 841-2820
www.hntb.com

HNTB

Mr. Darryl VanMeter
State Innovative Program Delivery Engineer
Georgia Department of Transportation
One Georgia Center
600 West Peachtree Street
Atlanta, Georgia 30308

Re: Design Exception Package for Substandard Shoulder Width
I-85 HOT Lane Extension Project, Gwinnett County
NHIM0-0085-02(164)
P.I. No. 110600

January 11, 2013

Dear Mr. VanMeter,

Approval of a Design Exception is requested for substandard outside shoulder width along I-85 in the approximately 1000' south of the McGinnis Ferry Road Bridge.

This project involves widening along Interstate 85 (I-85), one lane in each direction, from just north of Old Peachtree Road to Hamilton Mill Road. The project is approximately 10 miles in length and located entirely within Gwinnett County. The proposed new lanes will be tolled managed lanes. The purpose of the proposed managed lanes is to create realistic travel time savings through the use of variable priced tolling to manage volume in the lanes and maintain a minimum average speed.

South of I-985, the project proposes to widen I-85 outside of the existing eight-lane mainline. While north of I-985, widening on the inside shoulder along the four-lane I-85 section. Existing travel lanes have a posted speed limit of 65 MPH south of I-985 and 70 MPH on points north along I-85. The proposed design speeds for the project will match the current posted speed limits along the interstate mainlines.

Adjacent to the northern terminus of this project, P.I. 110610 will extend the proposed managed lanes from Hamilton Mill Road to S.R. 211 in Barrow County. The southern terminus of this project is associated with the following projects: Projects CSMSL-0009-00(295), CSMSL-0009-00(296), CSMSL-0009-00(297), P.I. Numbers 0009295, 0009296, and 0009297, which are currently completed and operational and have converted the existing High Occupancy Vehicle (HOV) lanes along I-85 from Chamblee Tucker Road to just north of Old Peachtree Road to High Occupancy Toll (HOT) lanes.

Approval of the following design exception is requested for the project.

Design Exception Request: Permit an exception from the required outside shoulder of 10 feet for the proposed minimum outside shoulder width of 4 feet which is adjacent to an existing soil nail retaining wall. The exception includes the tapers approaching and through the length of the retaining wall along the northbound side of I-85 from STA 1037+95.49 to STA 1057+70, approximately 1000' south of McGinnis Ferry Road. The design exception requested is from mile post 110.51 to mile post 110.89.

Along the northbound (NB) I-85 between Old Peachtree Road and McGinnis Ferry Road there is an existing soil nail retaining wall from STA 1045+32 to STA 1052+00 (see Plan sheets Appendix A). As shown in both the Typical Section and Cross Sections through the area (see Appendix C) at the completion of construction the new edge of travel way (ETW) will be 4 feet from the nearest face of existing concrete barrier. Shoulder tapers both entering and exiting this section, which also accommodate drainage ditches that link to those behind the retaining wall, add to a total length of 1975 feet in which the shoulder does not meet preferred guidelines of 10 feet.

Plans, profiles and a typical section through the limits in question can be found in Appendices A, B and C respectively.

The Average Daily Traffic (ADT) volumes can be seen in Table 1 below for the project corridor. The Design Hourly Volume (DHV) information is listed in Tables 2 and 3 below as well.

TABLE 1
AVERAGE DAILY TRAFFIC BY SEGMENT INCLUDING MANAGED LANES (HOT)

LOCATION		2012 (EXISTING)	2017 (BUILD)	2037 (DESIGN)
I-85 - APPROACHING OLD PEACHTREE ROAD	GP	152900	160700	191900
	HOT	4600	4900	10200
I-85 - OLD PEACHTREE ROAD I-85 HOT INGRESS/EGRESS	GP	167100	170800	204100
	HOT	N/A	4900	10200
I-85 - I-85 HOT INGRESS/EGRESS TO LAWRENCEVILLE SUWANEE HWY/SR 317	GP	167100	166900	200200
	HOT	N/A	8800	14100
I-85 - LAWRENCEVILLE SUWANEE HWY/SR 317 TO I-85/I-985 SPLIT	GP	157500	158700	189200
	HOT	N/A	6900	12800
I-85 - I-85/I-985 SPLIT TO I-85 HOT INGRESS/EGRESS	GP	96100	95400	112000
	HOT	N/A	6900	12800
I-85 - I-85 HOT INGRESS/EGRESS TO BUFORD DRIVE/SR 20	GP	96100	97300	112500
	HOT	N/A	5000	12300
I-85 - BUFORD DRIVE/SR 20 TO I-85 HOT INGRESS/EGRESS	GP	83700	85800	98500
	HOT	N/A	5000	12300
I-85 - I-85 HOT INGRESS/EGRESS TO GRAVEL SPRINGS ROAD/SR 324	GP	83700	86600	99400
	HOT	N/A	4200	11400
I-85 - GRAVEL SPRINGS ROAD/SR 324 TO I-85 HOT INGRESS/EGRESS	GP	83700	82600	94600
	HOT	N/A	4200	11400
I-85 - I-85 HOT INGRESS/EGRESS TO HAMILTON MILL ROAD	GP	83700	84700	100400
	HOT	N/A	2100	5600
I-85 - BEYOND HAMILTON MILL ROAD	GP	69500	73000	89200
	HOT	N/A	N/A	N/A

TABLE 2
AM PEAK HOUR VOLUMES BY SEGMENT INCLUDING MANAGED LANES (HOT)

LOCATION		2012 (EXISTING)	2017 (BUILD)	2037 (DESIGN)
I-85 - APPROACHING OLD PEACHTREE ROAD	GP	10890	11330	13060
	HOT	590	830	1835
I-85 - OLD PEACHTREE ROAD I-85 HOT INGRESS/EGRESS	GP	12795	12715	14620
	HOT	N/A	830	1835

I-85 - I-85 HOT INGRESS/EGRESS TO LAWRENCEVILLE SUWANEE HWY/SR 317	GP	1335	12595	14600
	HOT	N/A	950	1855
I-85 - LAWRENCEVILLE SUWANEE HWY/SR 317 TO I-85/I-985 SPLIT	GP	12420	12375	14210
	HOT	N/A	795	1780
I-85 - I-85/I-985 SPLIT TO I-85 HOT INGRESS/EGRESS	GP	7380	7180	7970
	HOT	N/A	795	1780
I-85 - I-85 HOT INGRESS/EGRESS TO BUFORD DRIVE/SR 20	GP	7380	7330	8230
	HOT	N/A	645	1520
I-85 - BUFORD DRIVE/SR 20 TO I-85 HOT INGRESS/EGRESS	GP	6130	6185	6860
	HOT	N/A	645	1520
I-85 - I-85 HOT INGRESS/EGRESS TO GRAVEL SPRINGS ROAD/SR 324	GP	6130	6270	7020
	HOT	N/A	560	1360
I-85 - GRAVEL SPRINGS ROAD/SR 324 TO I-85 HOT INGRESS/EGRESS	GP	6130	5755	6395
	HOT	N/A	560	1360
I-85 - I-85 HOT INGRESS/EGRESS TO HAMILTON MILL ROAD	GP	6130	6040	7065
	HOT	N/A	250	680
I-85 - BEYOND HAMILTON MILL ROAD	GP	5035	5235	6510
	HOT	N/A	N/A	N/A

TABLE 3
PM PEAK HOUR VOLUMES BY SEGMENT INCLUDING MANAGED LANES (HOT)

LOCATION		2012 (EXISTING)	2017 (BUILD)	2037 (DESIGN)
I-85 - APPROACHING OLD PEACHTREE ROAD	GP	10890	11330	13500
	HOT	590	830	1685
I-85 - OLD PEACHTREE ROAD I-85 HOT INGRESS/EGRESS	GP	12795	12715	15060
	HOT	N/A	830	1685
I-85 - I-85 HOT INGRESS/EGRESS TO LAWRENCEVILLE SUWANEE HWY/SR 317	GP	1335	12595	14910
	HOT	N/A	950	1835
I-85 - LAWRENCEVILLE SUWANEE HWY/SR 317 TO I-85/I-985 SPLIT	GP	12420	12375	14445
	HOT	N/A	795	1780
I-85 - I-85/I-985 SPLIT TO I-85 HOT INGRESS/EGRESS	GP	7380	7180	8100
	HOT	N/A	795	1780
I-85 - I-85 HOT INGRESS/EGRESS TO BUFORD DRIVE/SR 20	GP	7380	7330	8360
	HOT	N/A	645	1520
I-85 - BUFORD DRIVE/SR 20 TO I-85 HOT INGRESS/EGRESS	GP	6130	6185	6955
	HOT	N/A	645	1520
I-85 - I-85 HOT INGRESS/EGRESS TO GRAVEL SPRINGS ROAD/SR 324	GP	6130	6270	7100
	HOT	N/A	560	1375
I-85 - GRAVEL SPRINGS ROAD/SR 324 TO I-85 HOT INGRESS/EGRESS	GP	6130	5755	6475
	HOT	N/A	560	1375
I-85 - I-85 HOT INGRESS/EGRESS TO HAMILTON MILL ROAD	GP	6130	6040	7160
	HOT	N/A	250	680
I-85 - BEYOND HAMILTON MILL ROAD	GP	5035	5235	6575
	HOT	N/A	N/A	N/A

Crash data has not been isolated and analyzed for this short section of roadway. Total crashes, crash rates, and the comparison to statewide crash rate averages for the project corridor from 2005-2008 are shown in

Table 4 below. As indicated Table, crash rates in the project corridor are lower than statewide averages.

Crash History of I-85 from Old Peachtree Rd. to Hamilton Mill Road

Table 4 Crash History of I-85 from South of Old Peachtree Road to Hamilton Mill Road (Urban Interstate)			
Year	**Total Crashes/ Crash Rate/Statewide Average Crash Rate***	**Total Injuries/ Injury Rate/Statewide Average Injury Rate***	**Total Fatalities/ Fatality Rate/Statewide Average Fatality Rate***
2005	466/100/206	163/35/72	4/0.86/0.77
2006	497/100/200	164/35/35	4/0.86/0.73
2007	472/97/186	169/35/63	1/0.21/0.58
2008	405/87/187	121/26/62	1/.021/.062

* All crashes, injury, and fatality rates are per 100 million vehicle miles.

To construct this project without relocating the existing soil nail wall, the following two requirements would need to be waived:

- AASHTO Section 8.2.4 Freeway: Traveled Way and Shoulders - for all freeways a left shoulder width of 10 feet is required. A 12 feet wide shoulder need only be considered and is not mandated. The narrowest shoulder listed in this section appears to be 4 feet which will be provided at the completion of construction.
- GDOT Design Policy Manual Section 6.5 Shoulders – GDOT has adopted a total outside shoulder width of 14 feet.

To meet the current guidelines the wall would need to be shifted back 10 feet to accommodate the preferred shoulder width. This would be difficult to achieve because many of the existing soil nails are in excess of 15 feet in length and would be in conflict with some of the standard retaining wall options. The required height of the retaining wall would also be increased a minimum of 5 feet by this shift which limits the types of retaining wall that could be used as the existing wall already exceeds 15 feet for a majority of the wall's length. Some additional considerations for the new wall are:

- The required height of the retaining wall in many locations exceeds that of a viable gravity wall which would be the easiest option to install given the constraints.
- Further excavation to install a standard cantilever type retaining wall would remove all the soil nails completely and require an extensive shoring system if there are to be no right-of-way impacts. The cost to remove the existing soil nail wall and install a cantilever retaining wall is approximately $2,000,000.
- Installation of a soil nail system or tie-back system would not appear to be possible without shifting the retaining wall back to the tails of the existing soil nails. This would then mean that the new soil nails or tie-backs would extend beyond the current right-of-way. Top-down construction could still be achieved, eliminating the need for shoring, if the wall is placed far enough back to miss all the existing soil nails. Any other option with these systems would mean the new soil nails or tie-backs are placed between existing cut off nails or in non-in-situ soil (recently compacted soil) once the soil nails are removed. Neither allows the soil nails or tie-

backs to achieve the desired resisting tension requiring both additional length, exceeding the current right-of-way limits, and possibly some form of shoring system during construction. The cost to remove the existing soil nail wall and install a new soil nail wall that provides an adequate shoulder width is approximately $2,000,000.

- Purchasing additional right-of-way to provide standard slopes upon removal of the retaining wall is a possibility but is costly and introduces additional complications. The height of the slope would require a fairly elaborate drainage ditch system with associated erosion control. Also, laying back the slopes any further will cause the side slopes to encroach onto existing streams and impacts to properties that may create additional environmental issues. The cost to remove the existing soil nail wall and replace it with a fill slope is approximately $2,400,000 in construction and right-of-way.

Stopping Sight Distance for this section of roadway based on AASHTO Table 3-1 for 65 MPH is 645 feet. The curve approaching this retaining wall has a radius of 5750 feet and ends more than 700 feet before the start of the retaining wall and narrow shoulder section. The entire section of narrow shoulder is along a tangent section in the roadway with the next curve over two miles downstream. Horizontal sight offset (HSO) is not a concern and is met at all locations through this section of the corridor. Also, given the design speed of 65 MPH all vertical curves within one mile of each side of the section of narrow shoulder meet or exceed the minimum K-values of 193 and 157 for vertical crest and sag curves respectively. The two design exceptions on this project are mutually exclusive of each other and do not cause a compounding effect.

During installation of the retaining wall as part of the SR 316 Interchange Project a concrete barrier was placed along the face since the wall was within the required clear-zone. This barrier already provides the standard safety improvements. Approach side end treatments, shoulder and barrier tapers will be provided per standard practice for the 65 MPH design speed of I-85. Narrow shoulder signage will be installed as additional mitigation.

I, Tim Heilmeier, recommend that the existing soil nail wall remain in place and a shoulder width of 4 feet or more be permitted through the roughly 2000 feet limits of the same retaining wall with additional signage warning motorists of the narrow shoulder as mitigation.

Submitted By: _____ 1/17/13
Engineer of Record (Tim Heilmeier, PE) Date

Recommend: _____ _____
Director of Engineering Date

Recommend: _____ _____
Chief Engineer Date

Approved: _____ _____
FHWA Division Administrator Date

Conclusion:

The project aims to provide an alternative to the congested general purpose lanes as a continuation to the extensive HOV to HOT conversion currently operational along the I-85 corridor. This design exception does not impact the goals of the project.

HNTB recommends approval of the design exception requested within this document. Please contact me directly at (404) 946-5710 if you have comments or concerns or would like to discuss this matter further.

Best regards,

HNTB CORPORATION

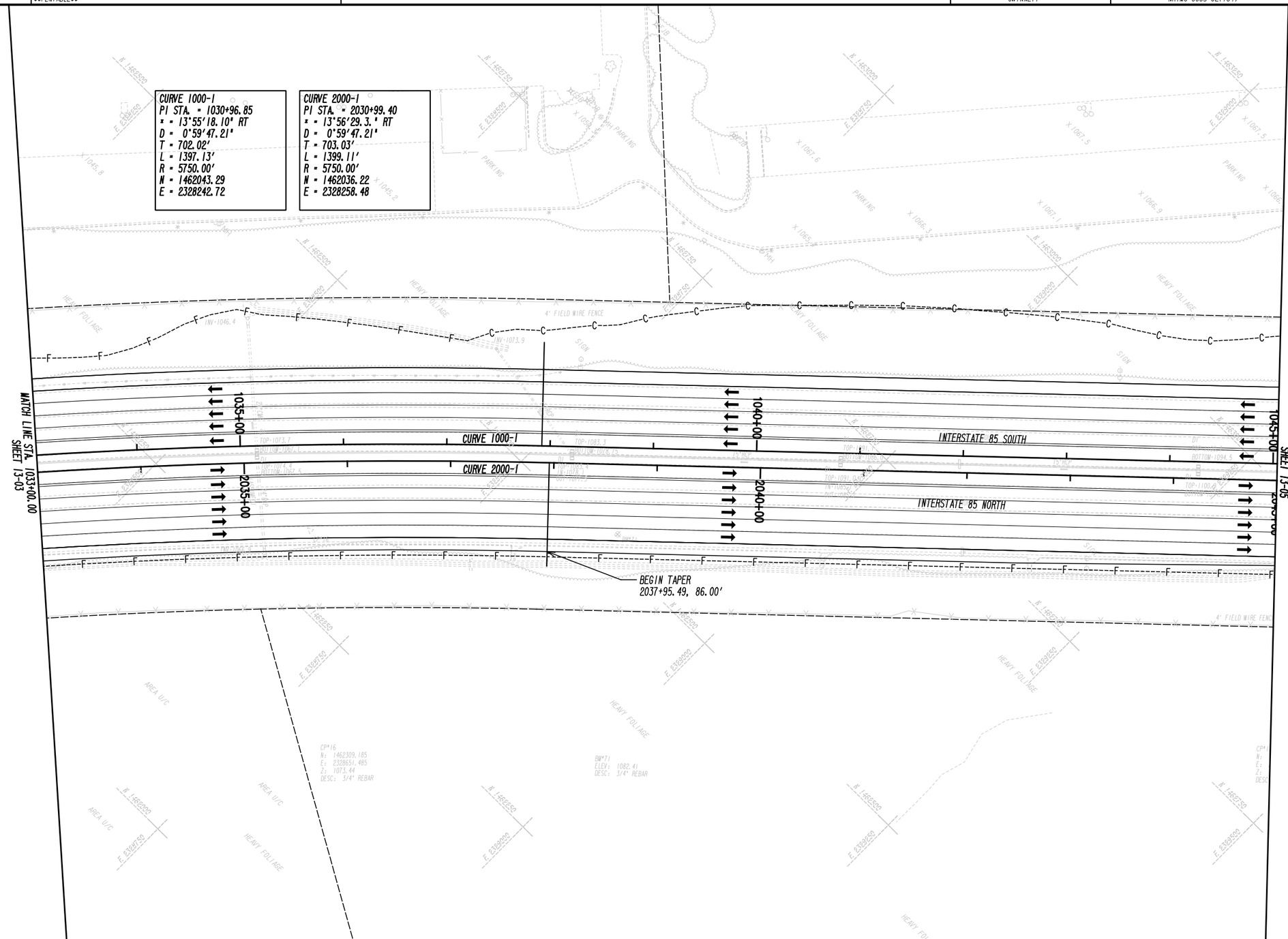
Timothy L. Heilmeier, P.E.
Project Manager

Enclosed:

Appendix A – Plan
Appendix B – Profile
Appendix C – Typical Section
Appendix D – Cost Estimate w/ Shoulder Width Correction
Appendix E – Cost Estimate w/o Shoulder Width Correction

cc: Ms. Loren Bartlett
HNTB Project File 48033

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	——PL——
REQUIRED R/W LINE	————
CONSTRUCTION LIMITS	——C——F——
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

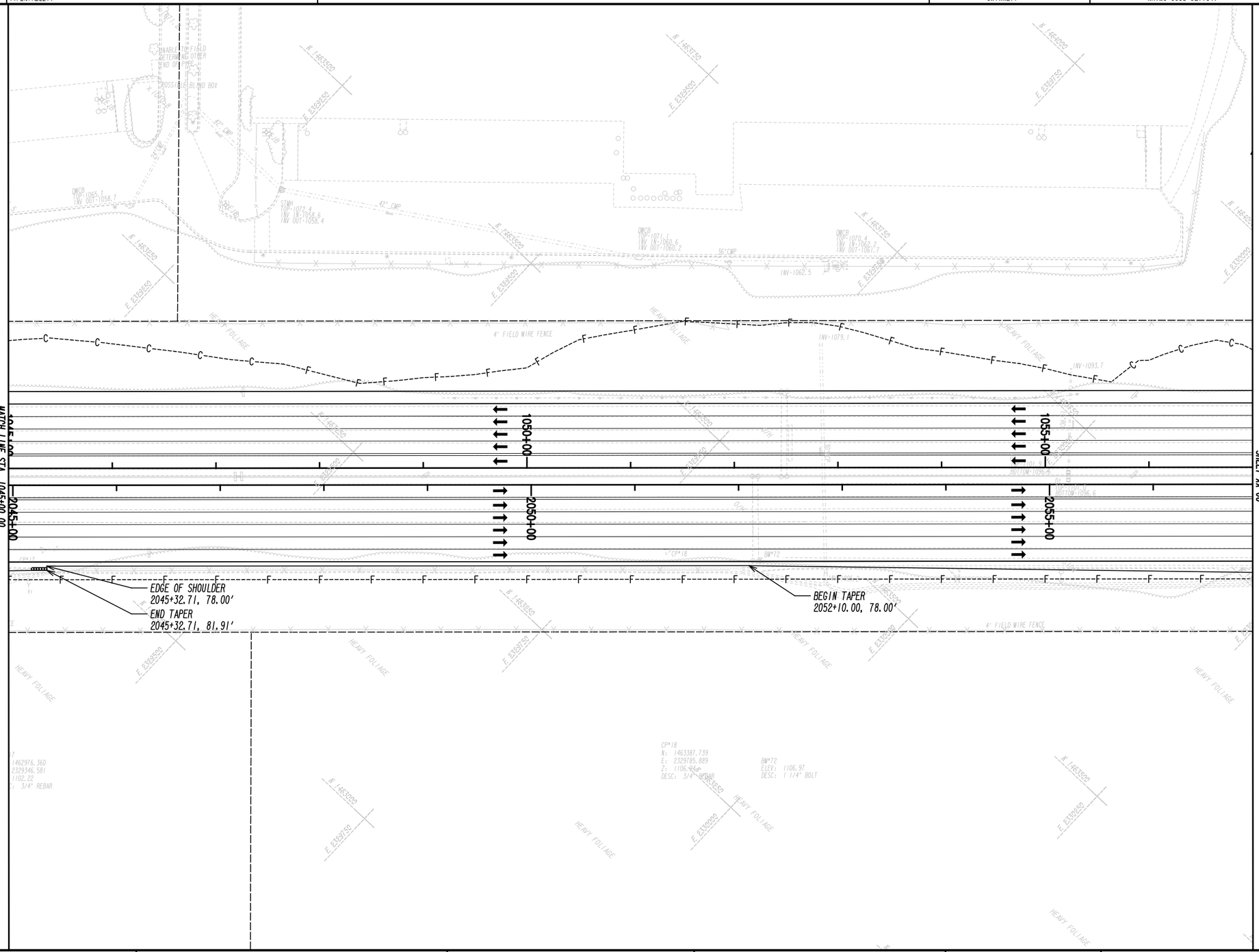
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-04

GPLN

DATETIME$$$ TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$	$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	—PL—
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	—C—F—
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

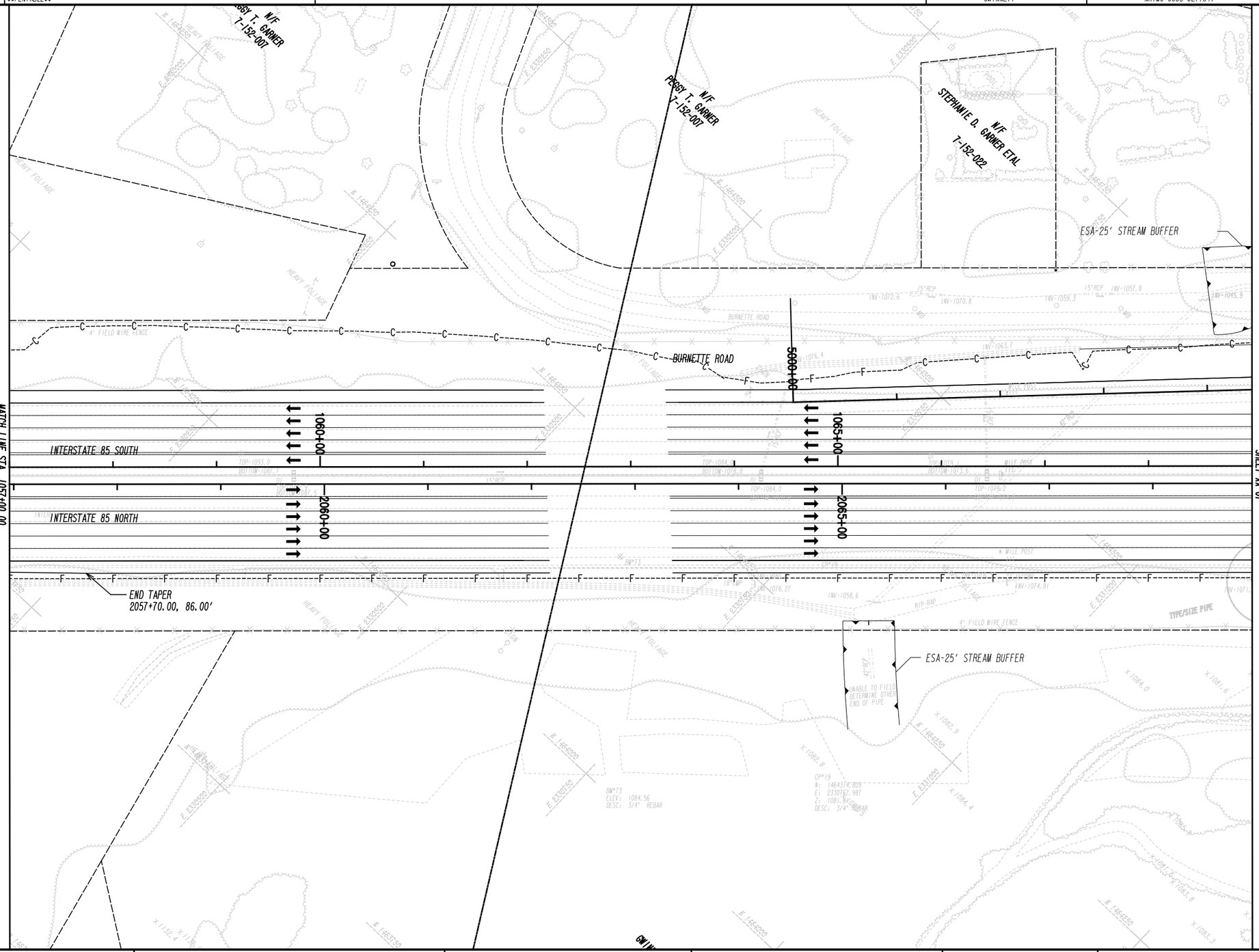
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-05

GPLN

DATETIME$$$ TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$	$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA		
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA		
CONSTRUCTION LIMITS	LIMIT OF ACCESS		
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS		
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE		
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN		

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

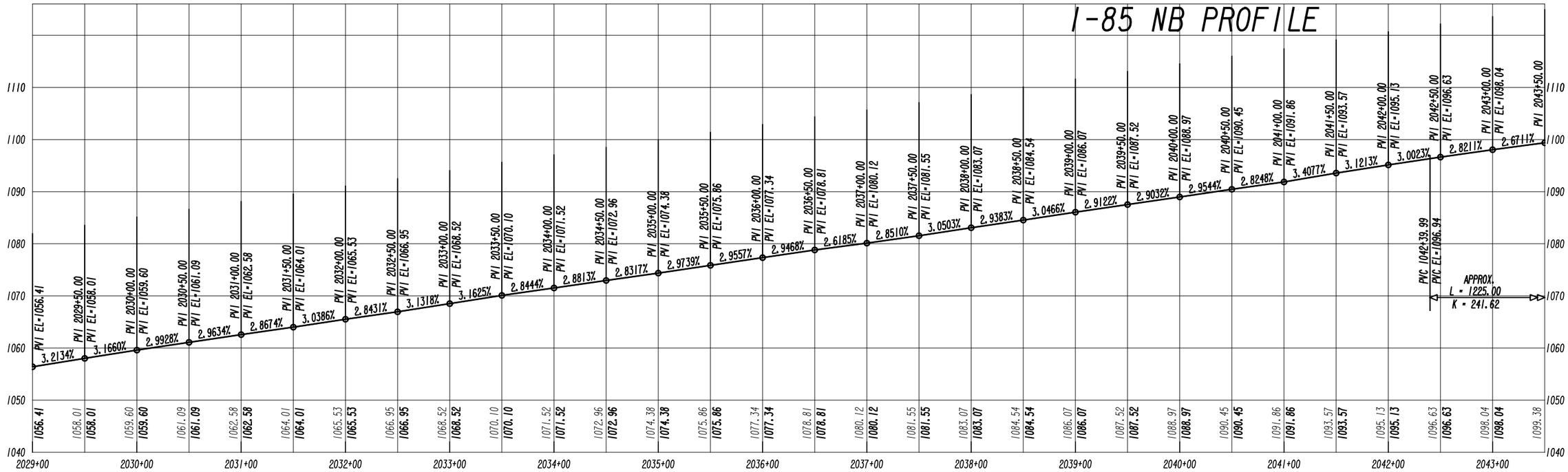
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

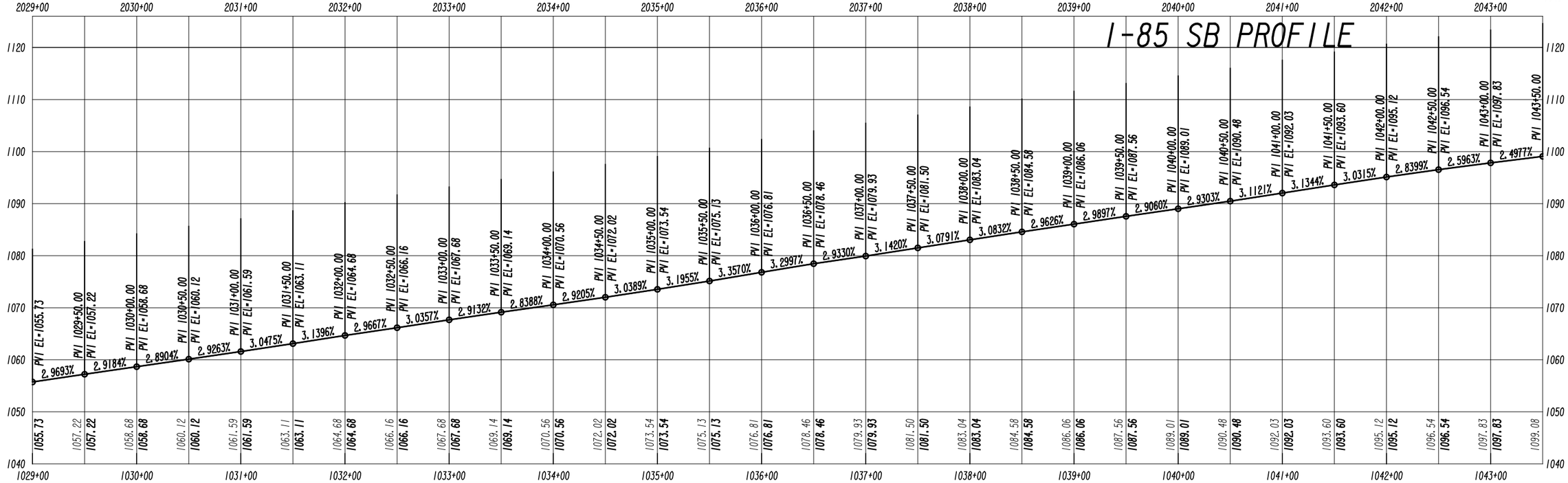
DRAWING No.
13-06

GPLN

Appendix B – Profile

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		





HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE 1 Inch = 10 feet Vert.
SCALE 1 Inch = 50 feet Hortz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

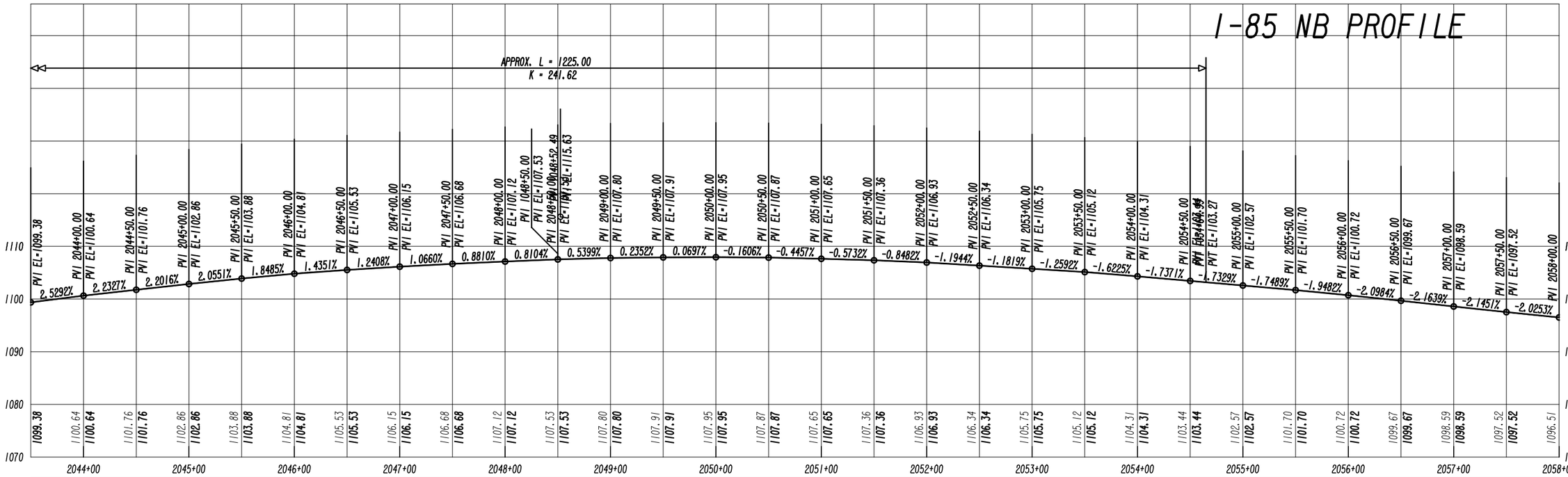
MAINLINE PROFILE

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

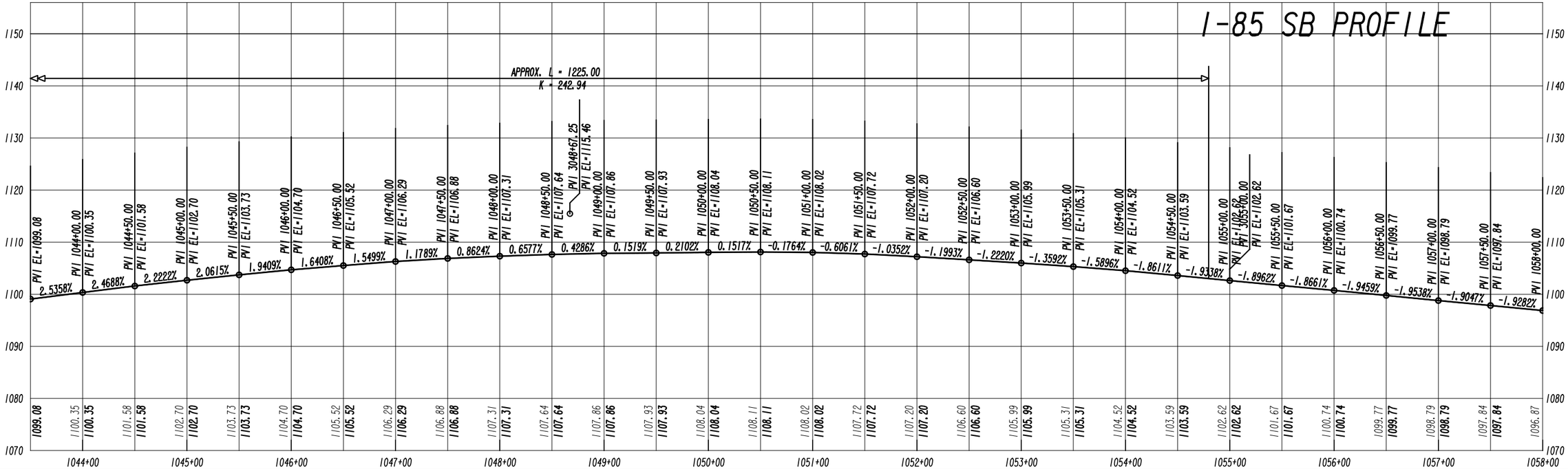
DRAWING No.
15-03

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		

I-85 NB PROFILE



I-85 SB PROFILE



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE 1 Inch = 10 feet Vert.
SCALE 1 Inch = 50 feet Hortz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

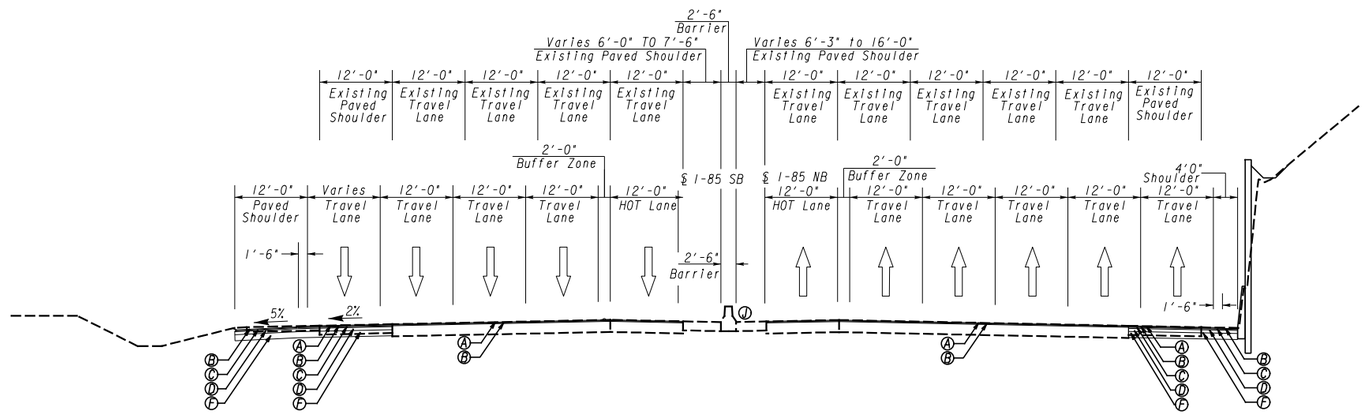
OFFICE:

MAINLINE PROFILE

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
15-04

Appendix C – Typical Section



TYPICAL SECTION
I-85 MAINLINE
WALL SECTION

Ⓐ 135 LBS/SY ASPH CONC 12.5 MM PEM, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
Ⓑ 220 LBS/SY ASPH CONC 12.5 MM SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
Ⓒ 275 LBS/SY RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
Ⓓ 1320 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
Ⓔ GRADED AGGREGATE BASE, 12"
Ⓓ CONCRETE BARRIER

NOTE:
1) SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

NO SCALE

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

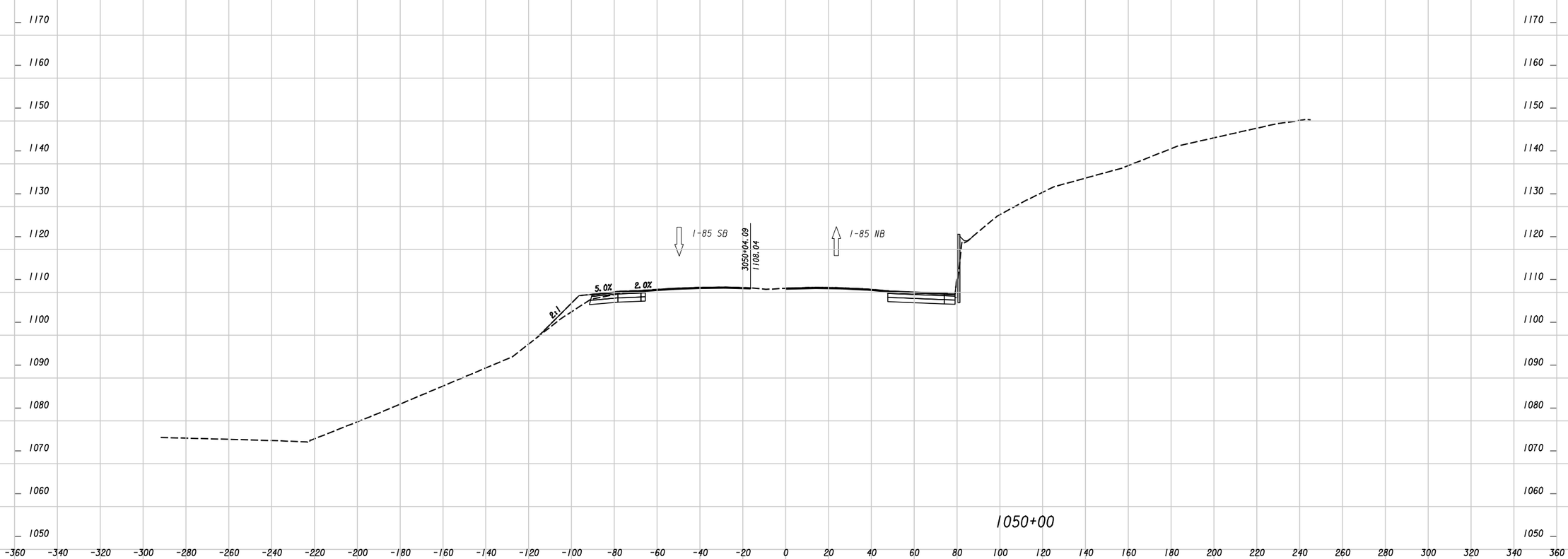
OFFICE:

TYPICAL SECTIONS

DRAWING No.
5-

GPLN

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

SCALE 1 Inch = 10 feet Vert.
SCALE 1 Inch = 10 feet Hortz.

REVISION DATES		

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

EARTHWORK CROSS SECTIONS

DRAWING No.
23-

GPLN

Appendix D – Cost Estimate for Shoulder Width Correction

I-85 North Express Budget Summary

Project	Activity		Total
I-85 North Express Lanes Extension	GDOT Administrative = 2.0%	$	36,000
PI 110600	PM Support = 2.0%	$	36,000
Gwinnett County		$	-
From Old Peachtree to Hamilton		$	-
Mill Road	Right-of-Way	$	-
	Design-Build Contract	$	1,800,000
Shift Soil Nail Wall	Asphalt Index	$	-
	Engineering and Inspection = 3.0%	$	54,000
	Design-Build Contingency = 4.0%	$	72,000
	Project Total	$	1,998,000

Need to add escalation to mid point of construction (separate from contingency)

Assumptions

1. Design-Build Contract includes design complete and construction complete plus an escalation (2%) to mid point of construction.

I-85 North Express Budget Summary

Project	Activity		Total
I-85 North Express Lanes Extension	GDOT Administrative = 2.0%	$	24,600
PI 110600	PM Support = 2.0%	$	24,600
Gwinnett County		$	-
From Old Peachtree to Hamilton		$	-
Mill Road	Right-of-Way	$	1,022,500
	Design-Build Contract	$	1,230,000
Use Fill Slopes	Asphalt Index	$	-
	Engineering and Inspection = 3.0%	$	36,900
	Design-Build Contingency = 4.0%	$	49,200
	Project Total	$	2,387,800

Need to add escalation to mid point of construction (separate from contingency)

Assumptions

1. Design-Build Contract includes design complete and construction complete plus an escalation (2%) to mid point of construction.

Appendix E – Cost Estimate w/o Shoulder Width Correction

I-85 North Express Budget Summary

Project	Activity		Total
I-85 North Express Lanes Extension	GDOT Administrative =	2.0%	$ 1,591,600
PI 110600	PM Support =	2.0%	$ 1,591,600
Gwinnett County			$ -
From Old Peachtree to Hamilton			$ -
Mill Road			$ -
	Design-Build Contract		$ 79,580,000
	Asphalt Index		$ 5,619,245
	Engineering and Inspection =	3.0%	$ 2,387,400
	Design-Build Contingency =	4.0%	$ 3,183,200
	Project Total		$ 93,953,045

Need to add escalation to mid point of construction (separate from contingency)

Assumptions

1. Design-Build Contract includes design complete and construction complete plus an escalation (2%) to mid point of construction.

JOB NUMBER:	110600		
DESCRIPTION:	I-85 HOT LANES		
Construction Complete =	**$**	**67,492,825.00**	
Design Complete (10%) =	**$**	**6,749,283.00**	<=Excludes Asphalt Index
Contingency (0%) =	**$**	**-**	<=Based on all above costs
Subtotal =	**$**	**74,242,108.00**	

SCHEDULE ASSUMPTIONS:

Current Date:	Jan-12
Design & Construction Start:	Apr-14
Construction Completed:	Oct-16
Mid Point Construction/Agency:	Jul-15
Months between Start & Complete:	30
(Years):	2.500
Months between Mid-Point Construction and Current:	42
(Years):	3.500

ANNUAL INFLATION RATE ASSUMPTIONS:

Construction: 2.00%

CONSTRUCTION COSTS (1/2012 $) =	$	74,242,108
YOE Total Project Costs	**$**	**79,580,000.00**

STATE HIGHWAY AGENCY
JOB ESTIMATE REPORT

JOB NUMBER: 110600
DESCRIPTION: I-85 HOT LANES

COST GROUPS FOR I-85 HOT LANES PI# 110600

COST	GROUP	DESCRIPTION	QUANTITY	PRICE	AMOUNT
		TERMPORARY EROSION CONTROL	1	$ 497,982.11	$ 497,982.11
		PERMANENT EROSION CONTROL	1	$ 186,130.98	$ 186,130.98
		ITS (GENERAL PURPOSE) -	1	$ 3,027,581.40	$ 3,027,581.40
		SIGNS (GENERAL PURPOSE	1	$ 1,900,018.50	$ 1,900,018.50
		MARKING	1	$ 527,686.93	$ 527,686.93
		ITS (TOLLING - GDOT)	1	$ 1,355,831.40	$ 1,355,831.40
		SIGN (TOLLING)	1	$ 4,483,010.90	$ 4,483,010.90
		GANTRIES (TOLLING)	1	$ 896,182.24	$ 896,182.24
		TOLLING (SRTA)	1	$ 1,313,915.00	$ 1,313,915.00
		ITS (TOLLING - SRTA)	1	$ 315,750.00	$ 315,750.00
ACTIVE COST GROUP TOTAL					$ 14,504,089.46

ITEMS FOR I-85 HOT LANES PI# 110600

LINE	ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
	150-1000		LS	TRAFFIC CONTROL	1	$ 5,190,000.00	$ 5,190,000.00
	201-1500		LS	CLEARING & GRUBBING -	1	$ 562,207.00	$ 562,207.00
	205-0001		CY	UNCLASS EXCAV	208948	$ 3.16	$ 660,274.22
	206-0002		CY	BORROW EXCAV, INCL MATL	86587	$ 5.50	$ 476,228.50
	540-1102		LS	REMOVAL OF EXISTING BR, BR NO -	11600	$ 60.00	$ 696,000.00
	540-1102		LS	REMOVAL OF EXISTING BR, BR NO -	1824	$ 30.00	$ 54,720.00
	543-9000		LS	CONSTRUCTION OF BRIDGE COMPLETE -	20312	$ 150.00	$ 3,046,800.00
	543-9000		LS	CONSTRUCTION OF BRIDGE COMPLETE -	10563	$ 150.00	$ 1,584,450.00
	543-9000		LS	CONSTRUCTION OF BRIDGE COMPLETE -	12464	$ 150.00	$ 1,869,600.00
	621-6002		LF	CONCRETE BARRIER, TP S-2	33393	$ 82.00	$ 2,738,226.00
	641-1100		LF	GUARDRAIL, TYPE T	448	$ 41.95	$ 18,785.21
	641-1200		LF	GUARDRAIL, TP W	48150	$ 14.05	$ 676,507.50
	641-5001		EA	GUARD RAIL ANCHORAGE, TP 1	44	$ 596.00	$ 26,224.00
	641-5012		EA	GUARDRAIL ANCHORAGE, TP 12	45	$ 1,827.88	$ 82,254.60
	621-6200		LF	CONCRETE SIDE BARRIER, TP 2-S	6100	$ 350.00	$ 2,135,000.00
	621-6201		LF	CONCRETE SIDE BARRIER, TP 2-SA	3640	$ 400.00	$ 1,456,000.00
	621-6202		LF	CONCRETE SIDE BARRIER, TP 2-SB	800	$ 500.00	$ 400,000.00
	621-6203		LF	CONCRETE SIDE BARRIER, TP 2-SC	100	$ 550.00	$ 55,000.00

STATE HIGHWAY AGENCY
JOB ESTIMATE REPORT

	621-6211		LF	CONCRETE SIDE BARRIER, TP 6-SA	1330	$	450.00	$ 598,500.00
	627-1010		SF	MSE WALL FACE, 10 - 20 FT HT, WALL NO -	14500	$	40.00	$ 580,000.00
	310-1101		TN	GR AGGR BASE CRS, INCL MATL	194489	$	12.47	$ 2,425,277.83
	400-3604		TN	ASPH CONC 12.5 MM SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME	71918	$	92.00	$ 6,616,456.00
	400-3624		TN	ASPH CONC 12.5 MM PEM, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME	32729	$	87.80	$ 2,873,606.20
	402-1812		TN	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	0	$	61.00	$ -
	402-3121		TN	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME; 330LB/SY	155679	$	52.83	$ 8,224,521.57
	402-3190		TN	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2,INCL BITUM MATL & H LIME; 330LB/SY	61730	$	54.60	$ 3,370,458.00
	413-1000		GL	BITUM TACK COAT	76305	$	2.13	$ 162,530.56
	432-5010		SY	MILL ASPHALT CONC PVMT, VARIABLE DEPTH	389736	$	0.80	$ 311,788.71
	436-1000		LF	ASPHALTIC CONCRETE CURB -	48150	$	6.00	$ 288,900.00
	446-1100		LF	PVMT REINF FABRIC STRIPS, TP 2, 18 INCH WIDTH	102915	$	1.61	$ 165,693.15
	207-0203		CY	FOUND BKFILL MATL, TP II	40	$	38.80	$ 1,568.30
	500-3101		CY	CLASS A CONCRETE	119	$	450.00	$ 53,629.72
	511-1000		LB	BAR REINF STEEL	6942	$	0.85	$ 5,900.82
	550-1240		LF	STORM DRAIN PIPE, 24 IN, H 1-10	27550	$	28.82	$ 793,991.00
	550-1300		LF	STORM DRAIN PIPE, 30 IN, H 1-10	20	$	55.47	$ 1,109.40
	550-1360		LF	STORM DRAIN PIPE, 36 IN, H 1-10	121	$	64.99	$ 7,831.30
	550-1420		LF	STORM DRAIN PIPE, 42 IN, H 1-10	30	$	78.20	$ 2,346.00
	550-1480		LF	STORM DRAIN PIPE, 48 IN, H 1-10	45	$	86.00	$ 3,870.00
	550-4124		EA	FLARED END SECTION 24 IN, SIDE DRAIN	41	$	530.00	$ 21,624.00
	603-2182		SY	STN DUMPED RIP RAP, TP 3, 24 IN	3266	$	27.25	$ 88,998.50
	615-1000		LF	JACK OR BORE PIPE -	7140	$	150.00	$ 1,071,000.00
	668-2100		EA	DROP INLET, GP 1	204	$	1,847.60	$ 376,910.40
	151-1000		LS	MOBILIZATION - GENERAL CONSTRUCTION	1	$	2,795,710.00	$ 2,795,710.00
	999-2010		LS	DESIGN COMPLETE - GENERAL CONSTRUCTION	1	$	5,870,991.00	$ 5,870,991.00
	151-1000		LS	MOBILIZATION - GDOT TOLLING ITEMS	1	$	336,752.00	$ 336,752.00
	999-2010		LS	DESIGN COMPLETE - GDOT TOLLING ITEMS	1	$	707,180.00	$ 707,180.00
	151-1000		LS	MOBILIZATION - SRTA TOLLING ITEMS	1	$	81,484.00	$ 81,484.00
	999-2010		LS	DESIGN COMPLETE - SRTA TOLLING ITEMS	1	$	171,117.00	$ 171,117.00

ITEM TOTAL $ 59,738,022.47

Total = $ 74,242,111.93

Asphalt Index = $ 5,619,244.51

Appendix G. Vertical Curve Design Exception Letter

DESIGN EXCEPTIONS

I-85 HOT from Lawrenceville- Suwannee Road to Hamilton Mill Road
Project Number: NH-IM-85-2(164)
Counties: Gwinnett
P.I. Number: 110600

HNTB Work Order No. 48033

Georgia Department of Transportation

Department of Transportation
State of Georgia
Innovative Program Delivery

January, 2013

Revision 4

HNTB

HNTB Corporation
Engineers Architects Planners

3715 Northside Parkway
200 Northcreek, Suite 800
Atlanta, GA 30327

Telephone (404) 946-5700
Facsimile (404) 841-2820
www.hntb.com

HNTB

Mr. Darryl VanMeter
State Innovative Program Delivery Engineer
Georgia Department of Transportation
One Georgia Center
600 West Peachtree Street
Atlanta, Georgia 30308

Re: Request for Design Exception for Existing Substandard Sag Curves
I-85 HOT Lane Extension Project, Gwinnett County
NHIM0-0085-02(164)
P.I. No. 110600

January 11, 2013

Dear Mr. VanMeter,

Approval of a Design Exception is requested for existing substandard sag curves along I-85 in several locations between I-985 and Hamilton Mill Road within the project limits.

This project involves widening along Interstate 85 (I-85), one lane in each direction, from just north of Old Peachtree Road to Hamilton Mill Road. The project is approximately 10 miles in length and located entirely within Gwinnett County. The proposed new lanes will be tolled managed lanes. The purpose of the proposed managed lanes is to create realistic travel time savings through the use of variable priced tolling to manage volume in the lanes and maintain a minimum average speed.

South of I-985, the project proposes to widen I-85 outside of the existing eight-lane mainline. While north of I-985, widening on the inside shoulder along the four-lane I-85 section. Existing travel lanes have a posted speed limit of 65 MPH south of I-985 and 70 MPH on points north along I-85. The proposed design speeds for the project will match the current posted speed limits along the interstate mainlines.

Adjacent to the northern terminus of this project, P.I. 110610 will extend the proposed managed lanes from Hamilton Mill Road to S.R. 211 in Barrow County. The southern terminus of this project is associated with the following projects: Projects CSMSL-0009-00(295), CSMSL-0009-00(296), CSMSL-0009-00(297), P.I. Numbers 0009295, 0009296, and 0009297, which are currently completed and operational and have converted the existing High Occupancy Vehicle (HOV) lanes along I-85 from Chamblee Tucker Road to just north of Old Peachtree Road to High Occupancy Toll (HOT) lanes.

Approval of the following design exception is requested for the project.

Design Exception Request: Existing Sag Curves to Remain As-Is

A design exception is requested for sag curves at various locations (see Table 1) throughout the project. Plans, profiles and a typical section through the limits in question can be found in Appendices A, B and C respectively.

The American Association of State Highway Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Streets 2011 edition, Chapter 3 – Elements of Design, Page 3-161, Table 3-36, US Customary is shown below:

Table 3-36. Design Controls for Sag Vertical Curves

US Customary			
Design Speed (mph)	Stopping sight distance (ft)	Rate of vertical curvature, K[a]	
		Calculated	Design
15	80	9.4	10
20	115	16.5	17
25	155	25.5	26
30	200	36.4	37
35	250	49.0	49
40	305	63.4	64
45	360	78.1	79
50	425	95.7	96
55	495	114.9	15
60	570	135.7	136
65	645	156.5	157
70	730	180.3	181
75	820	205.6	206
80	910	231.0	231

[a] Rate of vertical curvature, K, is the length of curve (ft) per percent of algebraic difference intersecting grades (A). K=L/A

The locations and existing K values are shown in Table 1 below:

Table 4
Sag Curves Not Meeting Current Design Code Requirements

STA (~PVI)	Direction of Travel	Gwinnett PM[1] (~PVI)	I-85 PM (~PVI)	Posted Speed (MPH)	Best Fit[2]		Before AASHTO 2001 (70 MPH)			After AASHTO 2001 (65 MPH)			After AASHTO 2001 (70 MPH)			Meeting Min K Additional Cost ($)
					K-Value	Length (ft)	Min K-Value	Length (ft)	Max Req Lift (ft)	Min K-Value	Length (ft)	Max Req Lift (ft)	Min K-Value	Length (ft)	Max Req Lift (ft)	
I-85 North of SR 20 (no overlay in this area proposed)																
1209+02	SB	16.75	113.75	70	153	550	150	-	-	157	-	-	181	700	0.65	$ 151,589
2335+83	NB	19.16	116.16	70	177	450	150	-	-	157	-	-	181	500	0.13[3]	$ 427,496
2357+83	NB	19.57	116.57	70	161	300	150	-	-	157	-	-	181	400	0.19[3]	$ 322,485
2409+96	NB	20.56	117.56	70	146	500	150	-	-	157	550	0.12*	181	650	0.64	$ 380,215
2439+57	NB	21.12	118.12	70	150	550	150	-	-	157	-	-	181	750	0.55	$ 846,205
2460+82	NB	21.52	118.52	**70**	**135**	**650**	**150**	**700**	**0.50**	**157**	**730**	**0.75**	**181**	**850**	**1.28**	**$ 1,329,186**
2499+73	NB	22.26	119.26	70	153	575	150	-	-	157	-	-	181	750	0.73	$ 757,297

[1]All accident data is provided by Gwinnett Post Mile

[2]Best Fit curves were produced in InRoads

[3]Lifts of 3" or less can be deemed as caused by rough terrain in the survey or errors in approximating the vertical curves and should not be of concern.

The Average Daily Traffic (ADT) volumes can be seen in Table 2 below for the project corridor. The Design Hourly Volume (DHV) information is listed in Tables 3 and 4 below as well.

TABLE 2
AVERAGE DAILY TRAFFIC BY SEGMENT INCLUDING MANAGED LANES (HOT)

LOCATION		2012 (EXISTING)	2017 (BUILD)	2037 (DESIGN)
I-85 - APPROACHING OLD PEACHTREE ROAD	GP	152900	160700	191900
	HOT	4600	4900	10200
I-85 - OLD PEACHTREE ROAD I-85 HOT INGRESS/EGRESS	GP	167100	170800	204100
	HOT	N/A	4900	10200
I-85 - I-85 HOT INGRESS/EGRESS TO LAWRENCEVILLE SUWANEE HWY/SR 317	GP	167100	166900	200200
	HOT	N/A	8800	14100
I-85 - LAWRENCEVILLE SUWANEE HWY/SR 317 TO I-85/I-985 SPLIT	GP	157500	158700	189200
	HOT	N/A	6900	12800
I-85 - I-85/I-985 SPLIT TO I-85 HOT INGRESS/EGRESS	GP	96100	95400	112000
	HOT	N/A	6900	12800
I-85 - I-85 HOT INGRESS/EGRESS TO BUFORD DRIVE/SR 20	GP	96100	97300	112500
	HOT	N/A	5000	12300
I-85 - BUFORD DRIVE/SR 20 TO I-85 HOT INGRESS/EGRESS	GP	83700	85800	98500
	HOT	N/A	5000	12300
I-85 - I-85 HOT INGRESS/EGRESS TO GRAVEL SPRINGS ROAD/SR 324	GP	83700	86600	99400
	HOT	N/A	4200	11400
I-85 - GRAVEL SPRINGS ROAD/SR 324 TO I-85 HOT INGRESS/EGRESS	GP	83700	82600	94600
	HOT	N/A	4200	11400
I-85 - I-85 HOT INGRESS/EGRESS TO HAMILTON MILL ROAD	GP	83700	84700	100400
	HOT	N/A	2100	5600
I-85 - BEYOND HAMILTON MILL ROAD	GP	69500	73000	89200
	HOT	N/A	N/A	N/A

TABLE 3
AM PEAK HOUR VOLUMES BY SEGMENT INCLUDING MANAGED LANES (HOT)

LOCATION		2012 (EXISTING)	2017 (BUILD)	2037 (DESIGN)
I-85 - APPROACHING OLD PEACHTREE ROAD	GP	10890	11330	13060
	HOT	590	830	1835
I-85 - OLD PEACHTREE ROAD I-85 HOT INGRESS/EGRESS	GP	12795	12715	14620
	HOT	N/A	830	1835
I-85 - I-85 HOT INGRESS/EGRESS TO LAWRENCEVILLE SUWANEE HWY/SR 317	GP	1335	12595	14600
	HOT	N/A	950	1855
I-85 - LAWRENCEVILLE SUWANEE HWY/SR 317 TO I-85/I-985 SPLIT	GP	12420	12375	14210
	HOT	N/A	795	1780
I-85 - I-85/I-985 SPLIT TO I-85 HOT INGRESS/EGRESS	GP	7380	7180	7970
	HOT	N/A	795	1780
I-85 - I-85 HOT INGRESS/EGRESS TO BUFORD DRIVE/SR 20	GP	7380	7330	8230
	HOT	N/A	645	1520
I-85 - BUFORD DRIVE/SR 20 TO I-85 HOT INGRESS/EGRESS	GP	6130	6185	6860
	HOT	N/A	645	1520

I-85 - I-85 HOT INGRESS/EGRESS TO GRAVEL SPRINGS ROAD/SR 324	GP	6130	6270	7020
	HOT	N/A	560	1360
I-85 - GRAVEL SPRINGS ROAD/SR 324 TO I-85 HOT INGRESS/EGRESS	GP	6130	5755	6395
	HOT	N/A	560	1360
I-85 - I-85 HOT INGRESS/EGRESS TO HAMILTON MILL ROAD	GP	6130	6040	7065
	HOT	N/A	250	680
I-85 - BEYOND HAMILTON MILL ROAD	GP	5035	5235	6510
	HOT	N/A	N/A	N/A

TABLE 4
PM PEAK HOUR VOLUMES BY SEGMENT INCLUDING MANAGED LANES (HOT)

LOCATION		2012 (EXISTING)	2017 (BUILD)	2037 (DESIGN)
I-85 - APPROACHING OLD PEACHTREE ROAD	GP	10890	11330	13500
	HOT	590	830	1685
I-85 - OLD PEACHTREE ROAD I-85 HOT INGRESS/EGRESS	GP	12795	12715	15060
	HOT	N/A	830	1685
I-85 - I-85 HOT INGRESS/EGRESS TO LAWRENCEVILLE SUWANEE HWY/SR 317	GP	1335	12595	14910
	HOT	N/A	950	1835
I-85 - LAWRENCEVILLE SUWANEE HWY/SR 317 TO I-85/I-985 SPLIT	GP	12420	12375	14445
	HOT	N/A	795	1780
I-85 - I-85/I-985 SPLIT TO I-85 HOT INGRESS/EGRESS	GP	7380	7180	8100
	HOT	N/A	795	1780
I-85 - I-85 HOT INGRESS/EGRESS TO BUFORD DRIVE/SR 20	GP	7380	7330	8360
	HOT	N/A	645	1520
I-85 - BUFORD DRIVE/SR 20 TO I-85 HOT INGRESS/EGRESS	GP	6130	6185	6955
	HOT	N/A	645	1520
I-85 - I-85 HOT INGRESS/EGRESS TO GRAVEL SPRINGS ROAD/SR 324	GP	6130	6270	7100
	HOT	N/A	560	1375
I-85 - GRAVEL SPRINGS ROAD/SR 324 TO I-85 HOT INGRESS/EGRESS	GP	6130	5755	6475
	HOT	N/A	560	1375
I-85 - I-85 HOT INGRESS/EGRESS TO HAMILTON MILL ROAD	GP	6130	6040	7160
	HOT	N/A	250	680
I-85 - BEYOND HAMILTON MILL ROAD	GP	5035	5235	6575
	HOT	N/A	N/A	N/A

Over a four year period, 2005-2008, 1839 accidents occurred within the limits of the project (PI 110600). Of those, 364 (19.8%) accidents occurred at night. These are defined as Dark-Not Lighted in the GDOT accident summary table in Appendix D (only nighttime accidents are pertinent to sag curve sight deficiencies and are shown). Accidents have been highlighted that could be attributed to headlight sight distance (used to define said curves) within the limits of the sag curves not meeting 2011 AASHTO standards for the proposed design speed(s). This consists of 8 accidents (2.2% of the accidents after dark). Existing information does not allow a comparison to statewide averages since there is no way to determine which accidents across the state occurred within the limits of sag curves not meeting current design standards. However, given the total of 1839 accidents within the limits of the project, 8 accidents which could potentially be attributed to lack of headlight sight distance at night account for 0.4% of the total accidents. The sag curves appear to be performing at an acceptable standard even at operating

speeds in excess of 70 MPH. (See Appendix D, Table 6 for data) Comparing Tables 1 and 6 it should be noted that the curve at STA 1461+13 (K=135), which is not being improved, that no nighttime accidents occurred with the limits of this sag curve. Additionally the corridor operates a lower accident rate than the Statewide average over the four year period of 2005-2008 as shown in Table 5 below.

Crash History of I-85 from Old Peachtree Rd. to Hamilton Mill Road

Table 5 Crash History of I-85 from South of Old Peachtree Road to Hamilton Mill Road (Urban Interstate)			
Year	Total Crashes/ Crash Rate/Statewide Average Crash Rate*	Total Injuries/ Injury Rate/Statewide Average Injury Rate*	Total Fatalities/ Fatality Rate/Statewide Average Fatality Rate*
2005	466/100/206	163/35/72	4/0.86/0.77
2006	497/100/200	164/35/35	4/0.86/0.73
2007	472/97/186	169/35/63	1/0.21/0.58
2008	405/87/187	121/26/62	1/.021/.062

* All crashes, injury, and fatality rates are per 100 million vehicle miles.

Based on the existing accident data, the sag curves do not appear to be increasing accidents along the corridor. The curves are designed appropriately based on horizontal curvature and the horizontal sight offset (HSO) is met within all seven sag curves. This design will also accommodate an additional lane in each direction, with a four foot wide inside shoulder, in the median of I-85 north of SR 20 while meeting HSO requirements.

Sag curves of this nature are in successful operation throughout Georgia as would appear to be the case on this project based on the accident summary (discussed above).

There are no known prior commitments for sight distance mitigation strategies along this section of the corridor (north of SR 20 along I-85) that must be met. Only pavement reconstruction has occurred along the section of corridor in question since both the design code was changed to accommodate lower headlight profiles and the 55 MPH speed limit requirements on freeways/expressways was lifted by FHWA. As currently installed on I-85, the urban sections beyond the I-285 perimeter were posted at 65 MPH and rural sections beyond that point were posted at 70 MPH. Justification for these posted speed limits appears to be based on observed operating speeds not design standards.

The seven (7) sag curves listed in Table 1 have a design speed of 70 mph and require a minimum rate of vertical curvature, K, of 181 that is not achievable. To increase the K value to the minimum for 70 mph is not feasible because:

- Changes required in grade to correct several of the substandard sag curves to 2011 AASHTO standards will exceed the preferred maximum asphalt leveling limits. This would force a more complicated pavement replacement design resulting in a more disruptive maintenance of traffic scheme and additional right-of-way need. Estimated additional construction costs would exceed $5 million (does NOT include right-of-way needs of at least 5200 SF and financial impacts due to congestion delays caused by staging requirements).

Highway lighting is not being proposed as a mitigation measure due to the installation costs and the resulting undue maintenance requirements along the corridor. Highway lighting options that were considered but are not being implemented are:

- Do not correct the substandard sag curves and simply provide lighting at locations that do not meet the 2004 edition of AASHTO standards for 65 MPH (one (1) location). No lighting is to be provided elsewhere. Power lines cross the project at several locations allowing reasonably close access to electricity. Based on recent bids a single high mast light structure (installed), including foundation, conduit and guard rail but NOT maintenance costs, runs $35,000. For this option the estimated construction cost (excluding maintenance) would be $70,000 assuming one mast on each side of the expressway at each location.
- Provide lighting for all sag curves that do not meet the 2004 edition of AASHTO standards for 70 MPH (six (6) locations). Power lines cross the project at several locations allowing reasonably close access to electricity. Based on recent bids a single high mast light structure (installed), including foundation, conduit and guard rail but NOT maintenance costs, runs $35,000. For this option the estimated construction cost (excluding maintenance) would be $420,000 assuming one mast on each side of the expressway at each location.

Glare screens are not being proposed as a mitigation measure as the installation of glare screens are normally used to alleviate sight distance concerns based on horizontal curves or unique instances in vertical curves where drivers cannot see into the unlit area of the sag curve due to the lights from oncoming traffic. Issues with horizontal and vertical curves that would be alleviated by glare screens do not exist on this project and installing glare screens would not provide adequate mitigation for oncoming headlights in these areas.

I, Tim Heilmeier, recommend that the existing sag curves not meeting the 2011 edition of AASHTO within the limits of the project remain as-is. No mitigation measures are recommended and accident history within the limits of the project does not indicate any mitigation is required.

Submitted By: _____ 1/17/13
Engineer of Record (Tim Heilmeier, PE) — Date

Recommend: _____ _____
Director of Engineering — Date

Recommend: _____ _____
Chief Engineer — Date

Approved: _____ _____
FHWA Division Administrator — Date

Conclusion:

The project aims to provide an alternative to the congested general purpose lanes as a continuation to the extensive HOV to HOT conversion currently operational along the I-85 corridor. Limited funding requires that extreme value measures be taken. The design exception stems from ideas developed by HNTB which were then endorsed by the Value Engineering Team and further approved for implementation by both GDOT and FHWA.

HNTB recommends approval of the design exception requested within this document. Please feel free to contact me directly at (404) 946-5710 if you have comments or concerns or would like to discuss this matter further.

Best regards,

HNTB CORPORATION

Timothy L. Heilmeier, P.E.
Project Manager

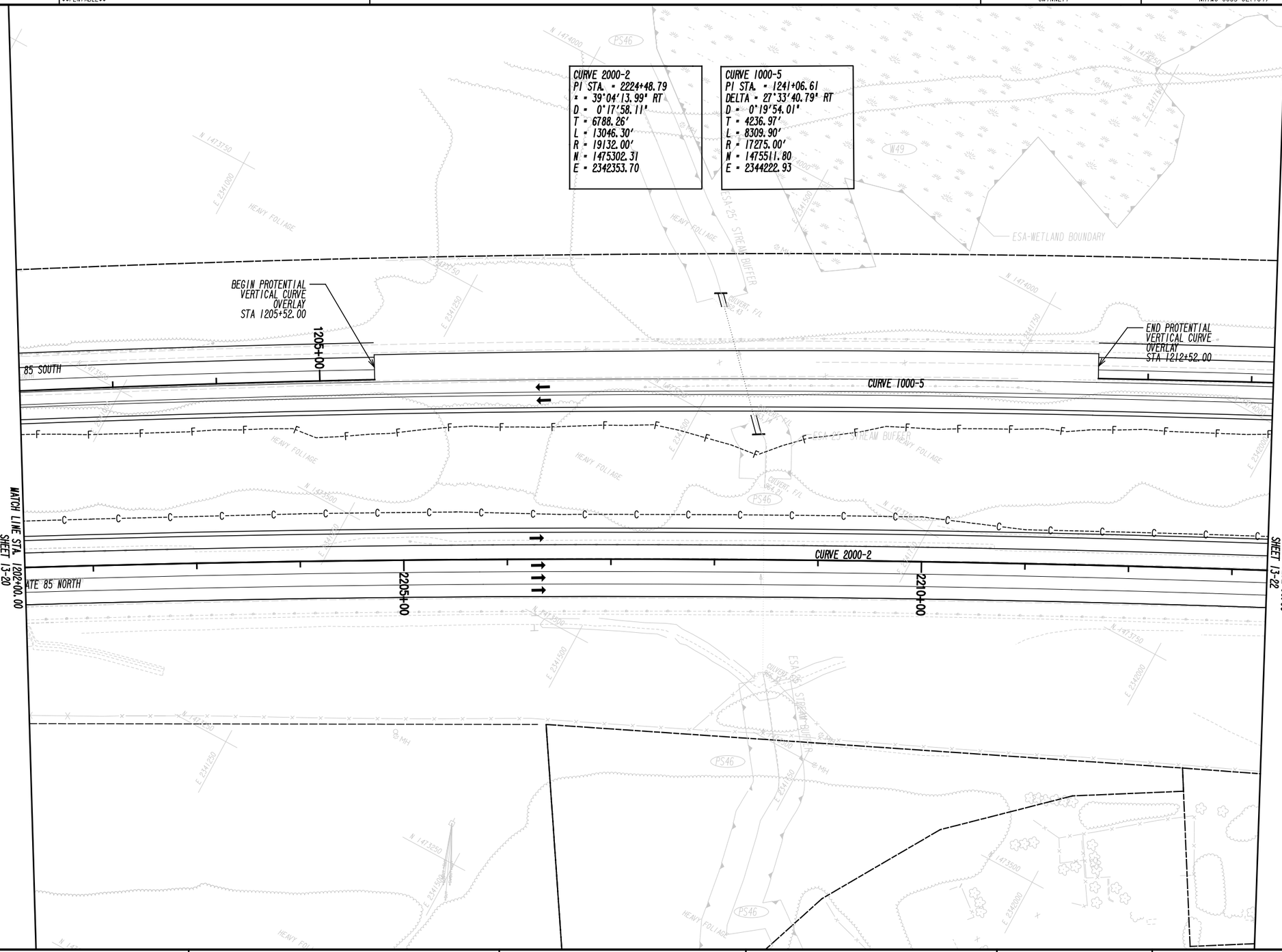
Enclosed:

Appendix A – Plan
Appendix B – Profile
Appendix C – Typical Section
Appendix D – Pertinent Accident Summary
Appendix E – Cost Estimate w/ Sag Curve Correction
Appendix F – Cost Estimate w/o Sag Curve Correction
Appendix G – Comments w/ Responses
Appendix H – 1962 As-Builts

C: Ms. Loren Bartlett
HNTB Project File 48033

Appendix A – Plan

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

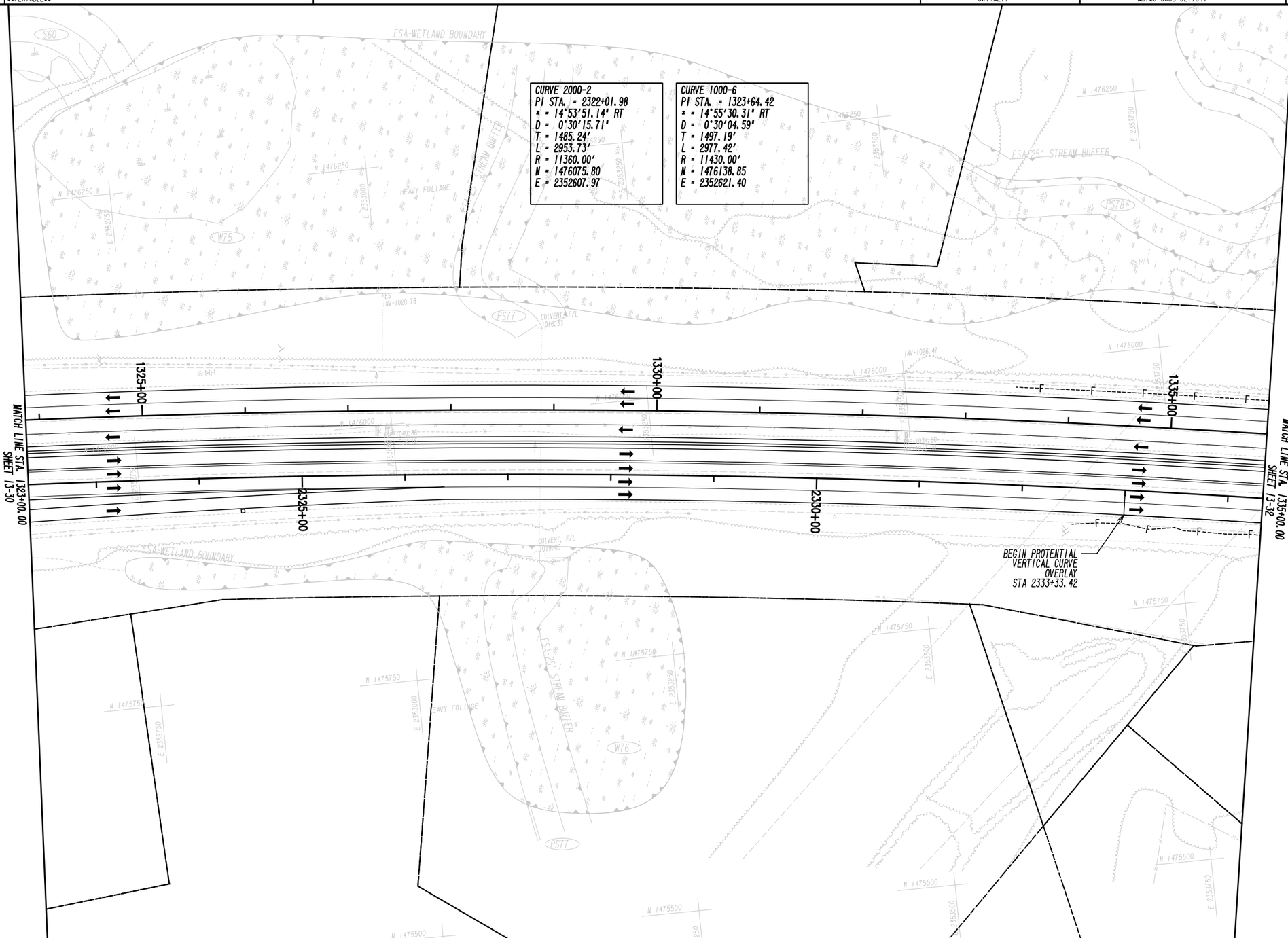
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-21

GPLN

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA	HNTB	COSTING PLANS FOR DESIGN-BUILD
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA		
CONSTRUCTION LIMITS	LIMIT OF ACCESS	3715 NORTHSIDE PARKWAY, NW	SCALE IN FEET
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS	400 NORTHCREEK, SUITE 600	0 50 100 200
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE	ATLANTA, GEORGIA 30327	
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN		

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

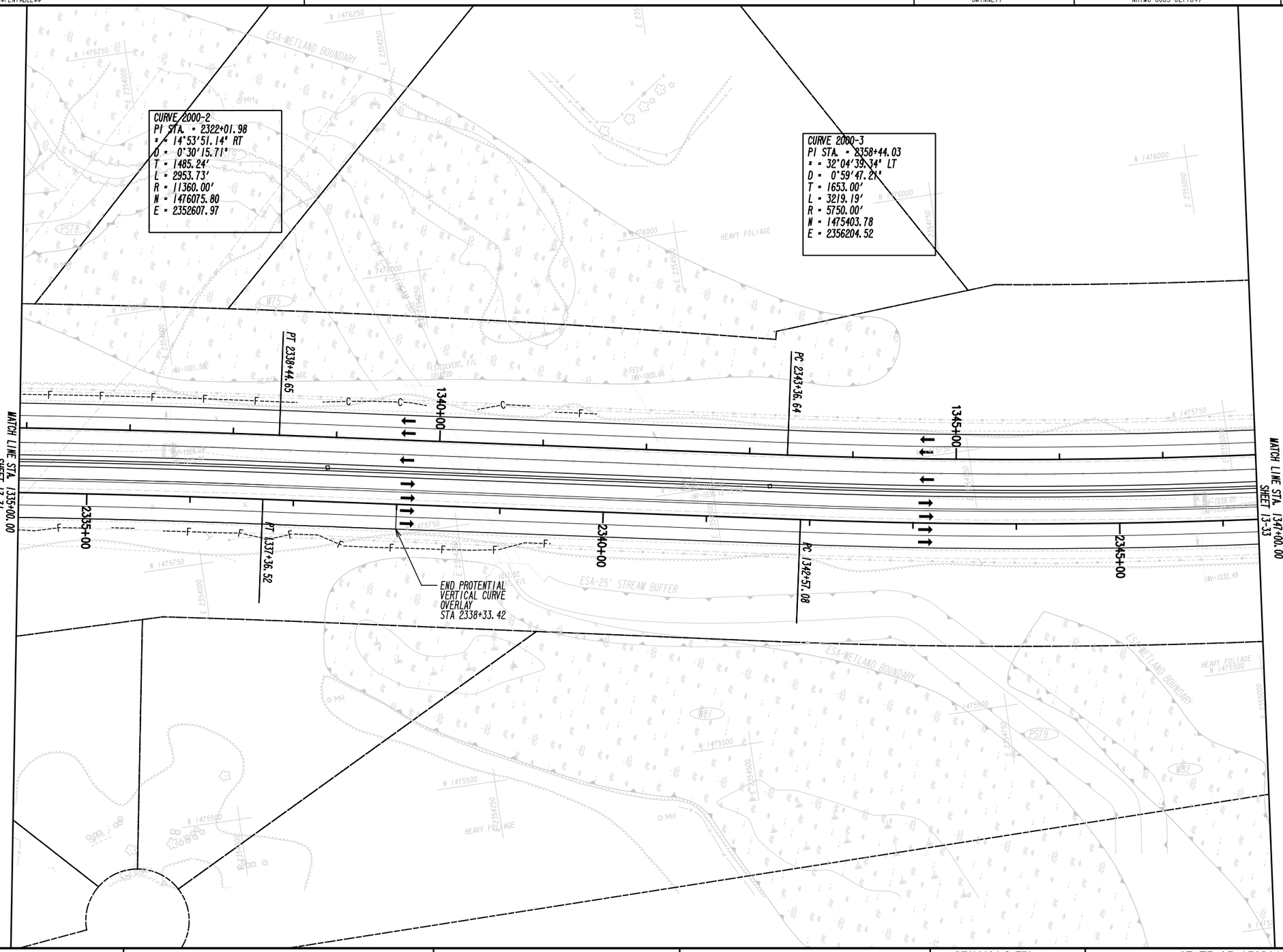
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-31

GPLN

DATETIME$$$ TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$	$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	PL	BEGIN LIMIT OF ACCESS.....BLA	
REQUIRED R/W LINE		END LIMIT OF ACCESS.....ELA	
CONSTRUCTION LIMITS	C F	LIMIT OF ACCESS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES		R/W AND LIMIT OF ACCESS	
EASEMENT FOR CONSTR OF SLOPES		EXISTING R/W LINE	
EASEMENT FOR CONSTR OF DRIVES		OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

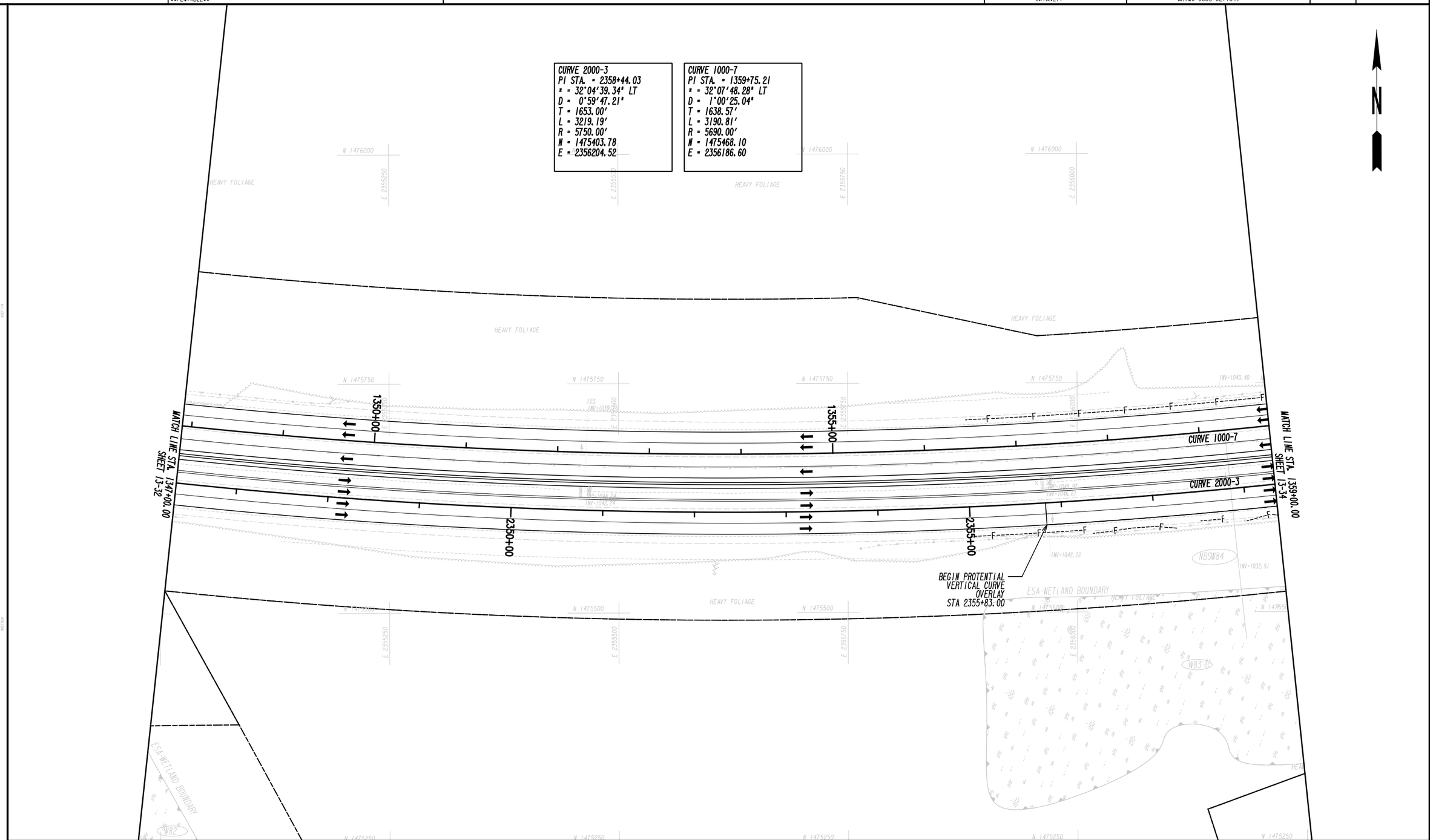
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-32

GPLN

DATETIME$$$ TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$	$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	——P/L——
REQUIRED R/W LINE	————
CONSTRUCTION LIMITS	—C—F—
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

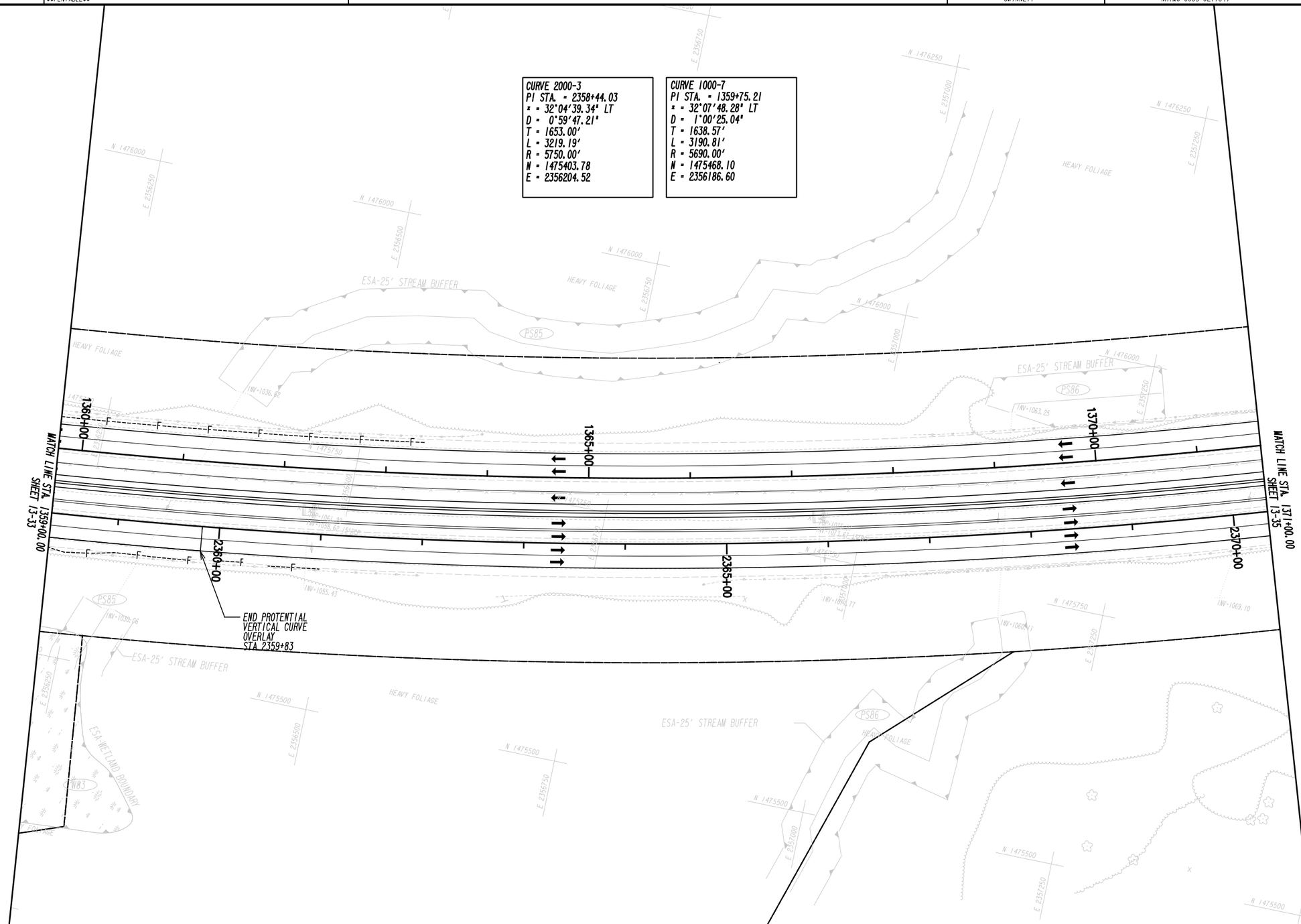
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-33

GPLN

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	C F
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

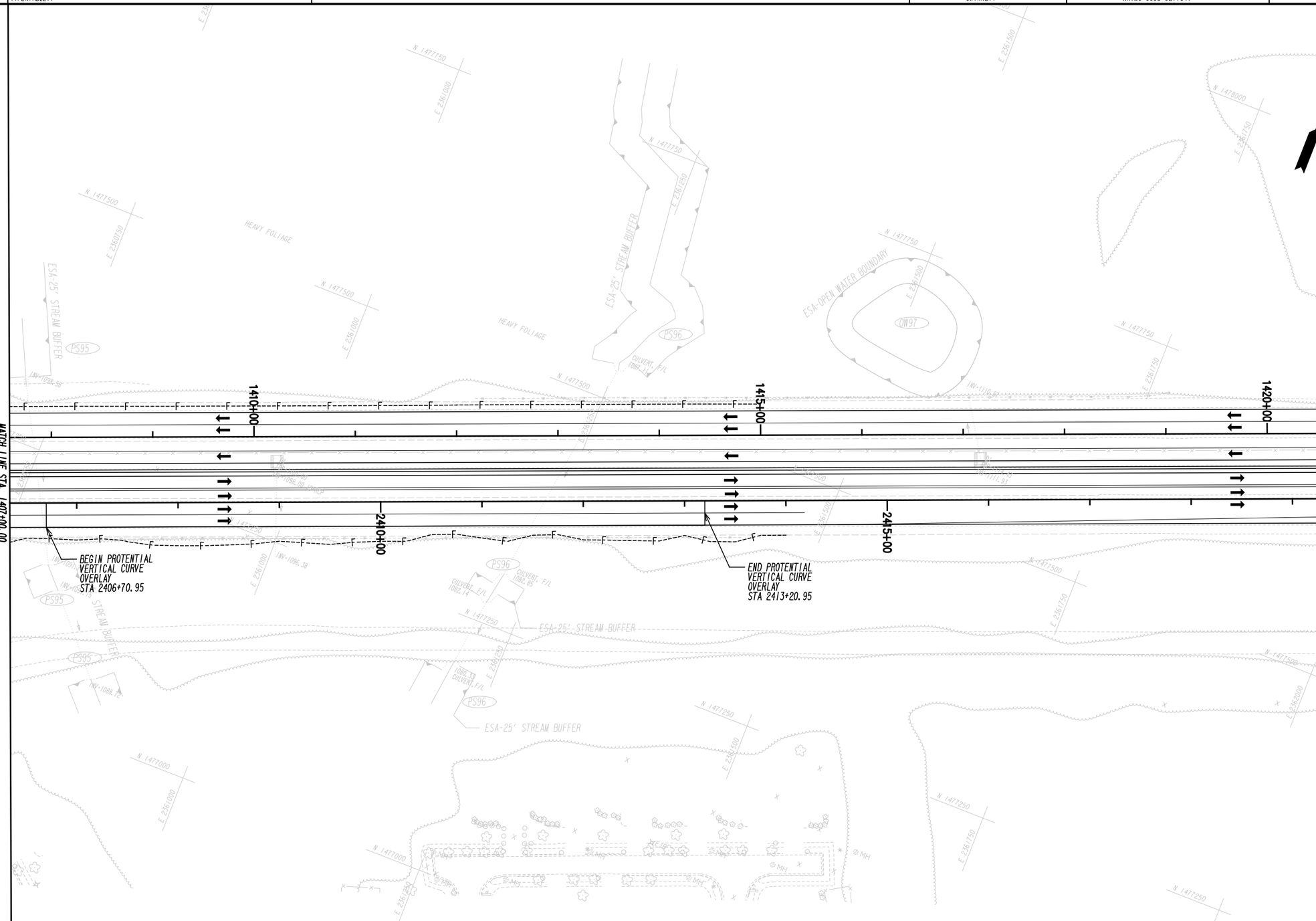
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-34

GPLN

DATETIME$$$ TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$	$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	BEGIN LIMIT OF ACCESS.....BLA	HNTB	COSTING PLANS FOR DESIGN-BUILD
REQUIRED R/W LINE	END LIMIT OF ACCESS.....ELA	3715 NORTHSIDE PARKWAY, NW	SCALE IN FEET
CONSTRUCTION LIMITS	LIMIT OF ACCESS	400 NORTHCREEK, SUITE 600	0 50 100 200
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	R/W AND LIMIT OF ACCESS	ATLANTA, GEORGIA 30327	
EASEMENT FOR CONSTR OF SLOPES	EXISTING R/W LINE		
EASEMENT FOR CONSTR OF DRIVES	OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN		

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

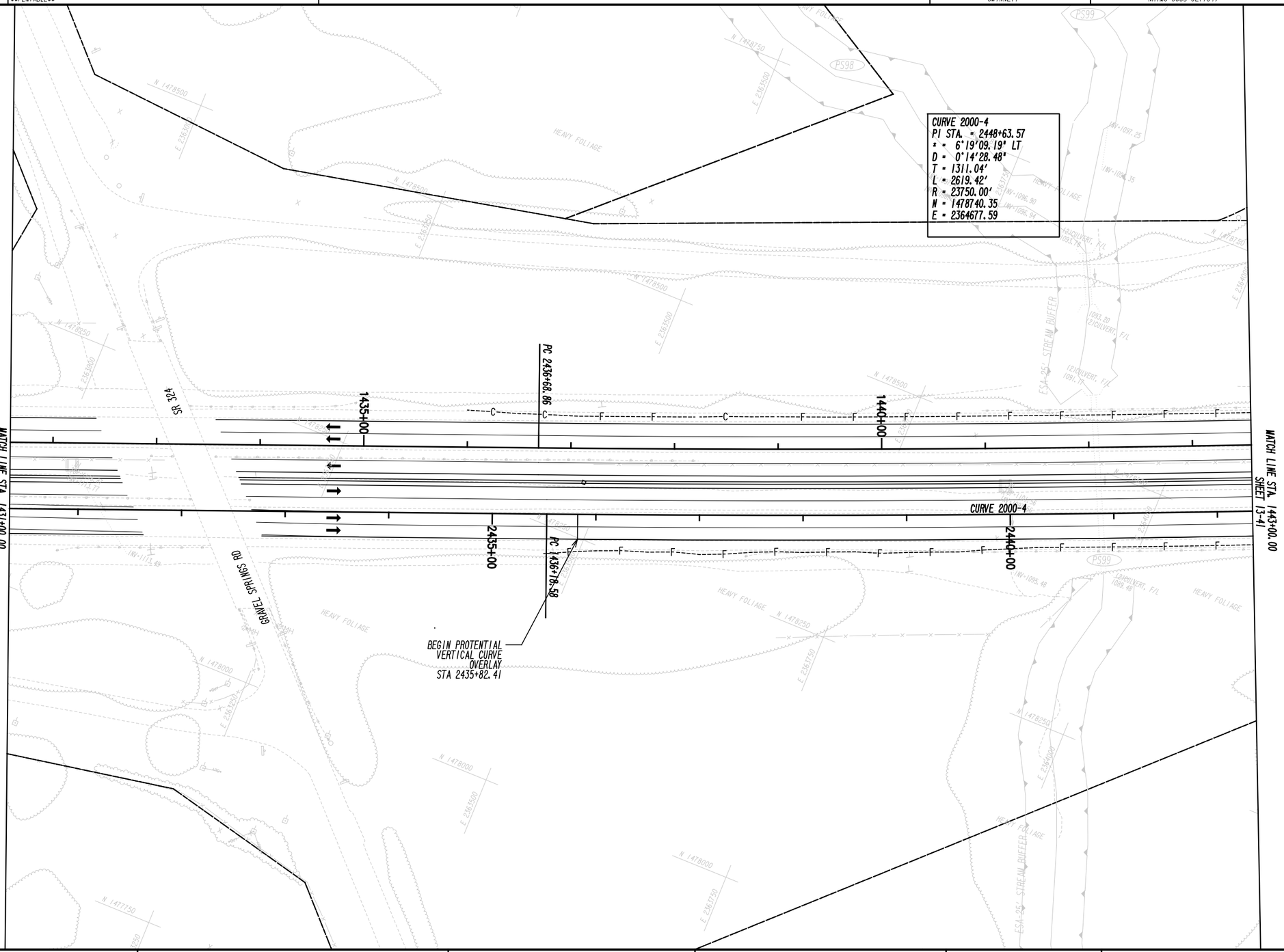
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 13-38

GPLN

DATETIME$$$ TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$	$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	——PL——
REQUIRED R/W LINE	————
CONSTRUCTION LIMITS	--C--F--
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

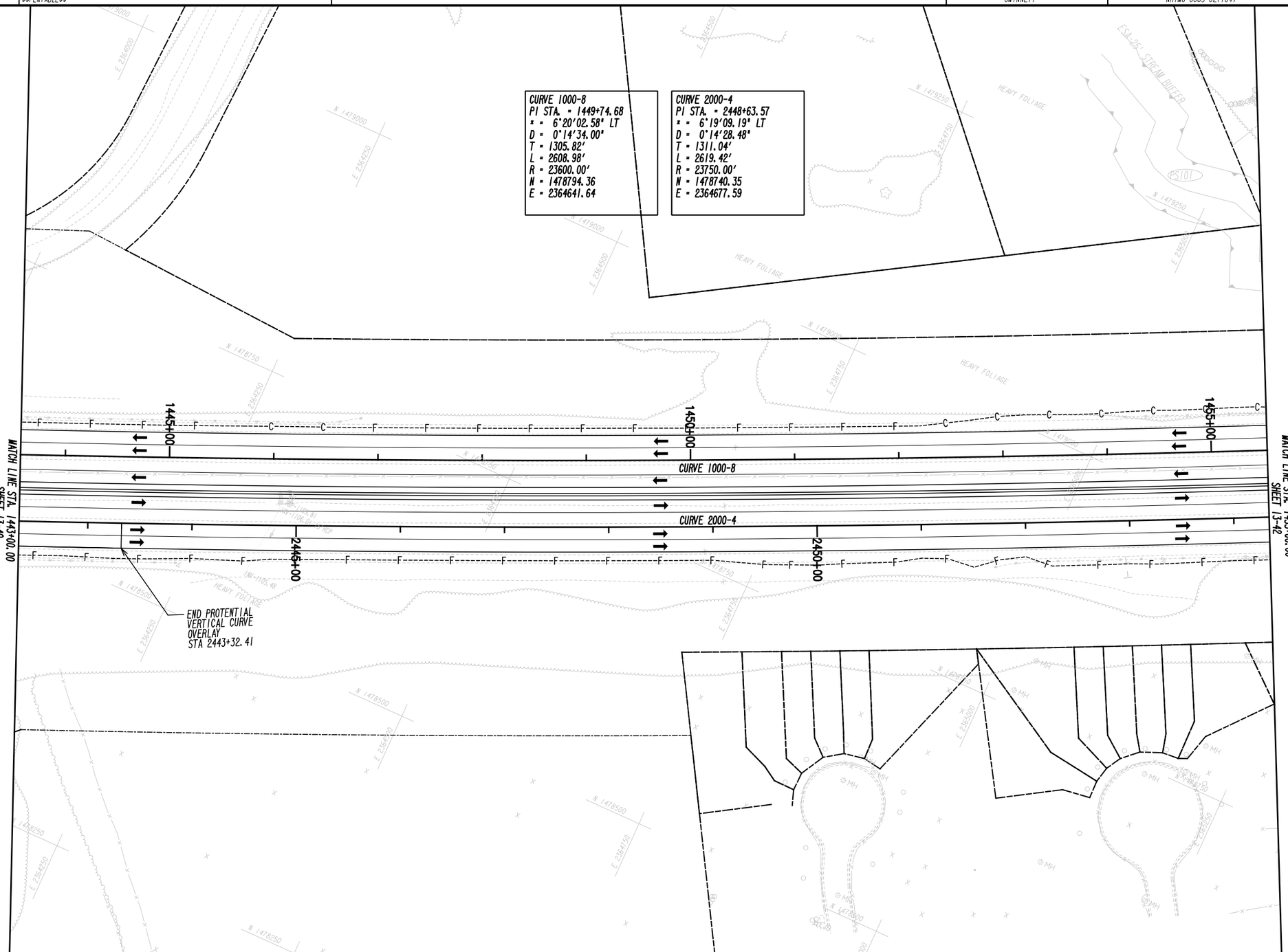
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-40

GPLN

DATETIME$$$ TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$	$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

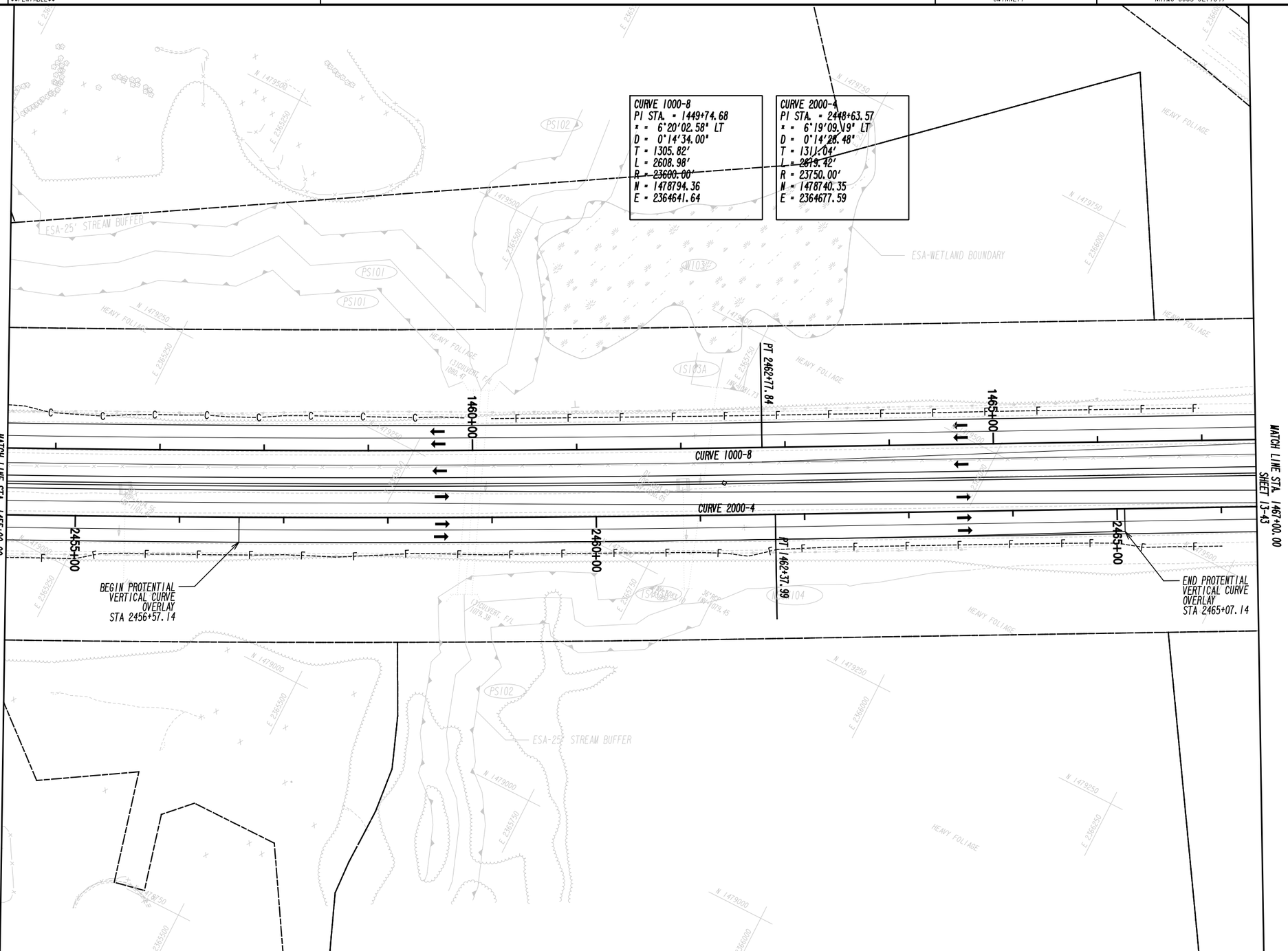
MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-41

GPLN

DATETIME$$$ TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$	$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
R/W AND LIMIT OF ACCESS
EXISTING R/W LINE
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

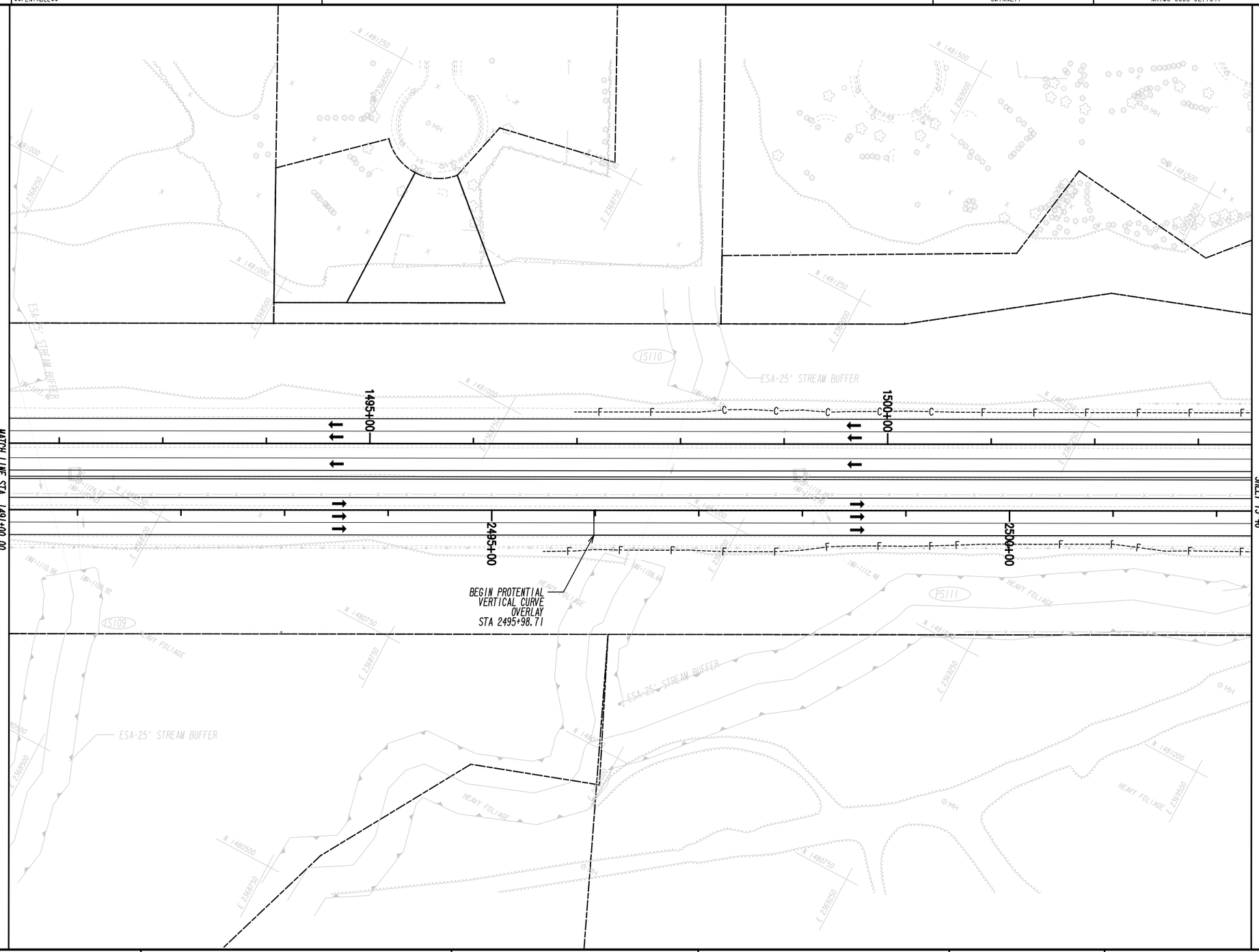
OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-42

DATETIME$$$ TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$	$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		



PROPERTY LINE	——P———
REQUIRED R/W LINE	————
CONSTRUCTION LIMITS	—C—F—
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
13-45

DATETIME$$$ TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$	$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		

PROPERTY LINE	PL
REQUIRED R/W LINE	
CONSTRUCTION LIMITS	C F
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
LIMIT OF ACCESS	
R/W AND LIMIT OF ACCESS	
EXISTING R/W LINE	
OBLITERATE & REMOVE PAVEMENT & GRADE TO DRAIN	

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE IN FEET
0 50 100 200

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

MAINLINE PLAN

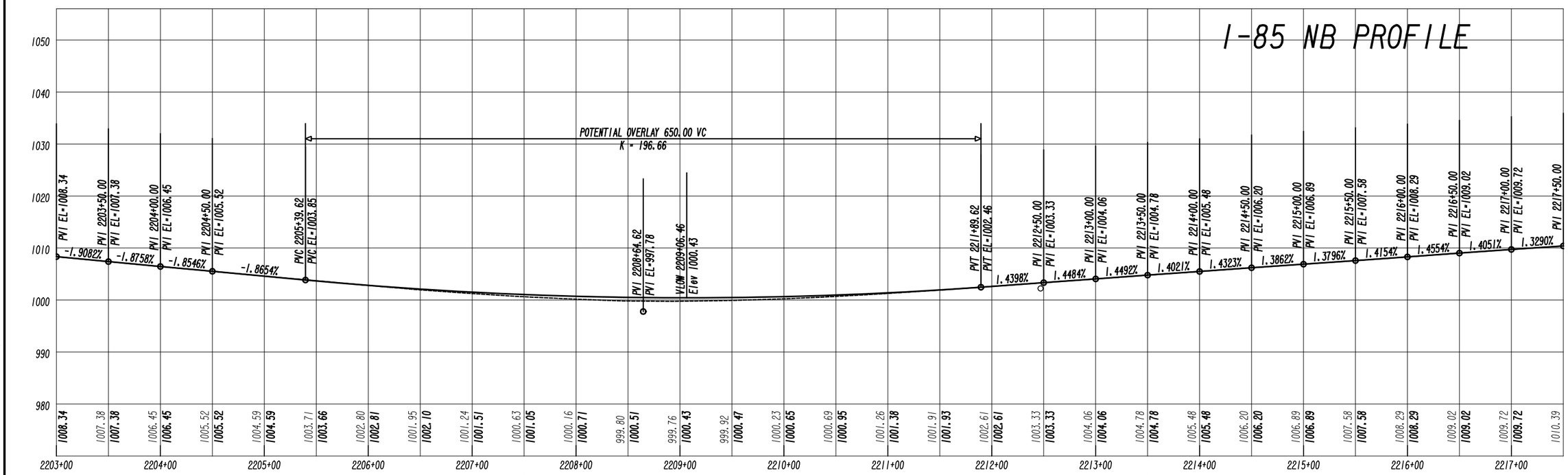
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

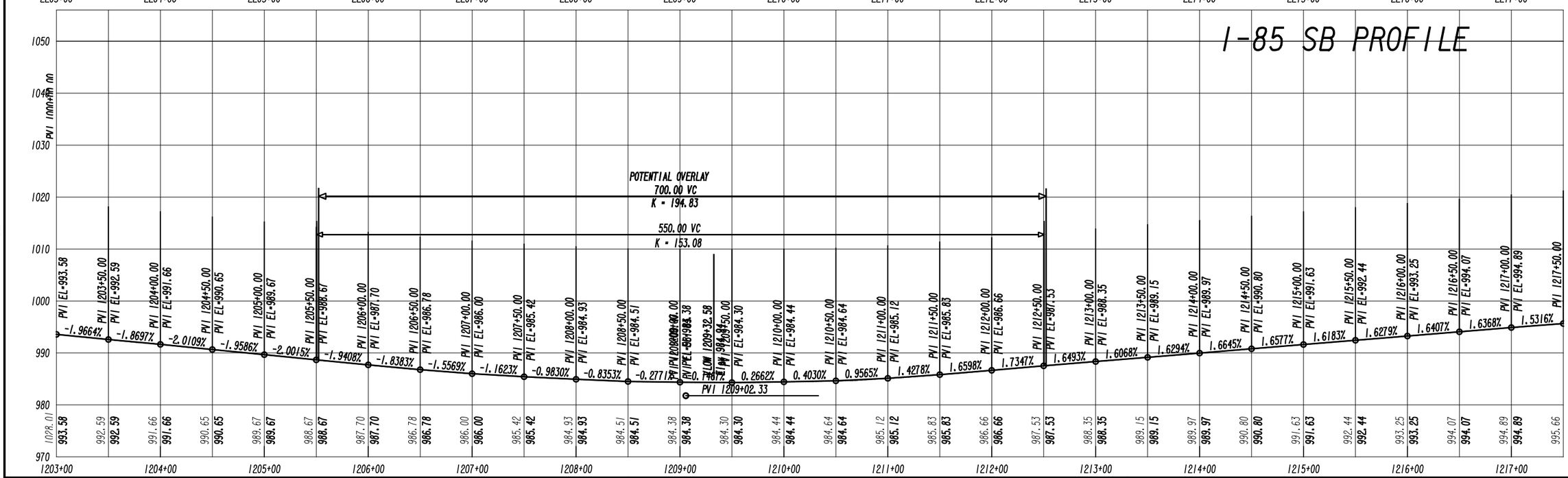
DRAWING No. 13-46

GPLN

Appendix B – Profile

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		





HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE 1 Inch = 10 feet Vert.
SCALE 1 Inch = 50 feet Hortz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

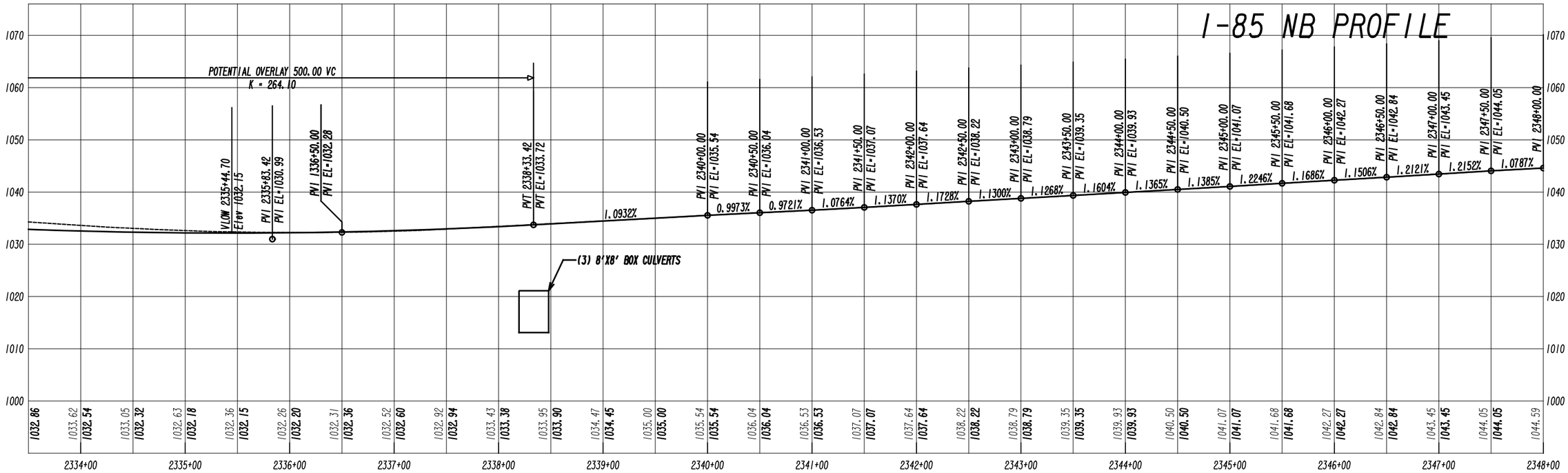
OFFICE:

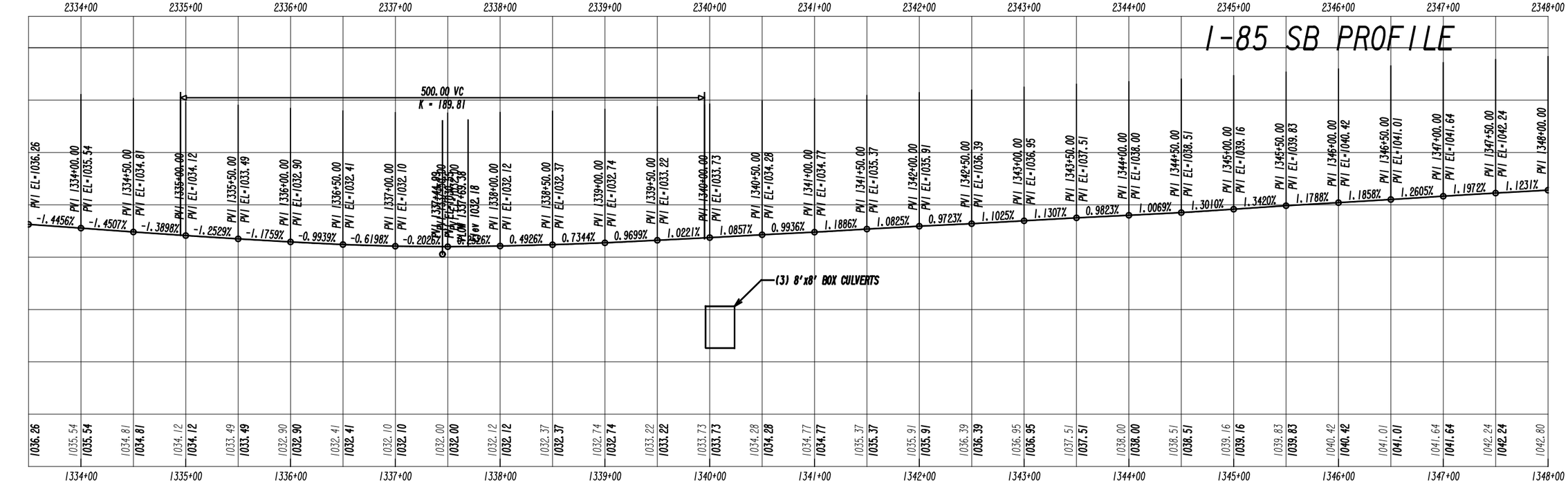
MAINLINE PROFILE

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
15-15

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		





HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE 1 Inch = 10 feet Vert.
SCALE 1 Inch = 50 feet Hortz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

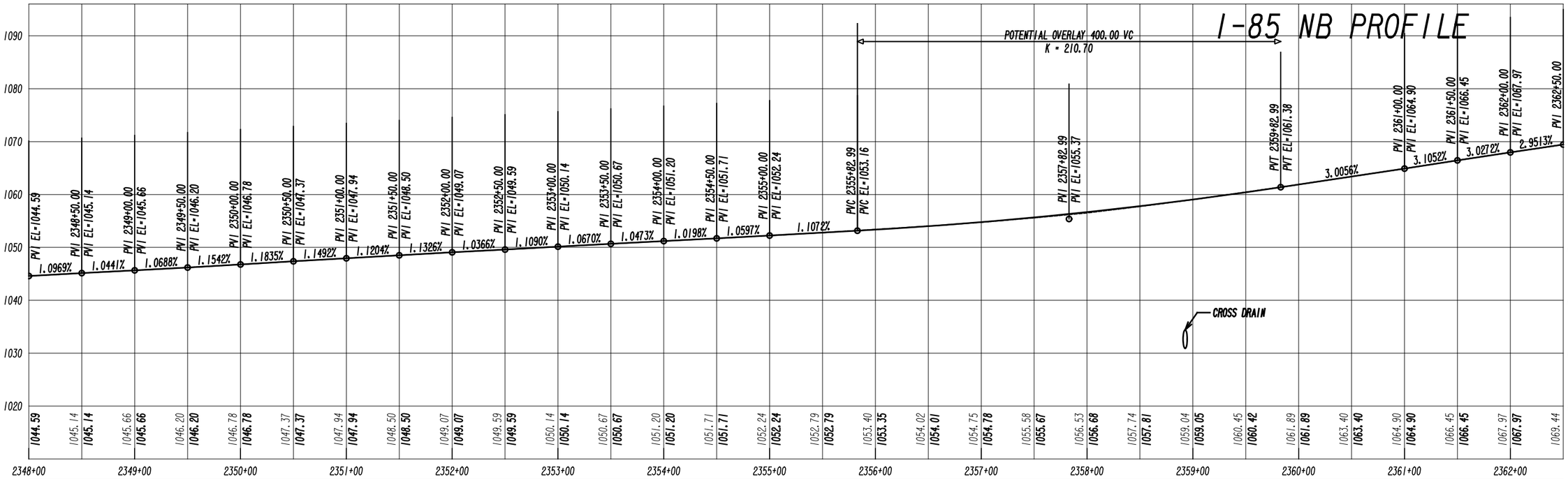
MAINLINE PROFILE

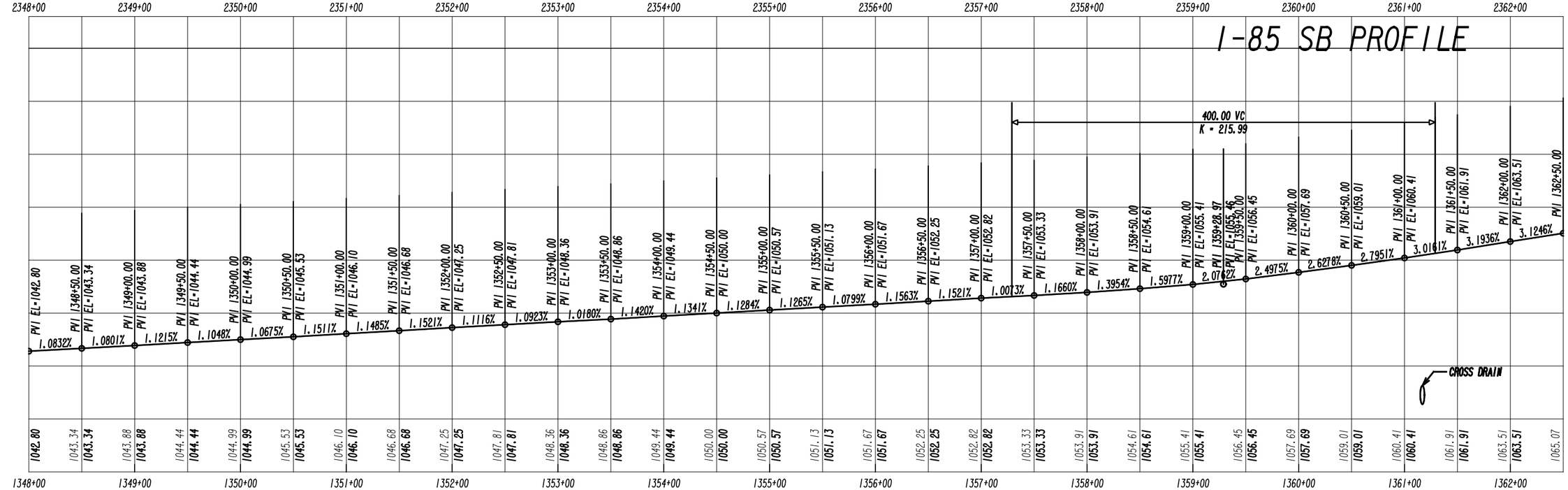
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
15-24

GPLN

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		





HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE 1 Inch = 10 feet Vert.
SCALE 1 Inch = 50 feet Hortz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

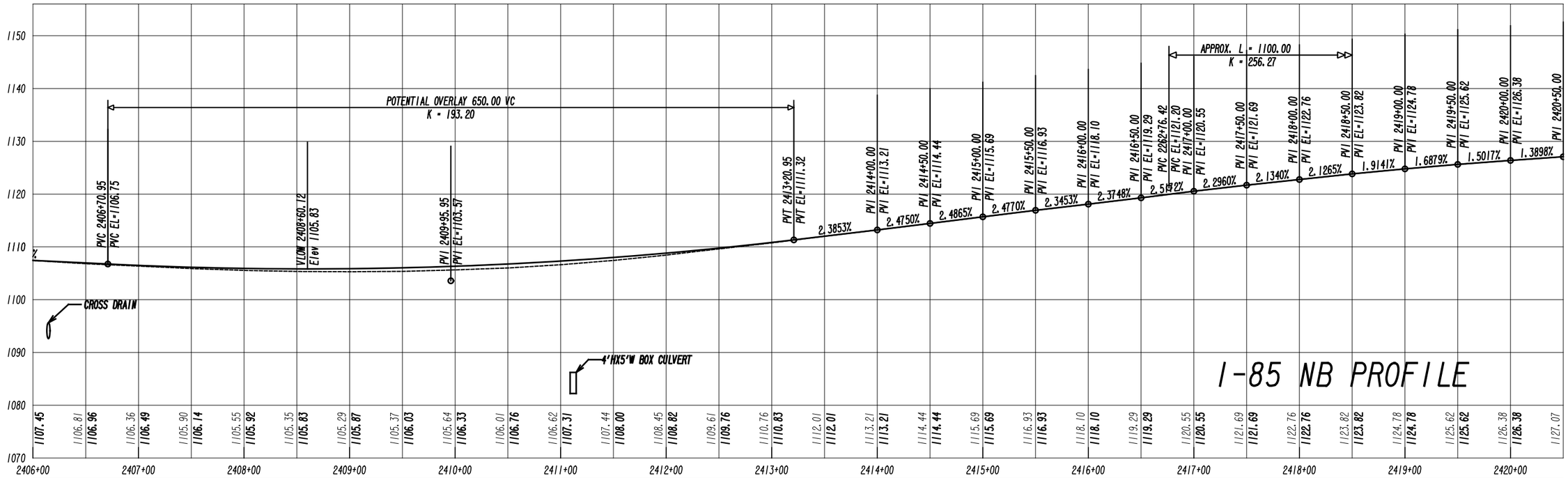
OFFICE:

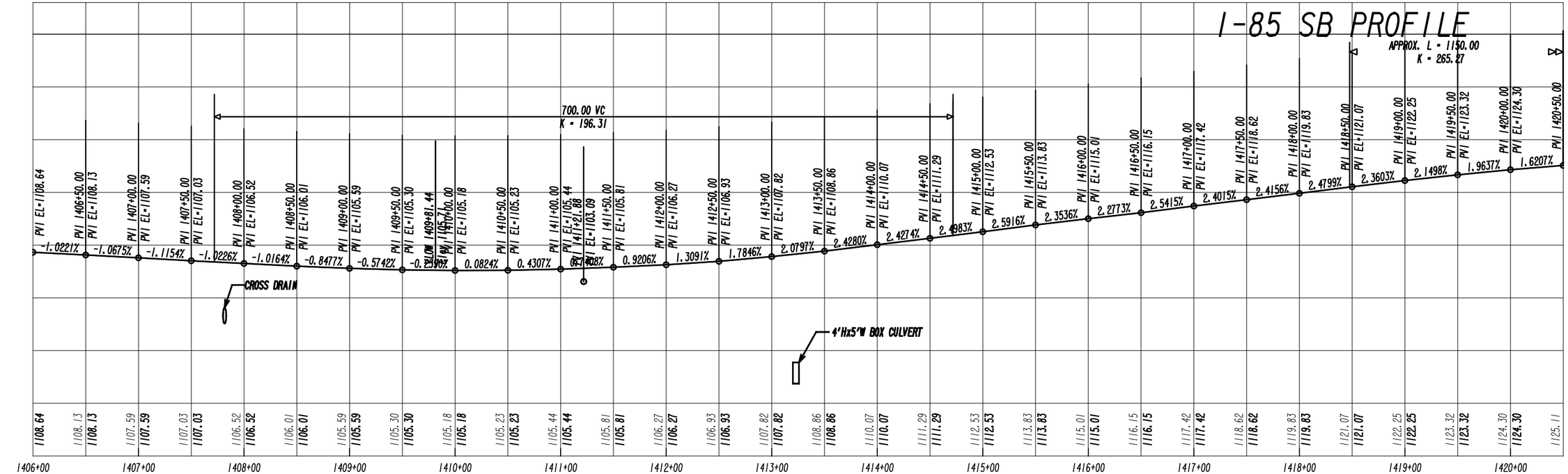
MAINLINE PROFILE

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
15-25

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		





HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE 1 Inch = 10 feet Vert.
SCALE 1 Inch = 50 feet Hortz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

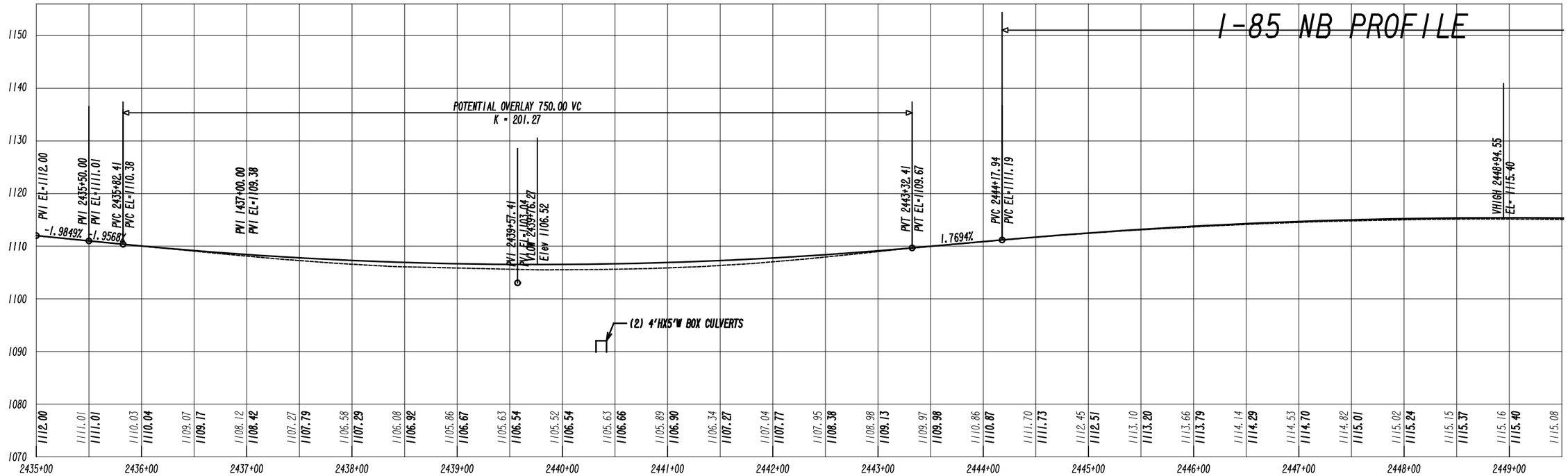
OFFICE:

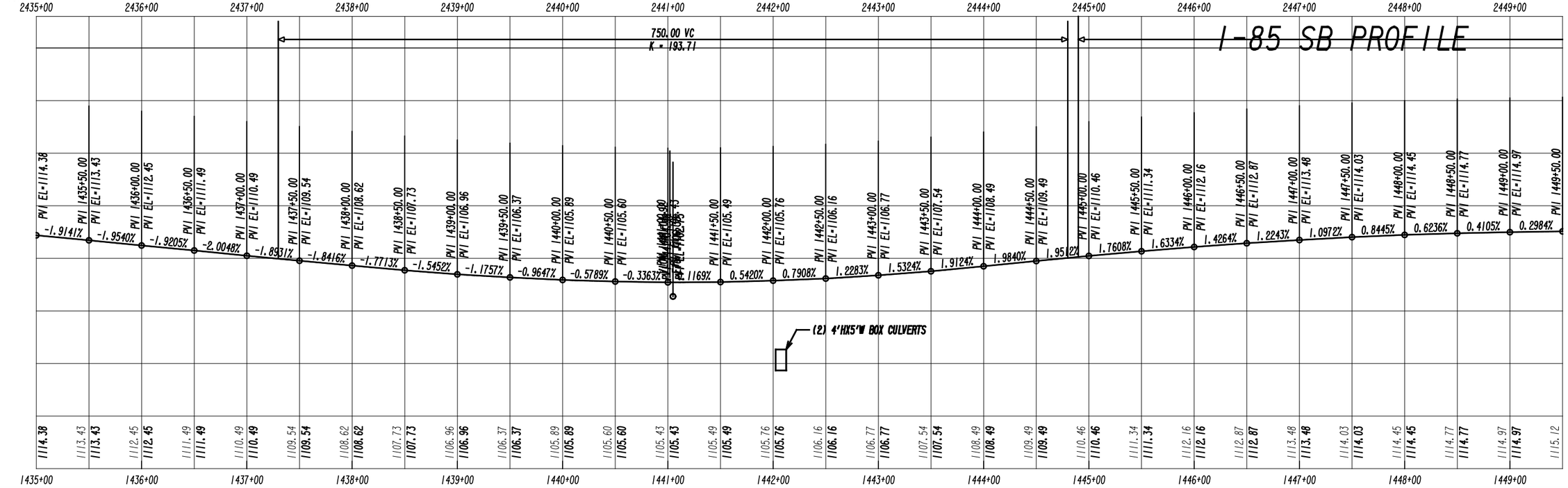
MAINLINE PROFILE

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
15-29

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		1110





HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE 1 Inch = 10 feet Vert.
SCALE 1 Inch = 50 feet Hortz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

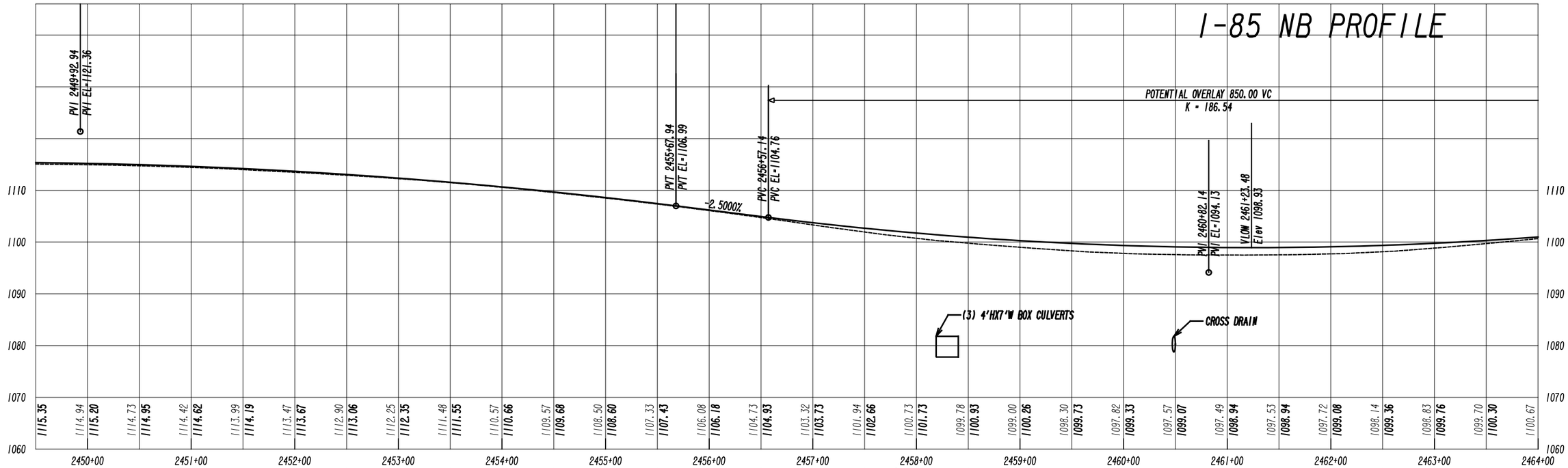
MAINLINE PROFILE

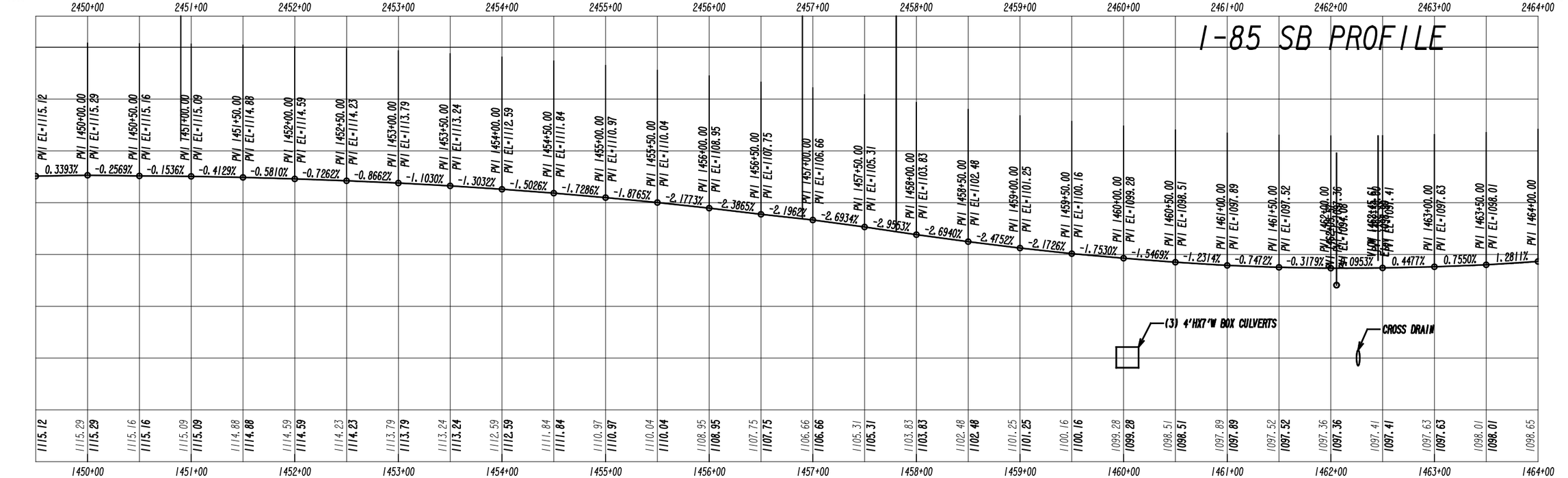
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
15-31

GPLN

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		





HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE 1 Inch = 10 feet Vert.
SCALE 1 Inch = 50 feet Hortz.

REVISION DATES		

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

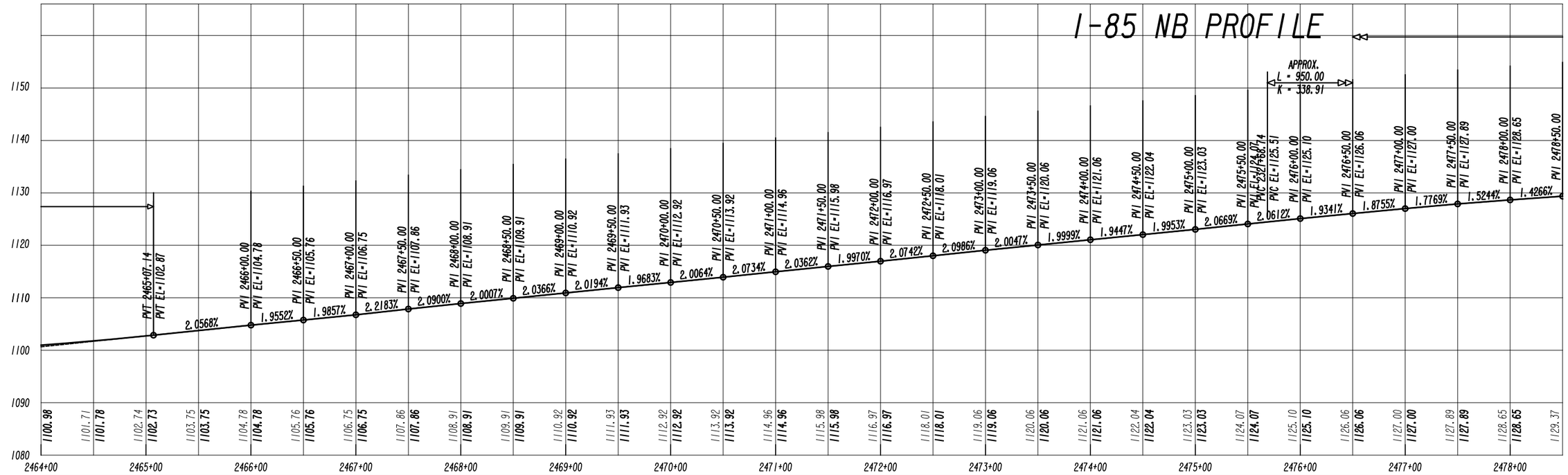
MAINLINE PROFILE

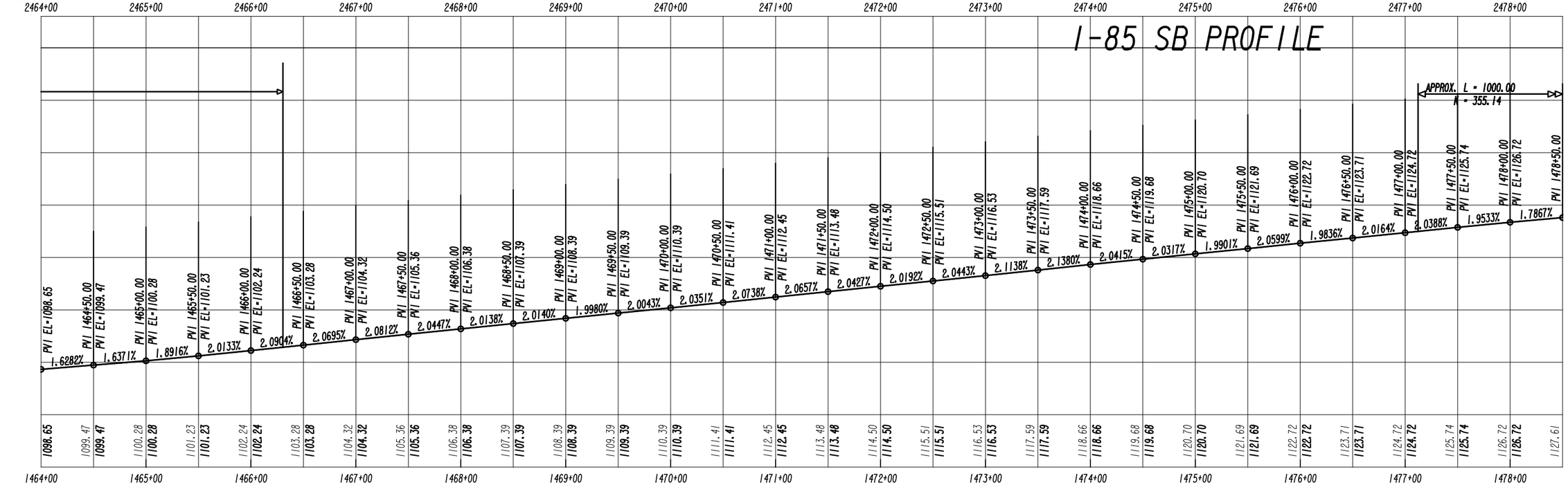
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
15-32

GPLN

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		





HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE 1 Inch = 10 feet Vert.
SCALE 1 Inch = 50 feet Hortz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

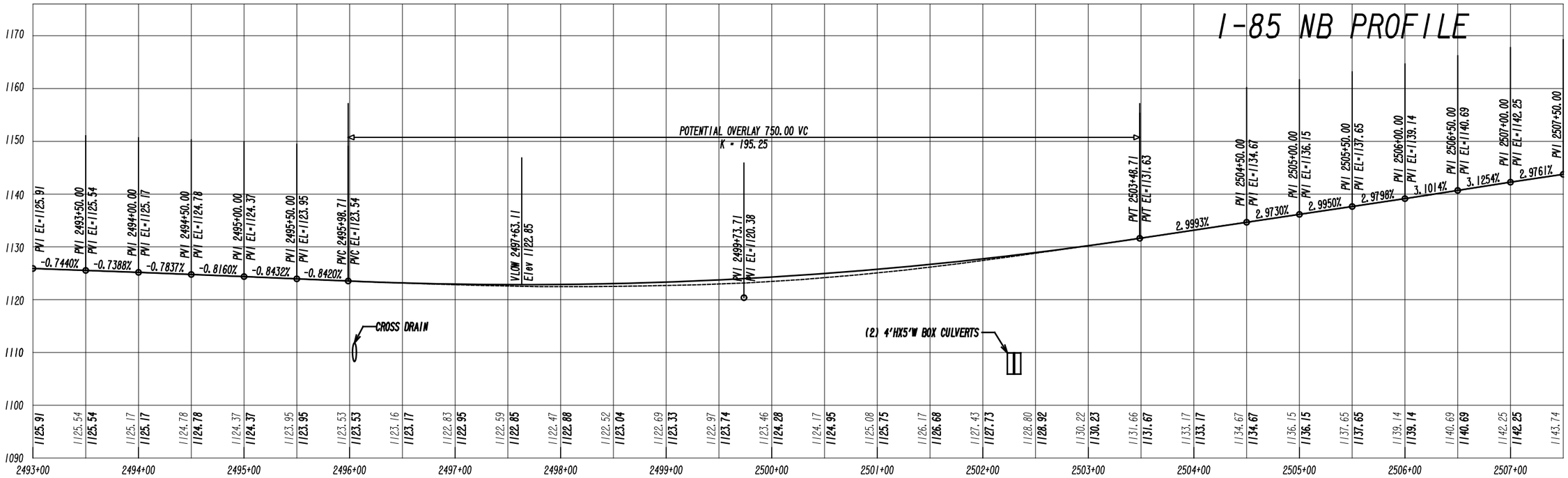
OFFICE:

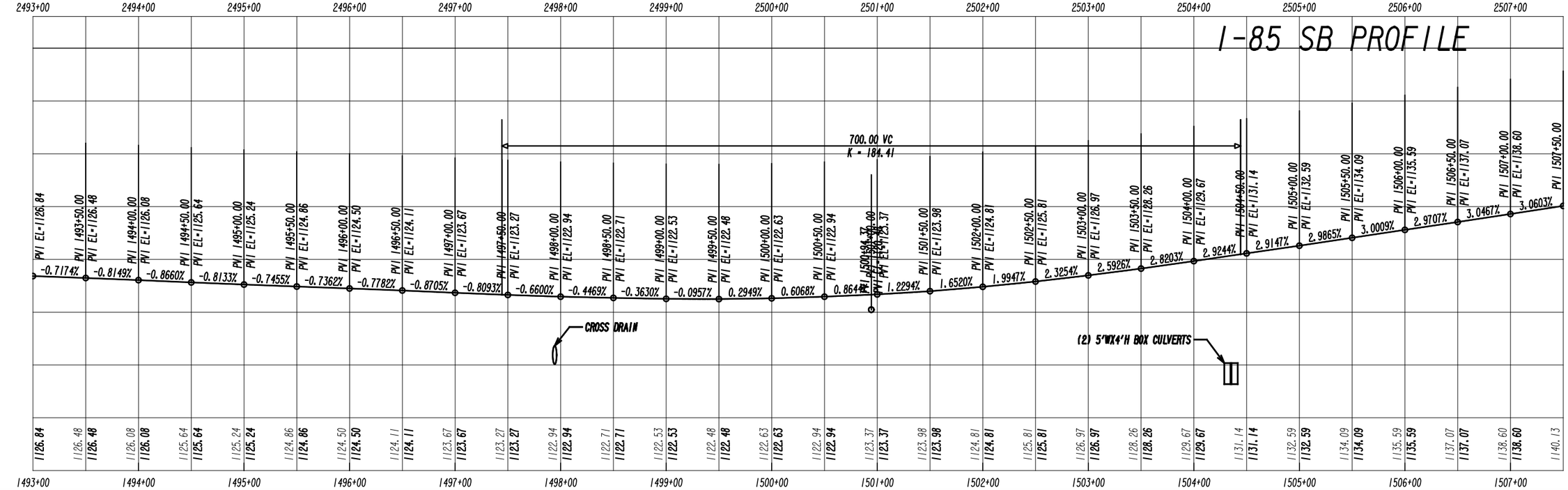
MAINLINE PROFILE

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 15-33

DATETIME$$$	TIME$$$	PRF	DGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		





HNTB

3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

SCALE 1 Inch = 10 feet Vert.
SCALE 1 Inch = 50 feet Hortz.

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

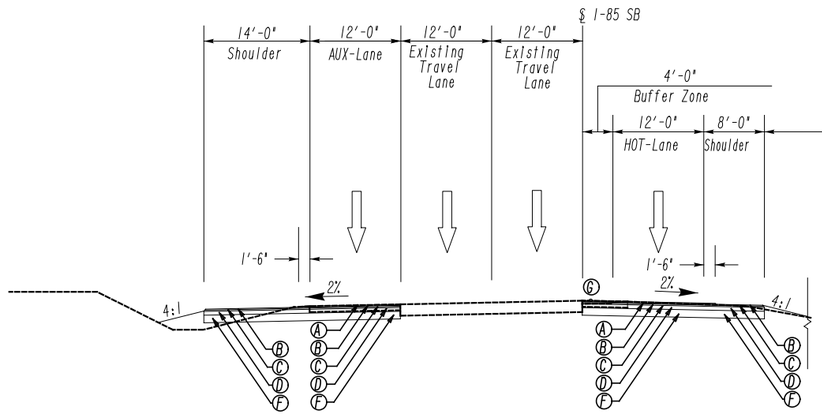
OFFICE:

MAINLINE PROFILE

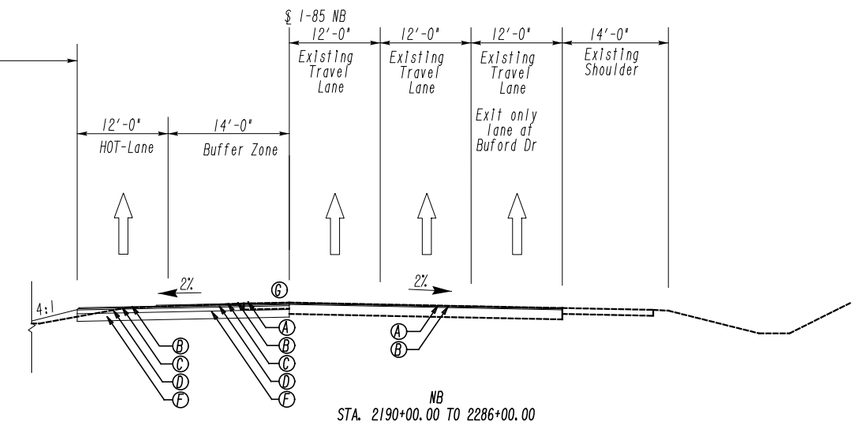
PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
15-35

Appendix C – Typical Section

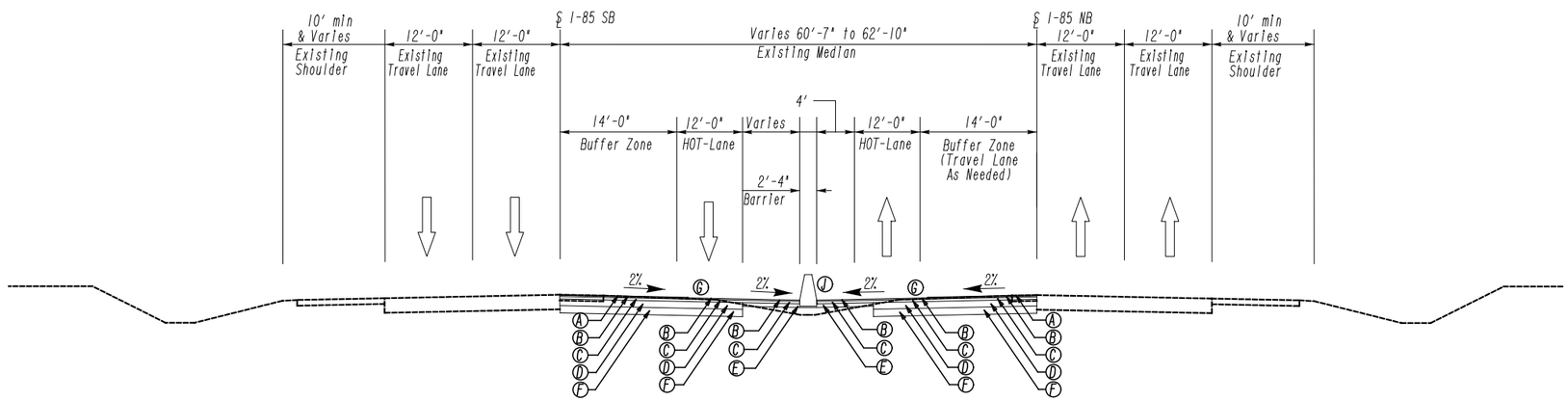


SB
STA. 1193+00.00 TO 1251+00.00



NB
STA. 2190+00.00 TO 2286+00.00

TYPICAL SECTION 7
I-85 MAINLINE



TYPICAL SECTION NO. 8
I-85 MAINLINE

Ⓐ 135 LBS/SY ASPH CONC 12.5 MM PEM, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
Ⓑ 220 LBS/SY ASPH CONC 12.5 MM SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
Ⓒ 275 LBS/SY RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
Ⓓ 1320 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
Ⓔ GRADED AGGREGATE BASE, 6"
Ⓕ GRADED AGGREGATE BASE, 12"
Ⓖ INDENTATION RUMBLE STRIPS
Ⓗ METAL BEAM GUARDRAIL OR CABLE RAILING
Ⓙ CONCRETE BARRIER

SB
STA. 1251+00.00 TO 1308+67.22
STA. 1338+44.65 TO 1343+36.64
STA. 1375+27.45 TO 1519+77.64

NB
STA. 2286+00.00 TO 2307+16.74
STA. 2336+70.46 TO 2341+91.03
STA. 2374+10.22 TO 2518+48.61

NOTE:
1) SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

NO SCALE

REVISION DATES

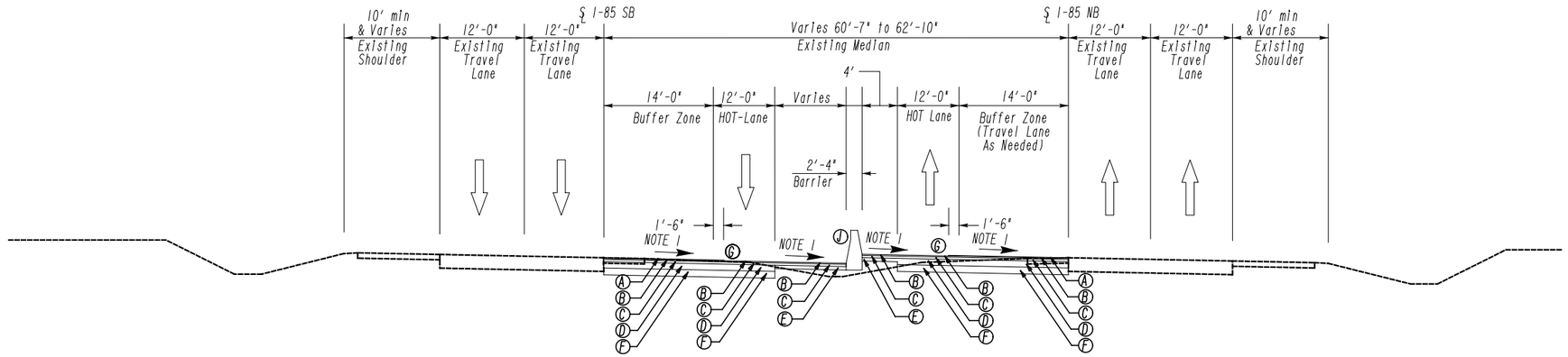
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
5-04

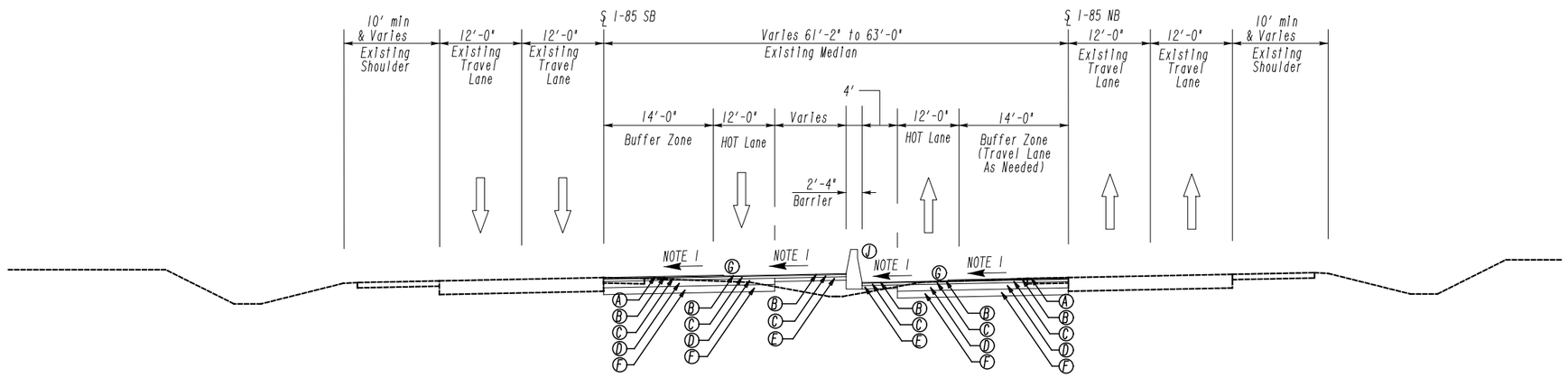
GPLN



TYPICAL SECTION NO. 9
I-85 MAINLINE

SB
STA. 1308+67.22 TO 1338+44.65
STA. 1342+36.64 TO 1376+27.45
STA. 1519+77.64 TO 1531+27.64

NB
STA. 2307+16.74 TO 2336+70.46
STA. 2306+82.79 TO 2338+36.52
STA. 2518+48.61 TO 2530+00.00



TYPICAL SECTION NO. 10
I-85 MAINLINE

SB
STA. 1343+36.64 TO 1375+27.45

NB
STA. 2341+91.03 TO 2374+10.22

Ⓐ 135 LBS/SY ASPH CONC 12.5 MM PEM, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
Ⓑ 220 LBS/SY ASPH CONC 12.5 MM SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
Ⓒ 275 LBS/SY RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
Ⓓ 1320 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
Ⓔ GRADED AGGREGATE BASE, 6"
Ⓕ GRADED AGGREGATE BASE, 12"
Ⓖ INDENTATION RUMBLE STRIPS
Ⓗ METAL BEAM GUARDRAIL OR CABLE RAILING
Ⓙ CONCRETE BARRIER

NOTE:
1) SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

NO SCALE

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No.
5-05

GPLN

Appendix D – Pertinent Accident Summary

TABLE 5
I-85 Mainline, from Old Peachtree Road in GWINNETT COUNTY to SR 211 in BARROW COUNTY
Accident Conditions - Dark-Not Lighted

Accident No	Date	Time	County	Route Type	Route	Milelog	Intersecting Rt Type	Intersecting Rt	Ramp Section	Accidents	Injuries	Fatalities	Collision	Location of Impact	Harmful Event	Light	Surface	DirVeh1	DirVeh2	MnvrVeh1	MnvrVeh2
'84420022	10/24/2008	7:30 PM	Gwinnett	State Route	'040300	12				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	N	Straight	Straight
'70590414	2/20/2007	6:28 AM	Gwinnett	State Route	'040300	12.04				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Straight	Stopped
'52620094	7/25/2005	9:22 PM	Gwinnett	State Route	'040300	12.07				1	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	N		Straight	
'70030195	1/5/2007	9:30 PM	Gwinnett	State Route	'040300	12.09				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	N	Changing Lanes	Straight
'73860426	9/7/2007	5:47 AM	Gwinnett	State Route	'040300	12.18				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion - In Other Roadway	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
'84780303	11/21/2008	5:39 PM	Gwinnett	State Route	'040300	12.18				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
'85290133	12/19/2008	6:47 PM	Gwinnett	State Route	'040300	12.18				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
'85290160	12/19/2008	6:00 PM	Gwinnett	State Route	'040300	12.18				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
'50670473	3/6/2005	9:18 PM	Gwinnett	State Route	'040300	12.23				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
'75100207	11/24/2007	7:48 PM	Gwinnett	State Route	'040300	12.23				1	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	N	N	Straight	Straight
'84220126	9/29/2008	1:38 AM	Gwinnett	State Route	'040300	12.38				1	0	0	Not A Collision With A Motor Vehicle	On Shoulder	Impact Attenuator	Dark-Not Lighted	Dry	N	N	Parked	Straight
'83840187	9/21/2008	1:39 AM	Gwinnett	State Route	'040300	12.43				1	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	N		Straight	
'73470146	8/21/2007	5:57 AM	Gwinnett	State Route	'040300	12.46				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
'52650786	6/22/2005	12:12 AM	Gwinnett	State Route	'040300	12.48				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
'54390142	11/30/2005	8:17 PM	Gwinnett	State Route	'040300	12.48				1	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Stopped	Straight
'60090323	1/12/2006	8:06 PM	Gwinnett	State Route	'040300	12.48				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
'80150422	1/18/2008	5:25 AM	Gwinnett	State Route	'040300	12.48				1	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	S		Straight	
'84380134	10/21/2008	8:51 PM	Gwinnett	State Route	'040300	12.48				1	0	0	Rear End	Ramp	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
'84710446	11/15/2008	9:18 PM	Gwinnett	State Route	'040300	12.48				1	1	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
'62330440	4/12/2006	1:36 AM	Gwinnett	State Route	'040300	12.49				1	1	0	Not A Collision With A Motor Vehicle	On Roadway	Median Barrier	Dark-Not Lighted	Dry	N		Changing Lanes	
'71260040	4/3/2007	4:58 AM	Gwinnett	State Route	'040300	12.66				1	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Straight	Straight
'62570170	7/8/2006	1:15 AM	Gwinnett	State Route	'040300	12.73				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
'85290131	12/19/2008	6:17 PM	Gwinnett	State Route	'040300	12.73				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
'70660713	2/28/2007	9:17 PM	Gwinnett	State Route	'040300	12.81				1	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	S		Straight	
'72330172	6/8/2007	8:55 PM	Gwinnett	State Route	'040300	12.81				1	0	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	N	Straight	Straight
'72540451	6/21/2007	9:35 PM	Gwinnett	State Route	'040300	12.81				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
'80930067	3/13/2008	5:50 AM	Gwinnett	State Route	'040300	12.81			1	1	0	0	Not A Collision With A Motor Vehicle	On Shoulder	Other Fixed Object	Dark-Not Lighted	Dry	S		Changing Lanes	
'81270351	4/1/2008	1:08 AM	Gwinnett	State Route	'040300	12.81				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
'82380112	6/20/2008	4:20 AM	Gwinnett	State Route	'040300	12.81				1	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Median Barrier	Dark-Not Lighted	Dry	S		Backing	
'83390465	8/26/2008	9:58 PM	Gwinnett	State Route	'040300	12.81			1	1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	S	Turning Left	Turning Left
'84070506	10/8/2008	7:49 PM	Gwinnett	State Route	'040300	12.81				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	N	Straight	Stopped
'54130217	11/7/2005	6:14 PM	Gwinnett	State Route	'040300	12.98				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
'60980454	3/23/2006	9:18 PM	Gwinnett	State Route	'040300	12.98				1	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Fixed Object	Dark-Not Lighted	Wet	N		Straight	
'63630007	9/24/2006	9:06 PM	Gwinnett	State Route	'040300	12.98				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	N	Straight	Stopped
'50250431	2/5/2005	4:35 AM	Gwinnett	State Route	'040300	13.48				1	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	S		Straight	
'50270088	2/5/2005	4:35 AM	Gwinnett	State Route	'040300	13.48				1	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	S		Straight	
'51530536	5/15/2005	5:10 AM	Gwinnett	State Route	'040300	13.48				1	1	0	Not A Collision With A Motor Vehicle	Median	Median Barrier	Dark-Not Lighted	Wet	N		Straight	
'51540329	5/15/2005	3:03 AM	Gwinnett	State Route	'040300	13.48				1	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
'52740361	8/2/2005	5:35 AM	Gwinnett	State Route	'040300	13.48				1	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	N		Straight	
'53070190	8/26/2005	1:42 AM	Gwinnett	State Route	'040300	13.48				1	1	0	Not A Collision With A Motor Vehicle	On Shoulder	Median Barrier	Dark-Not Lighted	Dry	N		Straight	
'60230475	1/26/2006	10:43 PM	Gwinnett	State Route	'040300	13.48				1	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Ditch	Dark-Not Lighted	Dry	N		Straight	
'70250411	1/25/2007	6:13 PM	Gwinnett	State Route	'040300	13.48				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
'71190421	3/25/2007	8:31 PM	Gwinnett	State Route	'040300	13.48				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
'75190537	12/1/2007	7:06 PM	Gwinnett	State Route	'040300	13.48				1	0	0	Rear End	Off Roadway	Median Barrier	Dark-Not Lighted	Dry	N	N	Changing Lanes	Parked
'80020462	1/7/2008	6:27 PM	Gwinnett	State Route	'040300	13.48				1	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Other Fixed Object	Dark-Not Lighted	Dry	S		Straight	
'82230493	5/23/2008	9:38 PM	Gwinnett	State Route	'040300	13.48				1	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Wet	S		Straight	
'83620063	9/5/2008	2:02 AM	Gwinnett	State Route	'040300	13.48				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Parked	Negotiating a Curve
'84070497	10/8/2008	8:33 PM	Gwinnett	State Route	'040300	13.48				1	0	0	Rear End	On Roadway	Parked Motor Vehicle	Dark-Not Lighted	Wet	N	N	Backing	Stopped
'84290211	10/21/2008	9:10 PM	Gwinnett	State Route	'040300	13.48				1	1	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Straight	Straight
'85250489	12/20/2008	6:42 AM	Gwinnett	State Route	'040300	13.48				1	0	0	Sideswipe - Same Direction	On Shoulder	Median Barrier	Dark-Not Lighted	Wet	N	N	Passing	Straight
'85360270	12/24/2008	8:31 PM	Gwinnett	State Route	'040300	13.48				1	0	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	S	S	Changing Lanes	Straight
'81110020	2/15/2008	1:36 AM	Gwinnett	State Route	'040300	13.85				1	1	0	Rear End	Off Roadway	Mailbox	Dark-Not Lighted	Dry	N	N	Straight	Straight
'84380139	10/22/2008	10:04 PM	Gwinnett	State Route	'040300	13.85				1	0	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
'64500036	11/12/2006	6:39 PM	Gwinnett	State Route	'040300	13.87				1	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Stopped
'53800192	10/20/2005	9:35 PM	Gwinnett	State Route	'040300	13.98				1	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	N	N	Straight	Straight
'53880594	10/27/2005	6:01 AM	Gwinnett	State Route	'040300	13.98				1	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Median Barrier	Dark-Not Lighted	Dry	S		Straight	
'54140032	11/9/2005	6:00 AM	Gwinnett	State Route	'040300	13.98				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Straight	Stopped
'54180105	11/12/2005	7:00 PM	Gwinnett	State Route	'040300	13.98				1	0	0	Not A Collision With A Motor Vehicle	Median	Median Barrier	Dark-Not Lighted	Dry	N		Straight	
'54580055	12/8/2005	6:39 PM	Gwinnett	State Route	'040300	13.98				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	N	Changing Lanes	Changing Lanes
'60180174	1/29/2006	7:42 PM	Gwinnett	State Route	'040300	13.98				1	1	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
'60500350	2/10/2006	1:35 AM	Gwinnett	State Route	'040300	13.98				1	0	0	Not A Collision With A Motor Vehicle	On Roadway	Guardrail Face	Dark-Not Lighted	Dry	N		Straight	
'72270490	5/31/2007	9:08 PM	Gwinnett	State Route	'040300	13.98				1	0	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Straight	Straight
'81710287	5/9/2008	11:36 PM	Gwinnett	State Route	'040300	13.98				1	1	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	S	S	Straight	Straight
'84780253	11/13/2008	7:36 PM	Gwinnett	State Route	'040300	13.98				1	0	0	Rear End	On Shoulder	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	N	Straight	Straight
'54980312	12/30/2005	5:54 PM	Gwinnett	State Route	'040300	14.01				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Stopped
'64510512	11/9/2006	10:59 PM	Gwinnett	State Route	'040300	14.09				1	0	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
'64300066	10/25/2006	7:20 AM	Gwinnett	State Route	'040300	14.18				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Straight	Stopped
'70160388	1/18/2007	6:46 AM	Gwinnett	State Route	'040300	14.18				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	S	S	Turning Left	Stopped
'51060062	3/14/2005	7:28 PM	Gwinnett	State Route	'040300	14.23				1	1	0	Not A Collision With A Motor Vehicle	Median	Median Barrier	Dark-Not Lighted	Dry	S		Straight	
'50920356	3/15/2005	6:45 PM	Gwinnett	State Route	'040300	14.23				1	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
'72630225	6/29/2007	5:15 AM	Gwinnett	State Route	'040300	14.23				1	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Fixed Object	Dark-Not Lighted	Wet	S		Straight	
'82870164	7/11/2008	5:12 AM	Gwinnett	State Route	'040300	14.23				1	1	0	Head On	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
'54230490	11/10/2005	6:40 PM	Gwinnett	State Route	'040300	14.29				1	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
'80260282	2/3/2008	8:39 PM	Gwinnett	State Route	'040300	14.29				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	N	Straight	Straight
'85480215	12/2/2008	6:04 AM	Gwinnett	State Route	'040300	14.34			1	1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
'85590370	12/24/2008	7:30 PM	Gwinnett	State Route	'040300	14.34			1	1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	S	Changing Lanes	Straight
'52330233	7/7/2005	1:15 AM	Gwinnett	State Route	'040300	14.35				1	1	0	Not A Collision With A Motor Vehicle	Median	Median Barrier	Dark-Not Lighted	Wet	N		Straight	
'54630730	11/4/2005	7:45 PM	Gwinnett	State Route	'040300	14.35				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Straight	Changing Lanes
'60500354	2/17/2006	6:49 PM	Gwinnett	State Route	'040300	14.35			1	1	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
'64270254	11/3/2006	6:28 PM	Gwinnett	State Route	'040300	14.35				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
'64500025	11/12/2006	6:16 PM	Gwinnett	State Route	'040300	14.35				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
'64760297	12/4/2006	6:06 PM	Gwinnett	State Route	'040300	14.35				1	0	0	Not A Collision With A Motor Vehicle	On Roadway	Median Barrier	Dark-Not Lighted	Dry	N		Changing Lanes	
'80290529	2/3/2008	8:39 PM	Gwinnett	State Route	'040300	14.35				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	N	Changing Lanes	Stopped
'60480495	2/13/2006	10:10 PM	Gwinnett	State Route	'040300	14.48				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
'64300021	10/7/2006	3:08 AM	Gwinnett	State Route	'040300	14.48				1	1	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
'72310438	5/6/2007	1:36 AM	Gwinnett	State Route	'040300	14.48				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Straight	Straight
'74630082	10/28/2007	2:34 AM	Gwinnett	State Route	'040300	14.48				1	0	0	Not A Collision With A Motor Vehicle	On Shoulder	Median Barrier	Dark-Not Lighted	Dry	S		Straight	
'82870188	7/22/2008	9:38 PM	Gwinnett	State Route	'040300	14.48				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	S	S	Straight	Backing
'60180499	1/17/2006	6:16 PM	Gwinnett	State Route	'040300	14.56				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	N	Changing Lanes	Straight
'80280051	1/23/2008	7:49 PM	Gwinnett	State Route	'040300	14.56			1	1	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	S		Straight	
'80830027	3/5/2008	11:15 PM	Gwinnett	State Route	'040300	14.67				1	1	0	Angle	Median	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
'82830476	8/3/2008	9:15 PM	Gwinnett	State Route	'040300	14.67				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Straight	Straight
'84990172	11/2/2008	11:10 PM	Gwinnett	State Route	'040300	14.67				1	0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	S		Straight	
'64770552	12/3/2006	8:03 PM	Gwinnett	State Route	'040300	14.73				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
'84630285	10/29/2008	7:37 PM	Gwinnett	State Route	'040300	14.73				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
'64820803	11/22/2006	9:08 PM	Gwinnett	State Route	'040300	14.75				1	1	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
'63780107	9/12/2006	2:09 AM	Gwinnett	State Route	'040300	14.76				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Changing Lanes
'74700060	10/26/2007	11:35 PM	Gwinnett	State Route	'040300	14.76				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Turning Left	Stopped
'75190500	11/30/2007	3:20 AM	Gwinnett	State Route	'040300	14.8				1	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	S	Straight	Straight
'62130372	5/30/2006	11:17 PM	Gwinnett	State Route	'040300	14.95				1	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
'53770218	10/11/2005	8:08 PM	Gwinnett	State Route	'040300	14.98				1	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	S	S	Straight	Straight
'61390038	4/21/2006	10:40 PM	Gwinnett	State Route	'040300	14.98				1	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
'64770464	12/5/2006	3:30 AM	Gwinnett	State Route	'040300	14.98				1	0	0	Not A Collision With A Motor Vehicle	On Roadway	Animal	Dark-Not Lighted	Dry	N		Straight	

TABLE 5
I-85 Mainline, from Old Peachtree Road in GWINNETT COUNTY to SR 211 in BARROW COUNTY
Accident Conditions - Dark-Not Lighted

	'65010171	12/15/2006	7:22 PM	Gwinnett	State Route	'040300	14.98		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Stopped
	'71530436	3/6/2007	12:39 AM	Gwinnett	State Route	'040300	14.98		'		I	1	0	Not A Collision With A Motor Vehicle	On Roadway	Guardrail Face	Dark-Not Lighted	Dry	S		Straight	
	'71580213	4/21/2007	3:49 AM	Gwinnett	State Route	'040300	14.98		'		I	2	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
	'73700493	8/17/2007	10:36 PM	Gwinnett	State Route	'040300	14.98		'		I	0	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
	'74390221	10/12/2007	7:45 PM	Gwinnett	State Route	'040300	14.98		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Stopped
	'75070478	11/24/2007	12:10 AM	Gwinnett	State Route	'040300	14.98		'		I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	S		Straight	
	'75100173	11/25/2007	5:41 PM	Gwinnett	State Route	'040300	14.98		'		I	4	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	N	Straight	Straight
	'80540155	2/15/2008	4:21 AM	Gwinnett	State Route	'040300	14.98		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Straight	Straight
Deficient Sag Curve	'54270125	11/18/2005	7:55 PM	Gwinnett	State Route	'040300	15.19		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Stopped
	'84780249	11/11/2008	10:38 PM	Gwinnett	State Route	'040300	15.23		'		I	1	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
	'74520522	10/17/2007	10:12 PM	Gwinnett	State Route	'040300	15.28		'		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
	'62350517	6/13/2006	2:00 AM	Gwinnett	State Route	'040300	15.3		'		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
	'63040290	8/15/2006	5:15 AM	Gwinnett	State Route	'040300	15.3		'		I	1	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
	'60130067	1/20/2006	7:01 PM	Gwinnett	State Route	'040300	15.48		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Stopped
	'65170387	12/27/2006	8:30 PM	Gwinnett	State Route	'040300	15.48		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Straight	Straight
	'72330280	6/7/2007	5:09 AM	Gwinnett	State Route	'040300	15.48		'		I	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Tree	Dark-Not Lighted	Dry	N		Straight	
	'75080206	11/20/2007	5:55 PM	Gwinnett	State Route	'040300	15.48		'		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
	'81380380	4/5/2008	9:58 PM	Gwinnett	State Route	'040300	15.48		'		I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Wet	N		Straight	
	'80520138	2/15/2008	4:37 AM	Gwinnett	State Route	'040300	15.5		'		I	1	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	N	Straight	Parked
	'60510370	2/28/2006	8:20 PM	Gwinnett	State Route	'040300	15.55		'		I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
	'63430598	9/10/2006	10:27 PM	Gwinnett	State Route	'040300	15.61		'		I	0	0	Not A Collision With A Motor Vehicle	On Shoulder	Guardrail Face	Dark-Not Lighted	Dry	S		Turning Left	
	'50270287	1/29/2005	7:40 AM	Gwinnett	State Route	'040300	15.71		'		I	0	0	Sideswipe - Same Direction	On Shoulder	Parked Motor Vehicle	Dark-Not Lighted	Icy	S	S	Changing Lanes	Parked
Speed Limit Increase	'51510295	5/6/2005	6:13 AM	Gwinnett	State Route	'040300	15.76		'		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
	'63920263	10/9/2006	11:01 PM	Gwinnett	State Route	'040300	15.76		'		I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
	'84630297	10/24/2008	11:36 PM	Gwinnett	State Route	'040300	15.76		'		I	1	0	Not A Collision With A Motor Vehicle	On Shoulder	Guardrail Face	Dark-Not Lighted	Wet	S	S	Changing Lanes	Straight
	'50110595	11/21/2005	6:29 PM	Gwinnett	State Route	'040300	15.8	1	'041900		I	2	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
	'50230214	1/29/2005	12:30 PM	Gwinnett	State Route	'040300	15.8	1	'041900		I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Non-Collision	Dark-Not Lighted	Icy	S		Straight	
	'50350224	2/12/2005	8:26 PM	Gwinnett	State Route	'040300	15.8	1	'041900		I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
	'51450423	5/4/2005	10:43 PM	Gwinnett	State Route	'040300	15.8	1	'041900		I	0	0	Not A Collision With A Motor Vehicle	On Shoulder	Guardrail Face	Dark-Not Lighted	Dry	N		Straight	
	'54060509	11/4/2005	9:05 PM	Gwinnett	State Route	'040300	15.8	1	'041900		I	2	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	E	S	Changing Lanes	Straight
	'54580033	12/8/2005	6:14 PM	Gwinnett	State Route	'040300	15.8	1	'041900		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	N	Straight	Stopped
	'61780422	5/12/2006	3:48 AM	Gwinnett	State Route	'040300	15.8	1	'041900		I	0	0	Not A Collision With A Motor Vehicle	On Shoulder	Highway Traffic Sign Post	Dark-Not Lighted	Dry	N		Straight	
	'62810463	7/31/2006	11:15 PM	Gwinnett	State Route	'040300	15.8	1	'041900		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
	'70860281	3/1/2007	8:46 PM	Gwinnett	State Route	'040300	15.8	1	'041900		I	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Embankment	Dark-Not Lighted	Wet	S		Straight	
	'71560313	4/21/2007	5:51 AM	Gwinnett	State Route	'040300	15.8	1	'041900		I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
	'72020167	5/20/2007	9:33 PM	Gwinnett	State Route	'040300	15.8	1	'041900		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
	'72790206	7/10/2007	5:07 AM	Gwinnett	State Route	'040300	15.8	1	'041900		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Straight	Straight
	'73470174	8/21/2007	11:30 PM	Gwinnett	State Route	'040300	15.8	1	'041900		I	0	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Turning Left	Turning Left
	'73730279	9/6/2007	2:16 AM	Gwinnett	State Route	'040300	15.8	1	'041900		I	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Tree	Dark-Not Lighted	Dry	S		Straight	
	'75510126	12/13/2007	2:11 AM	Gwinnett	State Route	'040300	15.8	1	'041900		I	2	0	Not A Collision With A Motor Vehicle	Off Roadway	Ditch	Dark-Not Lighted	Dry	N		Straight	
	'80630276	2/21/2008	8:11 PM	Gwinnett	State Route	'040300	15.8	1	'041900		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	N	Straight	Stopped
	'84650080	11/13/2008	6:38 PM	Gwinnett	State Route	'040300	15.8	1	'041900		I	0	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Passing	Straight
	'85470075	12/21/2008	4:46 AM	Gwinnett	State Route	'040300	15.8	1	'041900		I	1	1	Not A Collision With A Motor Vehicle	Off Roadway	Tree	Dark-Not Lighted	Wet	N		Straight	
	'85360321	12/28/2008	7:08 PM	Gwinnett	State Route	'040300	15.8	1	'041900		I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
	'51220451	4/16/2005	5:09 AM	Gwinnett	State Route	'040300	15.85	1	'041900		I	2	0	Not A Collision With A Motor Vehicle	Off Roadway	Embankment	Dark-Not Lighted	Dry	N		Straight	
	'52900329	7/31/2005	4:30 AM	Gwinnett	State Route	'040300	15.85	1	'041900		I	1	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
	'52970445	8/20/2005	10:10 PM	Gwinnett	State Route	'040300	15.85	1	'041900		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
	'54510480	12/4/2005	9:26 PM	Gwinnett	State Route	'040300	15.85	1	'041900		I	2	0	Not A Collision With A Motor Vehicle	Off Roadway	Overturn	Dark-Not Lighted	Wet	N		Changing Lanes	
	'54510486	12/4/2005	5:50 AM	Gwinnett	State Route	'040300	15.85	1	'041900		I	0	0	Not A Collision With A Motor Vehicle	On Shoulder	Guardrail End	Dark-Not Lighted	Wet	N		Negotiating a Curve	
	'54780011	12/16/2005	4:49 AM	Gwinnett	State Route	'040300	15.85	1	'041900		I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Icy	N	N	Straight	Straight
	'54830244	12/22/2005	8:22 PM	Gwinnett	State Route	'040300	15.85	1	'041900		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
	'54880039	12/22/2005	7:21 PM	Gwinnett	State Route	'040300	15.85	1	'041900		I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	N	N	Turning Left	Turning Left
	'60180413	1/23/2006	5:27 AM	Gwinnett	State Route	'040300	15.85	1	'041900		I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	S	S	Changing Lanes	Straight
	'62980418	8/8/2006	12:42 AM	Gwinnett	State Route	'040300	15.85	1	'041900		I	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Other Fixed Object	Dark-Not Lighted	Dry	N		Straight	
	'62980427	8/8/2006	4:16 AM	Gwinnett	State Route	'040300	15.85	1	'041900		I	4	0	Not A Collision With A Motor Vehicle	Off Roadway	Overturn	Dark-Not Lighted	Dry	N		Changing Lanes	
	'63100410	8/18/2006	10:04 PM	Gwinnett	State Route	'040300	15.85	1	'041900		I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
	'70440150	2/9/2007	7:00 PM	Gwinnett	State Route	'040300	15.85	1	'041900		I	0	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
	'73190533	8/3/2007	4:24 AM	Gwinnett	State Route	'040300	15.85	1	'041900		I	1	0	Not A Collision With A Motor Vehicle	On Roadway	Median Barrier	Dark-Not Lighted	Dry	N		Straight	
	'73430059	8/14/2007	11:56 PM	Gwinnett	State Route	'040300	15.85	1	'041900		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Stopped
	'74090598	9/21/2007	8:16 PM	Gwinnett	State Route	'040300	15.85	1	'041900		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
	'74120354	9/28/2007	8:12 PM	Gwinnett	State Route	'040300	15.85	1	'041900		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
	'75620094	12/18/2007	9:17 PM	Gwinnett	State Route	'040300	15.85	1	'041900		I	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Median Barrier	Dark-Not Lighted	Dry	N		Straight	
	'65280390	12/5/2006	2:56 AM	Gwinnett	State Route	'040300	15.89		'		I	1	0	Not A Collision With A Motor Vehicle	Median	Median Barrier	Dark-Not Lighted	Dry	N		Straight	
	'54670680	12/19/2005	7:10 PM	Gwinnett	State Route	'040300	15.92		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
	'51540285	5/15/2005	5:11 AM	Gwinnett	State Route	'040300	15.98		'		I	0	0	Not A Collision With A Motor Vehicle	On Shoulder	Guardrail Face	Dark-Not Lighted	Wet	S		Straight	
	'53080505	8/28/2005	4:44 AM	Gwinnett	State Route	'040300	15.98		'		I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
	'70240370	1/31/2007	2:10 AM	Gwinnett	State Route	'040300	15.98		'		I	2	0	Not A Collision With A Motor Vehicle	Ramp	Median Barrier	Dark-Not Lighted	Dry	N		Turning Left	
	'74470365	10/20/2007	12:03 AM	Gwinnett	State Route	'040300	15.98		'		I	0	0	Not A Collision With A Motor Vehicle	On Shoulder	Guardrail Face	Dark-Not Lighted	Dry	N		Straight	
	'74890073	11/8/2007	2:35 AM	Gwinnett	State Route	'040300	15.98		'		I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
	'53780468	10/15/2005	8:30 PM	Gwinnett	State Route	'040300	16.04		'		I	1	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
	'64230360	11/1/2006	5:50 AM	Gwinnett	State Route	'040300	16.04		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Straight	Straight
	'54830136	12/27/2005	8:30 PM	Gwinnett	State Route	'040300	16.07		'		I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	S		Straight	
	'53600675	10/7/2005	2:35 AM	Gwinnett	State Route	'040300	16.08		'		I	1	0	Angle	On Roadway	Motor Vehicle in Motion - In Other Roadway	Dark-Not Lighted	Wet	N	N	Changing Lanes	Straight
	'50670511	3/5/2005	3:45 AM	Gwinnett	State Route	'040300	16.1		'		I	1	0	Not A Collision With A Motor Vehicle	On Roadway	Ditch	Dark-Not Lighted	Wet	N		Straight	
	'73450417	8/16/2007	10:54 PM	Gwinnett	State Route	'040300	16.13		'		I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
	'54670751	12/24/2005	5:30 AM	Gwinnett	State Route	'040300	16.17		'		I	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Embankment	Dark-Not Lighted	Dry	N		Straight	
	'50360468	2/14/2005	6:38 AM	Gwinnett	State Route	'040300	16.19		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	S	S	Straight	Straight
	'52190156	6/19/2005	10:07 PM	Gwinnett	State Route	'040300	16.19		'		I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
	'85160069	12/6/2008	5:56 PM	Gwinnett	State Route	'040300	16.19		'		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Straight	Straight
	'53710458	10/14/2005	8:10 PM	Gwinnett	State Route	'040300	16.35		'		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Stopped
	'80040430	1/4/2008	10:15 PM	Gwinnett	State Route	'040300	16.35		'		I	0	0	Not A Collision With A Motor Vehicle	On Shoulder	Guardrail Face	Dark-Not Lighted	Dry	N		Straight	
	'82380235	6/25/2008	4:24 AM	Gwinnett	State Route	'040300	16.47		'		I	0	0	Sideswipe - Same Direction	Off Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	W	N	Turning Right	Parked
	'54780009	12/15/2005	6:54 AM	Gwinnett	State Route	'040300	16.48		'		I	1	0	Not A Collision With A Motor Vehicle	On Roadway	Embankment	Dark-Not Lighted	Wet	S		Straight	
	'81090173	3/22/2008	7:31 PM	Gwinnett	State Route	'040300	16.48		'		I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
Deficient Sag Curve	'50430014	2/17/2005	6:15 AM	Gwinnett	State Route	'040300	16.8		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Straight	Stopped
	'75730118	12/31/2007	6:16 AM	Gwinnett	State Route	'040300	16.8		'		I	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Embankment	Dark-Not Lighted	Wet	S		Straight	
	'60430154	2/11/2006	3:35 AM	Gwinnett	State Route	'040300	16.85		'		I	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Tree	Dark-Not Lighted	Wet	N		Straight	
	'60460601	**2/13/2006**	**6:59 PM**	**Gwinnett**	**State Route**	**'040300**	**16.85**		'		**I**	**0**	**0**	**Rear End**	**On Roadway**	**Motor Vehicle in Motion**	**Dark-Not Lighted**	**Dry**	**N**	**N**	**Straight**	**Straight**
	'70590258	2/18/2007	5:20 AM	Gwinnett	State Route	'040300	16.89		'		I	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Tree	Dark-Not Lighted	Dry	N		Straight	
	'50250607	2/3/2005	7:10 AM	Gwinnett	State Route	'040300	16.98		'		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	S	S	Straight	Stopped
	'73990532	9/16/2007	6:14 AM	Gwinnett	State Route	'040300	16.98		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Changing Lanes
	'84380304	11/2/2008	3:07 AM	Gwinnett	State Route	'040300	17.02		'		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Changing Lanes	Straight
	'70160478	1/17/2007	7:20 AM	Gwinnett	State Route	'040300	17.09		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Straight	Straight
	'74740484	11/2/2007	9:15 PM	Gwinnett	State Route	'040300	17.09		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
	'50410494	2/17/2005	9:20 PM	Gwinnett	State Route	'040300	17.19		'		I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Straight	Straight
	'54060487	11/7/2005	12:30 AM	Gwinnett	State Route	'040300	17.19		'		I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Straight
	'62910147	8/5/2006	2:53 AM	Gwinnett	State Route	'040300	17.19		'		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	S	S	Straight	Straight
	'70920144	3/9/2007	11:27 PM	Gwinnett	State Route	'040300	17.19		'		I	2	0	Sideswipe - Same Direction	On Roadway	Guardrail Face	Dark-Not Lighted	Dry	N	N	Straight	Straight
	'75070461	11/24/2007	12:08 AM	Gwinnett	State Route	'040300	17.19		'		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Straight	Straight
	'81020470	3/20/2008	9:52 PM	Gwinnett	State Route	'040300	17.19		'		I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Changing Lanes	Changing Lanes
	'84780309	11/21/2008	6:24 PM	Gwinnett	State Route	'040300	17.19		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight
	'72450067	6/15/2007	5:13 AM	Gwinnett	State Route	'040300	17.2		'		I	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Embankment	Dark-Not Lighted	Wet	S		Straight	
	'75440346	12/9/2007	6:39 PM	Gwinnett	State Route	'040300	17.29		'		I	1	0	Not A Collision With A Motor Vehicle	On Shoulder	Guardrail Face	Dark-Not Lighted	Dry	S		Changing Lanes	
	'81380403	4/4/2008	8:14 PM	Gwinnett	State Route	'040300	17.37		'		I	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Other Non-Collision	Dark-Not Lighted	Wet	S	S	Changing Lanes	Straight
	'53710531	10/13/2005	7:15 AM	Gwinnett	State Route	'040300	17.44		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S	Straight	Changing Lanes

TABLE 5
I-85 Mainline, from Old Peachtree Road in GWINNETT COUNTY to SR 211 in BARROW COUNTY
Accident Conditions - Dark-Not Lighted

'54280379	11/22/2005	2:45 AM	Gwinnett	State Route	'040300	17.44					I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	S			Straight	
'52500139	7/17/2005	3:30 AM	Gwinnett	State Route	'040300	17.48					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	N		Changing Lanes	Straight
'63900047	8/13/2006	12:08 AM	Gwinnett	State Route	'040300	17.5					I	3	1	Not A Collision With A Motor Vehicle	On Roadway	Overturn	Dark-Not Lighted	Dry	S			Straight	
'52660484	7/30/2005	2:45 AM	Gwinnett	State Route	'040300	17.69					I	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Tree	Dark-Not Lighted	Wet	S			Changing Lanes	
'53060167	8/23/2005	8:10 PM	Gwinnett	State Route	'040300	17.69					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	S	S		Straight	Straight
'60080041	1/9/2006	7:10 AM	Gwinnett	State Route	'040300	17.69					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Stopped
'60130193	1/18/2006	6:32 AM	Gwinnett	State Route	'040300	17.69					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Straight	Straight
'60120865	1/23/2006	4:00 AM	Gwinnett	State Route	'040300	17.69					I	2	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	S	S		Straight	Straight
'62420226	7/1/2006	4:10 AM	Gwinnett	State Route	'040300	17.69					I	2	0	Not A Collision With A Motor Vehicle	On Roadway	Guardrail Face	Dark-Not Lighted	Dry	S			Changing Lanes	
'63190506	8/26/2006	3:48 AM	Gwinnett	State Route	'040300	17.69					I	1	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Changing Lanes	Straight
'71440070	4/10/2007	6:33 AM	Gwinnett	State Route	'040300	17.69					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Stopped
'75070383	11/23/2007	4:10 AM	Gwinnett	State Route	'040300	17.69					I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Animal	Dark-Not Lighted	Dry	N			Straight	
'84710412	11/20/2008	6:18 PM	Gwinnett	State Route	'040300	17.69					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Straight	Stopped
'85270325	12/22/2008	8:13 PM	Gwinnett	State Route	'040300	17.69					I	3	0	Not A Collision With A Motor Vehicle	On Roadway	Other Non-Collision	Dark-Not Lighted	Dry	S			Straight	
'85240196	12/16/2008	6:15 PM	Gwinnett	State Route	'040300	17.85					I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	N		Straight	Stopped
'50950067	3/26/2005	11:42 PM	Gwinnett	State Route	'040300	17.87					I	4	0	Not A Collision With A Motor Vehicle	Off Roadway	Overturn	Dark-Not Lighted	Wet	N			Straight	
'84460002	11/5/2008	11:10 PM	Gwinnett	State Route	'040300	17.89					I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	N			Straight	
'53400168	9/18/2005	5:55 AM	Gwinnett	State Route	'040300	17.9			1		I	0	0	Angle	On Shoulder	Parked Motor Vehicle	Dark-Not Lighted	Dry	N	N		Straight	Parked
'54440212	12/2/2005	6:42 PM	Gwinnett	State Route	'040300	17.9					I	1	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
'60510126	3/1/2006	6:33 AM	Gwinnett	State Route	'040300	17.9					I	1	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Changing Lanes	Straight
'60760155	3/5/2006	8:02 PM	Gwinnett	State Route	'040300	17.9					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
'61180010	4/3/2006	10:16 PM	Gwinnett	State Route	'040300	17.9					I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	S			Straight	
'74890158	11/10/2007	6:05 AM	Gwinnett	State Route	'040300	17.94					I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Animal	Dark-Not Lighted	Dry	S			Straight	
'80170667	11/21/2008	8:30 PM	Gwinnett	State Route	'040300	17.94					I	0	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Changing Lanes	Straight
'71290415	4/1/2007	8:42 PM	Gwinnett	State Route	'040300	17.99					I	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Tree	Dark-Not Lighted	Wet	S			Straight	
'70630113	1/5/2007	7:54 AM	Gwinnett	State Route	'040300	18.09					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	S	S		Straight	Straight
'81400009	4/14/2008	6:23 AM	Gwinnett	State Route	'040300	18.09					I	2	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
'63590673	9/19/2006	6:20 AM	Gwinnett	State Route	'040300	18.12					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	S	S		Straight	Stopped
'64570383	11/16/2006	6:20 AM	Gwinnett	State Route	'040300	18.12					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	S	S		Straight	Stopped
'64610319	11/25/2006	7:24 PM	Gwinnett	State Route	'040300	18.12					I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
'64610341	11/26/2006	6:01 PM	Gwinnett	State Route	'040300	18.12					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Stopped
'71010399	3/16/2007	9:51 PM	Gwinnett	State Route	'040300	18.12					I	0	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Changing Lanes	Straight
'84620251	11/9/2008	6:28 PM	Gwinnett	State Route	'040300	18.16					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
'54290540	11/26/2005	5:00 AM	Gwinnett	State Route	'040300	18.17					I	0	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
'80010073	1/2/2008	6:33 PM	Gwinnett	State Route	'040300	18.17					I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Straight	Straight
'54830137	12/27/2005	9:27 PM	Gwinnett	State Route	'040300	18.18					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Backing	Stopped
'50050132	1/11/2005	6:27 AM	Gwinnett	State Route	'040300	18.19					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Stopped
'54760660	12/16/2005	5:02 AM	Gwinnett	State Route	'040300	18.19					I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	S	S		Straight	Straight
'60310438	2/4/2006	6:57 PM	Gwinnett	State Route	'040300	18.19					I	0	0	Not A Collision With A Motor Vehicle	On Shoulder	Guardrail Face	Dark-Not Lighted	Dry	S			Changing Lanes	
'64600175	11/22/2006	7:45 PM	Gwinnett	State Route	'040300	18.19					I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Straight	Straight
'74210081	10/2/2007	6:37 AM	Gwinnett	State Route	'040300	18.19					I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Stopped
'81030063	3/18/2008	6:40 AM	Gwinnett	State Route	'040300	18.19					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Stopped
'81450306	4/17/2008	2:47 AM	Gwinnett	State Route	'040300	18.19					I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	N			Turning Left	
'83270314	8/24/2008	8:43 PM	Gwinnett	State Route	'040300	18.19					I	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Culvert	Dark-Not Lighted	Wet	S			Changing Lanes	
'83840184	9/20/2008	4:08 AM	Gwinnett	State Route	'040300	18.19					I	2	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Straight	Straight
'85020096	12/5/2008	6:13 AM	Gwinnett	State Route	'040300	18.19					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
'50270290	1/29/2005	12:36 AM	Gwinnett	State Route	'040300	18.2					I	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Median Barrier	Dark-Not Lighted	Icy	S			Straight	
'60130156	1/19/2006	6:43 AM	Gwinnett	State Route	'040300	18.2					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
'64490624	11/12/2006	6:56 PM	Gwinnett	State Route	'040300	18.2					I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Stopped
'80890108	3/9/2008	2:47 PM	Gwinnett	State Route	'040300	18.2					I	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Other Fixed Object	Dark-Not Lighted	Dry	N			Straight	
'83820213	9/12/2008	10:48 PM	Gwinnett	State Route	'040300	18.2					I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	S			Turning Left	
'83930489	9/30/2008	5:53 AM	Gwinnett	State Route	'040300	18.2					I	0	0	Sideswipe - Same Direction	On Shoulder	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Changing Lanes	Changing Lanes
'85160058	12/8/2008	5:35 AM	Gwinnett	State Route	'040300	18.2					I	1	0	Not A Collision With A Motor Vehicle	On Shoulder	Guardrail Face	Dark-Not Lighted	Dry	S			Straight	
'60920621	3/16/2006	7:23 PM	Gwinnett	State Route	'040300	18.24					I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	S			Straight	
'83220019	8/17/2008	8:51 PM	Gwinnett	State Route	'040300	18.29					I	0	0	Not A Collision With A Motor Vehicle	On Shoulder	Guardrail Face	Dark-Not Lighted	Dry	N			Straight	
'72440415	6/11/2007	5:53 AM	Gwinnett	State Route	'040300	18.3					I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Animal	Dark-Not Lighted	Dry	S			Straight	
'82320307	6/8/2008	12:45 AM	Gwinnett	State Route	'040300	18.39					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Straight	Straight
'85290232	12/23/2008	8:16 PM	Gwinnett	State Route	'040300	18.39					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Straight	Stopped
'85290206	12/24/2008	8:16 PM	Gwinnett	State Route	'040300	18.39					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Straight	Stopped
'50050145	1/11/2005	6:45 AM	Gwinnett	State Route	'040300	18.44			1		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Stopped
'52800385	8/5/2005	1:17 AM	Gwinnett	State Route	'040300	18.44			1		I	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Culvert	Dark-Not Lighted	Dry	S			Negotiating a Curve	
'53150034	8/31/2005	6:24 AM	Gwinnett	State Route	'040300	18.44			1		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Stopped
'60080049	1/10/2006	6:30 AM	Gwinnett	State Route	'040300	18.44			1		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
'84890474	11/24/2008	8:58 PM	Gwinnett	State Route	'040300	18.5					I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	N		Changing Lanes	Straight
'50350264	2/12/2005	8:03 PM	Gwinnett	State Route	'040300	18.51			1		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Straight	Straight
'50810688	3/14/2005	7:56 PM	Gwinnett	State Route	'040300	18.51					I	0	0	Not A Collision With A Motor Vehicle	On Shoulder	Guardrail Face	Dark-Not Lighted	Dry	N			Straight	
'64720207	11/30/2006	6:25 AM	Gwinnett	State Route	'040300	18.6					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	S	S		Straight	Stopped
'52900328	8/1/2005	9:07 PM	Gwinnett	State Route	'040300	18.69			1		I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Straight	Straight
'53150116	8/30/2005	6:10 AM	Gwinnett	State Route	'040300	18.69			1		I	1	0	Not A Collision With A Motor Vehicle	Ramp	Guardrail Face	Dark-Not Lighted	Wet	S			Turning Right	
'53870602	10/25/2005	3:19 AM	Gwinnett	State Route	'040300	18.69			1		I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Animal	Dark-Not Lighted	Dry	N			Straight	
'60010415	1/1/2006	6:07 PM	Gwinnett	State Route	'040300	18.69			1		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	N		Straight	Straight
'60600260	2/26/2006	3:31 AM	Gwinnett	State Route	'040300	18.69					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Straight	Straight
'61230686	4/6/2006	3:07 AM	Gwinnett	State Route	'040300	18.69					I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	S			Straight	
'61600288	5/4/2006	9:50 PM	Gwinnett	State Route	'040300	18.69					I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Straight	Straight
'62240306	6/17/2006	9:30 PM	Gwinnett	State Route	'040300	18.69			1		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	E	E		Straight	Straight
'64700227	11/29/2006	11:00 PM	Gwinnett	State Route	'040300	18.69			1		I	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Guardrail Face	Dark-Not Lighted	Wet	N			Straight	
'71190266	3/27/2007	4:30 AM	Gwinnett	State Route	'040300	18.7					I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Non-Collision	Dark-Not Lighted	Dry	N	S		Straight	Straight
'75100171	11/26/2007	4:45 AM	Gwinnett	State Route	'040300	18.7					I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	S	S		Straight	Straight
'80540220	2/15/2008	5:52 AM	Gwinnett	State Route	'040300	18.7					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Stopped
'84080034	9/29/2008	11:28 PM	Gwinnett	State Route	'040300	18.7					I	1	0	Not A Collision With A Motor Vehicle	Median	Median Barrier	Dark-Not Lighted	Wet	S			Changing Lanes	
'54330127	11/28/2005	4:41 PM	Gwinnett	State Route	'040300	18.85					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	S	S		Straight	Straight
'54330128	11/28/2005	6:41 AM	Gwinnett	State Route	'040300	18.85					I	2	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	S	S		Straight	Straight
'84640500	11/12/2008	5:35 PM	Gwinnett	State Route	'040300	18.95					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Straight	Straight
'50150541	1/27/2005	8:31 PM	Gwinnett	State Route	'040300	19.03					I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Changing Lanes	Straight
'64610339	11/26/2006	5:55 PM	Gwinnett	State Route	'040300	19.07					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
Deficient Sag Curve '50410418	2/15/2005	6:39 AM	Gwinnett	State Route	'040300	19.2					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	S	S		Straight	Stopped
'51260095	4/20/2005	6:23 AM	Gwinnett	State Route	'040300	19.2					I	0	0	Not A Collision With A Motor Vehicle	Median	Other Non-Collision	Dark-Not Lighted	Dry	N			Straight	
'63790481	10/1/2006	10:00 PM	Gwinnett	State Route	'040300	19.2					I	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Passing	Straight
'80170675	**1/22/2008**	**5:20 PM**	**Gwinnett**	**State Route**	**'040300**	**19.2**					**I**	**0**	**0**	**Rear End**	**On Roadway**	**Motor Vehicle in Motion**	**Dark-Not Lighted**	**Wet**	**N**	**N**		**Straight**	**Stopped**
'80520136	2/17/2008	1:50 AM	Gwinnett	State Route	'040300	19.2					I	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Ditch	Dark-Not Lighted	Dry	N			Straight	
'84320235	10/25/2008	9:24 PM	Gwinnett	State Route	'040300	19.2					I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	N			Straight	
'84320236	**10/25/2008**	**9:24 PM**	**Gwinnett**	**State Route**	**'040300**	**19.2**					**I**	**0**	**0**	**Rear End**	**On Roadway**	**Motor Vehicle in Motion**	**Dark-Not Lighted**	**Dry**	**N**	**N**		**Straight**	**Straight**
'53880636	10/27/2005	8:30 PM	Gwinnett	State Route	'040300	19.22					I	2	0	Not A Collision With A Motor Vehicle	Off Roadway	Ditch	Dark-Not Lighted	Dry	N			Straight	
'60480405	2/16/2006	4:34 AM	Gwinnett	State Route	'040300	19.22					I	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Curb	Dark-Not Lighted	Dry	N			Straight	
'64860634	12/8/2006	12:18 AM	Gwinnett	State Route	'040300	19.22					I	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Tree	Dark-Not Lighted	Dry	S			Straight	
'51220409	4/14/2005	2:00 AM	Gwinnett	State Route	'040300	19.23					I	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
'53640342	10/9/2005	5:20 AM	Gwinnett	State Route	'040300	19.3					I	2	0	Not A Collision With A Motor Vehicle	On Shoulder	Guardrail Face	Dark-Not Lighted	Dry	N			Straight	
Deficient Sag Curve '50270289	1/29/2005	4:09 AM	Gwinnett	State Route	'040300	19.7					I	0	0	Angle	On Shoulder	Parked Motor Vehicle	Dark-Not Lighted	Icy	N	N		Changing Lanes	Parked
'74740416	**11/2/2007**	**6:26 PM**	**Gwinnett**	**State Route**	**'040300**	**19.7**					**I**	**0**	**0**	**Rear End**	**On Roadway**	**Motor Vehicle in Motion**	**Dark-Not Lighted**	**Dry**	**N**	**N**		**Straight**	**Straight**
'53710436	10/12/2005	2:59 AM	Gwinnett	State Route	'040300	19.85					I	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Tree	Dark-Not Lighted	Dry	N			Straight	
'53450110	9/26/2005	2:33 AM	Gwinnett	State Route	'040300	20.01					I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	S	S		Straight	Straight
'54120199	11/12/2005	8:41 PM	Gwinnett	State Route	'040300	20.2					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
'54210323	11/15/2005	7:02 AM	Gwinnett	State Route	'040300	20.2					I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
Deficient Sag Curve '83980460	9/14/2008	10:44 PM	Gwinnett	State Route	'040300	20.76					I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
'51530548	5/14/2005	5:46 AM	Gwinnett	State Route	'040300	20.82					I	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Ditch	Dark-Not Lighted	Dry	S			Straight	
'54210184	11/16/2005	8:40 PM	Gwinnett	State Route	'040300	20.85					I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Animal	Dark-Not Lighted	Dry	S			Straight	
'63640285	9/25/2006	9:50 PM	Gwinnett	State Route	'040300	20.85					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Straight	Stopped
'63800009	10/3/2006	6:20 AM	Gwinnett	State Route	'040300	20.85					I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight

TABLE 5
I-85 Mainline, from Old Peachtree Road in GWINNETT COUNTY to SR 211 in BARROW COUNTY
Accident Conditions - Dark-Not Lighted

	'64610308	11/24/2006	3:30 AM	Gwinnett	State Route	'040300	20.85		'		I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Animal	Dark-Not Lighted	Dry	S			Straight	
	'70170079	1/23/2007	2:10 AM	Gwinnett	State Route	'040300	20.85		'		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Passing	Straight
	'70290364	1/31/2007	6:12 AM	Gwinnett	State Route	'040300	20.85		'		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Straight	Straight
	'70500246	2/12/2007	11:15 AM	Gwinnett	State Route	'040300	20.85		'		I	0	0	Not A Collision With A Motor Vehicle	Median	Culvert	Dark-Not Lighted	Dry	N			Changing Lanes	
	'74520558	10/18/2007	6:56 AM	Gwinnett	State Route	'040300	20.85		'		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Stopped
	'74530598	10/23/2007	10:40 PM	Gwinnett	State Route	'040300	20.85		'		I	0	0	Not A Collision With A Motor Vehicle	On Shoulder	Guardrail Face	Dark-Not Lighted	Wet	N			Turning Left	
	'75080076	11/18/2007	5:49 PM	Gwinnett	State Route	'040300	20.85		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Stopped
	'75080105	11/18/2007	7:10 PM	Gwinnett	State Route	'040300	20.85		'		I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	S			Straight	
	'80420220	2/10/2008	9:52 PM	Gwinnett	State Route	'040300	20.85		'		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
	'81390568	4/14/2008	6:50 AM	Gwinnett	State Route	'040300	20.85		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Stopped
	'54130248	11/8/2005	12:10 AM	Gwinnett	State Route	'040300	20.88		'		I	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Tree	Dark-Not Lighted	Dry	N			Straight	
	'53780399	10/19/2005	7:00 AM	Gwinnett	State Route	'040300	20.92		'		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Stopped
	'64500031	11/12/2006	9:24 PM	Gwinnett	State Route	'040300	21.01		'		I	1	0	Not A Collision With A Motor Vehicle	Median	Guardrail End	Dark-Not Lighted	Dry	S			Straight	
	'73470043	8/9/2007	8:42 AM	Gwinnett	State Route	'040300	21.01		'		I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Fixed Object	Dark-Not Lighted	Dry	N			Turning Left	
	'70020010	1/1/2007	6:45 AM	Gwinnett	State Route	'040300	21.08		'		I	0	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	N		Changing Lanes	Straight
Deficient Sag Curve	**'60960090**	**3/21/2006**	**7:50 PM**	**Gwinnett**	**State Route**	**'040300**	**21.1**		'		**I**	**1**	**0**	**Rear End**	**On Roadway**	**Motor Vehicle in Motion**	**Dark-Not Lighted**	**Dry**	**N**	**N**		**Straight**	**Straight**
	'60350458	2/4/2006	1:36 AM	Gwinnett	State Route	'040300	21.2		'		I	0	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Passing	Straight
	'72120227	**5/16/2007**	**12:33 AM**	**Gwinnett**	**State Route**	**'040300**	**21.2**		'		**I**	**1**	**0**	**Rear End**	**On Roadway**	**Motor Vehicle in Motion**	**Dark-Not Lighted**	**Dry**	**N**	**N**		**Straight**	**Straight**
	'50150540	1/27/2005	7:53 PM	Gwinnett	State Route	'040300	21.32		'		I	1	0	Not A Collision With A Motor Vehicle	On Roadway	Overturn	Dark-Not Lighted	Dry	N			Straight	
	'51100458	4/11/2005	6:34 AM	Gwinnett	State Route	'040300	21.32		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
	'50330510	2/9/2005	5:02 AM	Gwinnett	State Route	'040300	21.82		'		I	0	0	Sideswipe - Same Direction	On Shoulder	Parked Motor Vehicle	Dark-Not Lighted	Wet	N	N		Straight	Parked
	'51100428	4/11/2005	6:20 AM	Gwinnett	State Route	'040300	21.82		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
	'51510385	5/6/2005	8:30 PM	Gwinnett	State Route	'040300	21.82		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N		Straight	Straight
	'51720014	5/21/2005	12:57 AM	Gwinnett	State Route	'040300	21.82		'		I	2	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
	'62780514	7/24/2006	12:55 AM	Gwinnett	State Route	'040300	21.85		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
	'64230210	10/28/2006	12:05 AM	Gwinnett	State Route	'040300	21.85		'		I	0	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	N		Straight	Straight
	'64720309	12/2/2006	6:23 AM	Gwinnett	State Route	'040300	21.85		'		I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	S			Straight	
	'64720321	12/2/2006	6:12 PM	Gwinnett	State Route	'040300	21.85		'		I	0	0	Head On	On Roadway	Other Non-Collision	Dark-Not Lighted	Dry	N	N		Straight	Straight
	'65010030	12/14/2006	10:12 PM	Gwinnett	State Route	'040300	21.85		'		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
	'71920155	5/13/2007	5:00 AM	Gwinnett	State Route	'040300	21.85		'		I	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Overturn	Dark-Not Lighted	Dry	N			Straight	
	'74980460	11/14/2007	3:55 AM	Gwinnett	State Route	'040300	21.85		'		I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Animal	Dark-Not Lighted	Dry	N			Straight	
	'75080106	11/18/2007	10:30 PM	Gwinnett	State Route	'040300	21.85		'		I	0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	N			Straight	
	'84620125	11/8/2008	3:06 AM	Gwinnett	State Route	'040300	21.85		'		I	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Tree	Dark-Not Lighted	Dry	S			Straight	
	'85590427	12/19/2008	8:11 PM	Gwinnett	State Route	'040300	21.85		'		I	1	0	Not A Collision With A Motor Vehicle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	N		Straight	Straight
	'60100131	1/17/2006	6:48 AM	Gwinnett	State Route	'040300	22.1		'		I	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	S		Straight	Straight
	'64500606	11/15/2006	5:25 PM	Gwinnett	State Route	'040300	22.1		'		I	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	N	S		Straight	Straight
Deficient Sag Curve	'71780305	5/3/2007	11:34 PM	Gwinnett	State Route	'040300	22.2		'		I	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Ditch	Dark-Not Lighted	Dry	N			Straight	
	'70030226	**1/6/2007**	**4:11 AM**	**Gwinnett**	**State Route**	**'040300**	**22.35**		'		**I**	**0**	**0**	**Rear End**	**On Roadway**	**Motor Vehicle in Motion**	**Dark-Not Lighted**	**Wet**	**N**	**N**		**Straight**	**Straight**
	'73850125	**8/15/2007**	**3:09 AM**	**Gwinnett**	**State Route**	**'040300**	**22.35**		'		**I**	**0**	**1**	**Not A Collision With A Motor Vehicle**	**On Roadway**	**Other Non-Collision**	**Dark-Not Lighted**	**Dry**	**N**	**N**		**Straight**	**Straight**
	'85160106	12/11/2008	6:17 PM	Gwinnett	State Route	'040300	22.35		'		I	0	0	Not A Collision With A Motor Vehicle	Median	Median Barrier	Dark-Not Lighted	Dry	S			Straight	

Appendix E – Cost Estimate per Sag Curve Correction

I-85 North Express Budget Summary

Project	Activity		Total
I-85 North Express Lanes Extension	GDOT Administrative =	2.0%	$ 2,640
PI 110600	PM Support =	2.0%	$ 2,640
Gwinnett County			$ -
From Old Peachtree to Hamilton			$ -
Mill Road			$ -
	Design-Build Contract		$ 132,000
PVI 1209+02	Asphalt Index		$ 5,069
	Engineering and Inspection =	3.0%	$ 3,960
	Design-Build Contingency =	4.0%	$ 5,280
	Project Total		$ 151,589

Need to add escalation to mid point of construction (separate from contingency)

Assumptions

1. Design-Build Contract includes design complete and construction complete plus an escalation (2%) to mid point of construction.

I-85 North Express Budget Summary

Project	Activity		Total
I-85 North Express Lanes Extension	GDOT Administrative =	2.0%	$ 6,940
PI 110600	PM Support =	2.0%	$ 6,940
Gwinnett County			$ -
From Old Peachtree to Hamilton			$ -
Mill Road			$ -
	Design-Build Contract		$ 347,000
PVI 2335+83	Asphalt Index		$ 42,326
	Engineering and Inspection =	3.0%	$ 10,410
	Design-Build Contingency =	4.0%	$ 13,880
	Project Total		$ 427,496

Need to add escalation to mid point of construction (separate from contingency)

Assumptions

1. Design-Build Contract includes design complete and construction complete plus an escalation (2%) to mid point of construction.

I-85 North Express Budget Summary

Project	Activity		Total
I-85 North Express Lanes Extension	GDOT Administrative =	2.0%	$ 5,360
PI 110600	PM Support =	2.0%	$ 5,360
Gwinnett County			$ -
From Old Peachtree to Hamilton			$ -
Mill Road			$ -
	Design-Build Contract		$ 268,000
PVI 2357+83	Asphalt Index		$ 25,005
	Engineering and Inspection =	3.0%	$ 8,040
	Design-Build Contingency =	4.0%	$ 10,720
	Project Total		$ 322,485

Need to add escalation to mid point of construction (separate from contingency)

Assumptions

1. Design-Build Contract includes design complete and construction complete plus an escalation (2%) to mid point of construction.

I-85 North Express Budget Summary

Project	Activity		Total
I-85 North Express Lanes Extension	GDOT Administrative =	2.0%	$ 6,240
PI 110600	PM Support =	2.0%	$ 6,240
Gwinnett County			$ -
From Old Peachtree to Hamilton			$ -
Mill Road			$ -
	Design-Build Contract		$ 312,000
PVI 2409+96	Asphalt Index		$ 33,895
	Engineering and Inspection =	3.0%	$ 9,360
	Design-Build Contingency =	4.0%	$ 12,480
	Project Total		$ 380,215

Need to add escalation to mid point of construction (separate from contingency)

Assumptions

1. Design-Build Contract includes design complete and construction complete plus an escalation (2%) to mid point of construction.

I-85 North Express Budget Summary

Project	Activity		Total
I-85 North Express Lanes Extension	GDOT Administrative =	2.0%	$ 13,360
PI 110600	PM Support =	2.0%	$ 13,360
Gwinnett County			$ -
From Old Peachtree to Hamilton			$ -
Mill Road			$ -
	Design-Build Contract		$ 668,000
PVI 2439+57	Asphalt Index		$ 104,725
	Engineering and Inspection =	3.0%	$ 20,040
	Design-Build Contingency =	4.0%	$ 26,720
	Project Total		$ 846,205

Need to add escalation to mid point of construction (separate from contingency)

Assumptions

1. Design-Build Contract includes design complete and construction complete plus an escalation (2%) to mid point of construction.

I-85 North Express Budget Summary

Project	Activity		Total
I-85 North Express Lanes Extension	GDOT Administrative =	2.0%	$ 20,960
PI 110600	PM Support =	2.0%	$ 20,960
Gwinnett County			$ -
From Old Peachtree to Hamilton			$ -
Mill Road			$ -
	Design-Build Contract		$ 1,048,000
PVI 2460+82	Asphalt Index		$ 165,906
	Engineering and Inspection =	3.0%	$ 31,440
	Design-Build Contingency =	4.0%	$ 41,920
	Project Total		$ 1,329,186

Need to add escalation to mid point of construction (separate from contingency)

Assumptions

1. Design-Build Contract includes design complete and construction complete plus an escalation (2%) to mid point of construction.

I-85 North Express Budget Summary

Project	Activity		Total
I-85 North Express Lanes Extension	GDOT Administrative =	2.0%	$ 11,900
PI 110600	PM Support =	2.0%	$ 11,900
Gwinnett County			$ -
From Old Peachtree to Hamilton			$ -
Mill Road			$ -
	Design-Build Contract		$ 595,000
PVI 2499+73	Asphalt Index		$ 96,847
	Engineering and Inspection =	3.0%	$ 17,850
	Design-Build Contingency =	4.0%	$ 23,800
	Project Total		$ 757,297

Need to add escalation to mid point of construction (separate from contingency)

Assumptions

1. Design-Build Contract includes design complete and construction complete plus an escalation (2%) to mid point of construction.

Appendix F – Cost Estimate w/o Sag Curve Correction

I-85 North Express Budget Summary

Project	Activity		Total
I-85 North Express Lanes Extension	GDOT Administrative =	2.0%	$ 1,591,600
PI 110600	PM Support =	2.0%	$ 1,591,600
Gwinnett County			$ -
From Old Peachtree to Hamilton			$ -
Mill Road			$ -
	Design-Build Contract		$ 79,580,000
	Asphalt Index		$ 5,619,245
	Engineering and Inspection =	3.0%	$ 2,387,400
	Design-Build Contingency =	4.0%	$ 3,183,200
	Project Total		$ 93,953,045

Need to add escalation to mid point of construction (separate from contingency)

Assumptions

1. Design-Build Contract includes design complete and construction complete plus an escalation (2%) to mid point of construction.

JOB NUMBER:	110600		
DESCRIPTION:	I-85 HOT LANES		
Construction Complete =	**$**	**67,492,825.00**	
Design Complete (10%) =	**$**	**6,749,283.00**	<=Excludes Asphalt Index
Contingency (0%) =	**$**	**-**	<=Based on all above costs
Subtotal =	**$**	**74,242,108.00**	

SCHEDULE ASSUMPTIONS:

Current Date:	Jan-12
Design & Construction Start:	Apr-14
Construction Completed:	Oct-16
Mid Point Construction/Agency:	Jul-15
Months between Start & Complete:	30
(Years):	2.500
Months between Mid-Point Construction and Current:	42
(Years):	3.500

ANNUAL INFLATION RATE ASSUMPTIONS:

Construction: 2.00%

CONSTRUCTION COSTS (1/2012 $) =	$	74,242,108
YOE Total Project Costs	**$**	**79,580,000.00**

STATE HIGHWAY AGENCY
JOB ESTIMATE REPORT

JOB NUMBER: 110600
DESCRIPTION: I-85 HOT LANES

COST GROUPS FOR I-85 HOT LANES PI# 110600

COST	GROUP	DESCRIPTION	QUANTITY	PRICE	AMOUNT
		TERMPORARY EROSION CONTROL	1	$ 497,982.11	$ 497,982.11
		PERMANENT EROSION CONTROL	1	$ 186,130.98	$ 186,130.98
		ITS (GENERAL PURPOSE) -	1	$ 3,027,581.40	$ 3,027,581.40
		SIGNS (GENERAL PURPOSE	1	$ 1,900,018.50	$ 1,900,018.50
		MARKING	1	$ 527,686.93	$ 527,686.93
		ITS (TOLLING - GDOT)	1	$ 1,355,831.40	$ 1,355,831.40
		SIGN (TOLLING)	1	$ 4,483,010.90	$ 4,483,010.90
		GANTRIES (TOLLING)	1	$ 896,182.24	$ 896,182.24
		TOLLING (SRTA)	1	$ 1,313,915.00	$ 1,313,915.00
		ITS (TOLLING - SRTA)	1	$ 315,750.00	$ 315,750.00
ACTIVE COST GROUP TOTAL					$ 14,504,089.46

ITEMS FOR I-85 HOT LANES PI# 110600

LINE	ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
	150-1000		LS	TRAFFIC CONTROL	1	$ 5,190,000.00	$ 5,190,000.00
	201-1500		LS	CLEARING & GRUBBING -	1	$ 562,207.00	$ 562,207.00
	205-0001		CY	UNCLASS EXCAV	208948	$ 3.16	$ 660,274.22
	206-0002		CY	BORROW EXCAV, INCL MATL	86587	$ 5.50	$ 476,228.50
	540-1102		LS	REMOVAL OF EXISTING BR, BR NO -	11600	$ 60.00	$ 696,000.00
	540-1102		LS	REMOVAL OF EXISTING BR, BR NO -	1824	$ 30.00	$ 54,720.00
	543-9000		LS	CONSTRUCTION OF BRIDGE COMPLETE -	20312	$ 150.00	$ 3,046,800.00
	543-9000		LS	CONSTRUCTION OF BRIDGE COMPLETE -	10563	$ 150.00	$ 1,584,450.00
	543-9000		LS	CONSTRUCTION OF BRIDGE COMPLETE -	12464	$ 150.00	$ 1,869,600.00
	621-6002		LF	CONCRETE BARRIER, TP S-2	33393	$ 82.00	$ 2,738,226.00
	641-1100		LF	GUARDRAIL, TYPE T	448	$ 41.95	$ 18,785.21
	641-1200		LF	GUARDRAIL, TP W	48150	$ 14.05	$ 676,507.50
	641-5001		EA	GUARD RAIL ANCHORAGE, TP 1	44	$ 596.00	$ 26,224.00
	641-5012		EA	GUARDRAIL ANCHORAGE, TP 12	45	$ 1,827.88	$ 82,254.60
	621-6200		LF	CONCRETE SIDE BARRIER, TP 2-S	6100	$ 350.00	$ 2,135,000.00
	621-6201		LF	CONCRETE SIDE BARRIER, TP 2-SA	3640	$ 400.00	$ 1,456,000.00
	621-6202		LF	CONCRETE SIDE BARRIER, TP 2-SB	800	$ 500.00	$ 400,000.00
	621-6203		LF	CONCRETE SIDE BARRIER, TP 2-SC	100	$ 550.00	$ 55,000.00

STATE HIGHWAY AGENCY
JOB ESTIMATE REPORT

	621-6211		LF	CONCRETE SIDE BARRIER, TP 6-SA	1330	$	450.00	$ 598,500.00
	627-1010		SF	MSE WALL FACE, 10 - 20 FT HT, WALL NO -	14500	$	40.00	$ 580,000.00
	310-1101		TN	GR AGGR BASE CRS, INCL MATL	194489	$	12.47	$ 2,425,277.83
	400-3604		TN	ASPH CONC 12.5 MM SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME	71918	$	92.00	$ 6,616,456.00
	400-3624		TN	ASPH CONC 12.5 MM PEM, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME	32729	$	87.80	$ 2,873,606.20
	402-1812		TN	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	0	$	61.00	$ -
	402-3121		TN	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME; 330LB/SY	155679	$	52.83	$ 8,224,521.57
	402-3190		TN	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2,INCL BITUM MATL & H LIME; 330LB/SY	61730	$	54.60	$ 3,370,458.00
	413-1000		GL	BITUM TACK COAT	76305	$	2.13	$ 162,530.56
	432-5010		SY	MILL ASPHALT CONC PVMT, VARIABLE DEPTH	389736	$	0.80	$ 311,788.71
	436-1000		LF	ASPHALTIC CONCRETE CURB -	48150	$	6.00	$ 288,900.00
	446-1100		LF	PVMT REINF FABRIC STRIPS, TP 2, 18 INCH WIDTH	102915	$	1.61	$ 165,693.15
	207-0203		CY	FOUND BKFILL MATL, TP II	40	$	38.80	$ 1,568.30
	500-3101		CY	CLASS A CONCRETE	119	$	450.00	$ 53,629.72
	511-1000		LB	BAR REINF STEEL	6942	$	0.85	$ 5,900.82
	550-1240		LF	STORM DRAIN PIPE, 24 IN, H 1-10	27550	$	28.82	$ 793,991.00
	550-1300		LF	STORM DRAIN PIPE, 30 IN, H 1-10	20	$	55.47	$ 1,109.40
	550-1360		LF	STORM DRAIN PIPE, 36 IN, H 1-10	121	$	64.99	$ 7,831.30
	550-1420		LF	STORM DRAIN PIPE, 42 IN, H 1-10	30	$	78.20	$ 2,346.00
	550-1480		LF	STORM DRAIN PIPE, 48 IN, H 1-10	45	$	86.00	$ 3,870.00
	550-4124		EA	FLARED END SECTION 24 IN, SIDE DRAIN	41	$	530.00	$ 21,624.00
	603-2182		SY	STN DUMPED RIP RAP, TP 3, 24 IN	3266	$	27.25	$ 88,998.50
	615-1000		LF	JACK OR BORE PIPE -	7140	$	150.00	$ 1,071,000.00
	668-2100		EA	DROP INLET, GP 1	204	$	1,847.60	$ 376,910.40
	151-1000		LS	MOBILIZATION - GENERAL CONSTRUCTION	1	$	2,795,710.00	$ 2,795,710.00
	999-2010		LS	DESIGN COMPLETE - GENERAL CONSTRUCTION	1	$	5,870,991.00	$ 5,870,991.00
	151-1000		LS	MOBILIZATION - GDOT TOLLING ITEMS	1	$	336,752.00	$ 336,752.00
	999-2010		LS	DESIGN COMPLETE - GDOT TOLLING ITEMS	1	$	707,180.00	$ 707,180.00
	151-1000		LS	MOBILIZATION - SRTA TOLLING ITEMS	1	$	81,484.00	$ 81,484.00
	999-2010		LS	DESIGN COMPLETE - SRTA TOLLING ITEMS	1	$	171,117.00	$ 171,117.00

ITEM TOTAL $ 59,738,022.47

Total = $ 74,242,111.93

Asphalt Index = $ 5,619,244.51

Appendix G – Comments w/ Responses

XX-XXX DESIGN EXCEPTION – Revision 2 Comments

⇒ I cannot read the signature from the designer of record, and I cannot determine whether this person has a Professional Engineer's license. Please include a printed name, including an indication whether this person has a Professional Engineer's license.
Will do.

⇒ The engineer of record needs to sign below a statement that says "I recommend".
Will do.

⇒ Why is the word "sag" in all caps on page 4?
Will change.

⇒ Please include a discussion of mitigation strategies for not meeting sight distance.
Mitigation strategy is to reduce posted speed limit to 65 MPH.

⇒ The request states that existing curves do not meet sight distance requirements, please explain why/how these vertical curves did not meet sight distance on previous projects. Include as attachments any previous vertical curve related design exceptions in the attachments. Are there any previous commitments to other mitigation strategies for sight distance?
This information does not exist. Only pavement reconstruction has occurred along the section of corridor in question (north of SR 20 on I-85) since both the design code was changed to accommodate shorter cars and the 55 MPH speed limit requirements on freeways was lifted by FHWA. There are no known commitments to sight distance mitigation strategies along this section of the corridor. A statement of this nature will be provided in the document.

⇒ The accident analysis discussion omitted collisions with vehicles. Please explain why it is appropriate to omit this information from the analysis. Did any of the collisions with other vehicles involve vehicles that were broken down, or taillights out/obstructed? Would lighting have no affect mitigating these collisions with other vehicles?
Accident analysis has been modified to only include accidents within the limits of the sag curves that do not meet current code for a design speed of 70 MPH.

⇒ Given that the vehicles will be traveling closer to opposing traffic, will glare from opposing traffic headlights become an issue?
The cost estimate accounts for the taller median barrier and glare screen as required.

⇒ Include a statement whether horizontal sight distance is met at these locations.
HSO is met at all locations along the project. A statement indicating such will be provided.

⇒ Include information showing how the costs of the alternatives were calculated.
The cost estimate along with quantities for the entire project as proposed both with and without the corrections to the sag curves will be presented. Further explanation of the generated costs for lighting has been presented in the write-up portion of the document only.

⇒ Include plan and profile sheets in the areas of the substandard vertical curves.
Will be provided. Plans will be presented in concept level format. It should be noted that this is a design build contract for which the design plans will never exceed a 35% level of completion and may not provide the level of detail required by this comment until shortly before the project is sent to bid.

Comments From:

Brad Ehrman, P.E.
Design Group Manager
Georgia Department of Transportation
Office of Design Policy and Support (25th floor)
Phone: 404-631-1669
Fax: 404-631-1949
e-mail: behrman@dot.ga.gov

Responses Provided by HNTB

Revision 1 Comments

For all requests:

- Rewrite the request so that it comes from the designer, signed on company letterhead. The PM then submits the request via interdepartmental correspondence.
  - **Will do.**
- Address the Requests to Brent Story
  - **Will remove all "ATTN:" references in the letter(s).**
- Include a "Recommended By" the director of Engineering signature line.
  - **Will do.**
- Include typical sections of the area around the design exception.
  - **Will do.**
- Be clear on the design speed for the corridor.
  - **Design speed will be more clearly noted.**

Substandard Sag curves

- Please revise the crash history discussion, some of the discussion about the crash history seems to be very speculative.
  - **Will do.**
- The statement, "A design exception is requested to waive the sag curve requirements assuming one of the mitigation measures present below is adopted and the sag curve k-values remain the same or increase" is confusing. Which mitigation measure does this design use?
  - **Recommended option will be more clearly listed.**
- In the recommendation, reiterate that the design does not meet the 2004 design for sag vertical curves and as a mitigation measure the curves will be corrected to meet the 1990 standards.
  - **Some clarification will be provided.**

Appendix H – 1962 As-Built Plans

CO. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	GA	I-85-2 (13)111	62	18	364

FOR DETAILS OF RAMPS SEE SHEETS NOS. 61-63

Beg. Fr. Rd. #1 Sta. 0+00 = Sta. 7+25 S.R. 317

FOR FRONT. RD. No. 1 PROFILE SEE SHEET No. 90

Exist. R/W & Limit of Access

+26 226' B.L.A.

Sta. 0+00.00 on I-85-2(13)111 Survey Fwd. = Sta. 1213+95.20 on IN-403-2-(1) Back.

Beg. Const. Front. Rd. #1 Sta. 0+11

NORTHEAST EXPRESSWAY

Sta. 10+00 on N.E. = Sta. 10+00 on S.R. 317

Exist. R/W & Limit of Access

2-Gas Pumps

Tel. Booth

Ice House

H.Q. ETHRIDGE

P.I. Sta. 4+02.20 Fr. Rd. #1 L.
Δ = 9°38'53" Rt.
D = 4°00'
T = 120.866
L = 241.20'
S.E. = 0.8'/ft.

P.C. Sta. 2+81.34

Frontage Rd. #1

Exist. R/W

Reqd. R/W

P.C. Sta. 7+08.11

P.T. Sta. 0+17.03

P.T. Sta. 0+23.52

C.C. MARTIN

Limit of Access

P.I. Sta. 4+02.20

Ramp "A"

6" Perf. Pipe Underdrain

N. 46°-30'-56" E.

Sta. 10+71.66 Begin I-85-2(13)111

Ramp "B"

Reqd. R/W & Limit of Access

C.C. MARTIN

N. 56°-41'-36" E.

Exist. R/W & Limit of Access

+04.6 150'

+41.62 150'

S. 33°-18'-04" E.

P.I. Sta. 8+17.03 Fr. Rd. #1
Δ = 21°32'-31" Lt.
D = 10°-00'
T = 108.928
L = 213.419
S.E. = 0.6/ft.

Old Peachtree Road

Sta. 10+22 To Place Lt. 172 Lin. Ft. 6" x 30" Conc. Conc. Curb & Gutter with 4" Mountable Curb Remove

Sta. 10+55 to 14+00 Reqd. 345 Ft. 15" Median Drain Pipe

Sta. 14+00 Reqd. 1 Drop Inlet, Ga. Std. 9031-F Mod.

Sta. 16+34 To Place (67' Sq. Lt.) 372 Ft. 36" Conc. C.D. Pipe

Reqd. 101 Ft. Extend 60" D. Pipe Ex. Lt. Rt.

Reqd. 84 Ft. 36" Conc. 60" D. Pipe Ex. Lt.

40 Ft. 36" Conc. C.D. Pipe Ex. Lt.

C.A. = 11.9 Ac.

Remove Conc. Mountable Lt. & Rt.

Sta. 19+00 Reqd. (90°-S.E.) 111 Ft. 15" C.G. Pipe

1 D. Drop Inlet, Ga. Std. 9031-F Mod.

NOTE: For Benchmarks and Reference Points See Sheet Nos. 8 & 9.

NOTE: FOR EARTHWORK DISTRIBUTION & MASS DIAGRAM SEE SHEET NOS. 40-56

STA. 10+71.66 BEG. I-85-2(13)111

Exist. Grade

+0.1500%

+1.1%

+1.2%

+1.2%

F.L. 1075.3

F.L. 1055.2

F.L. 1055.2

6" Perf. Drain Pipe

In Place - Remain

1110

1100

1090

1080

1070

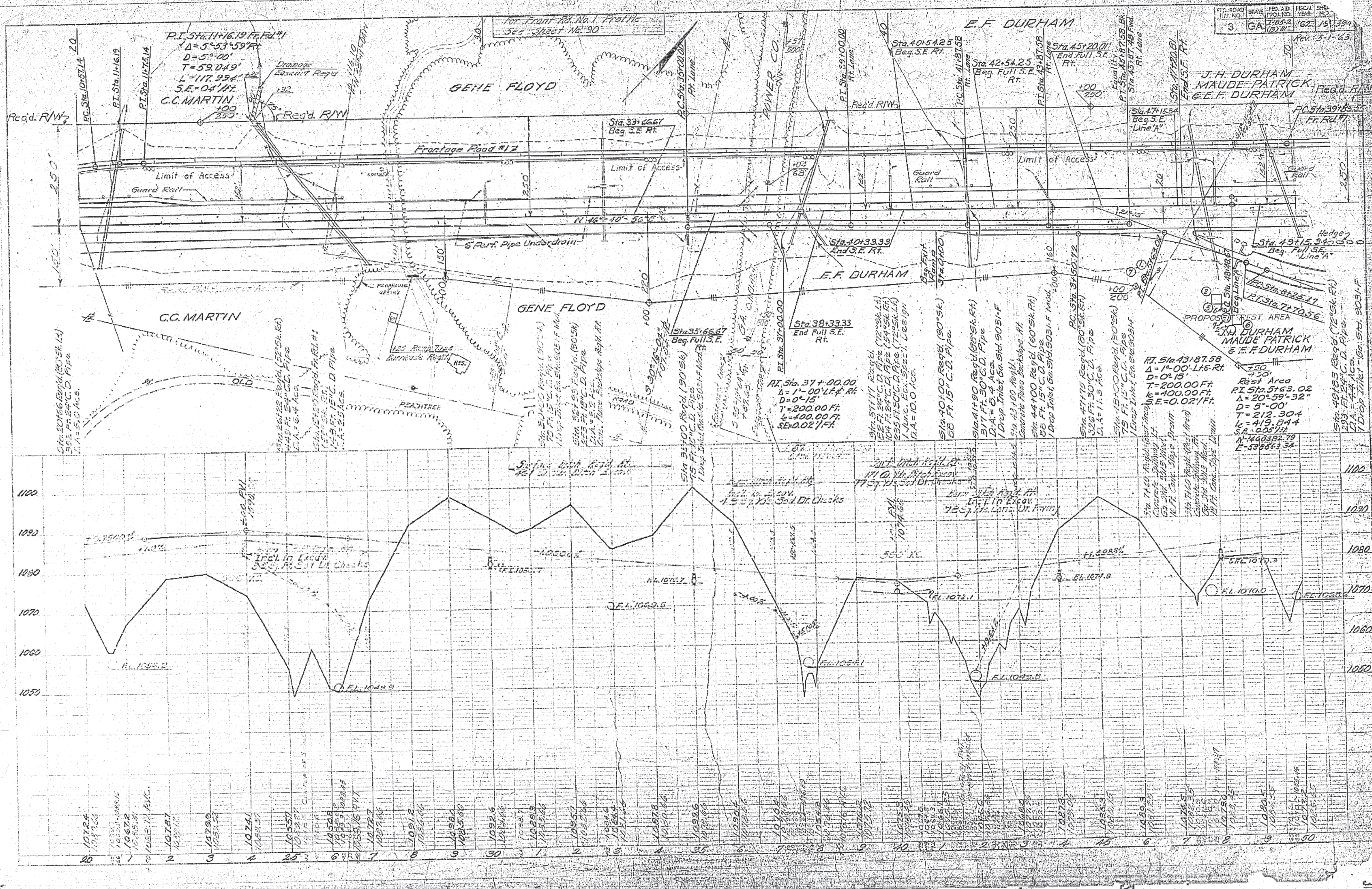
1060

1050

1040

1030

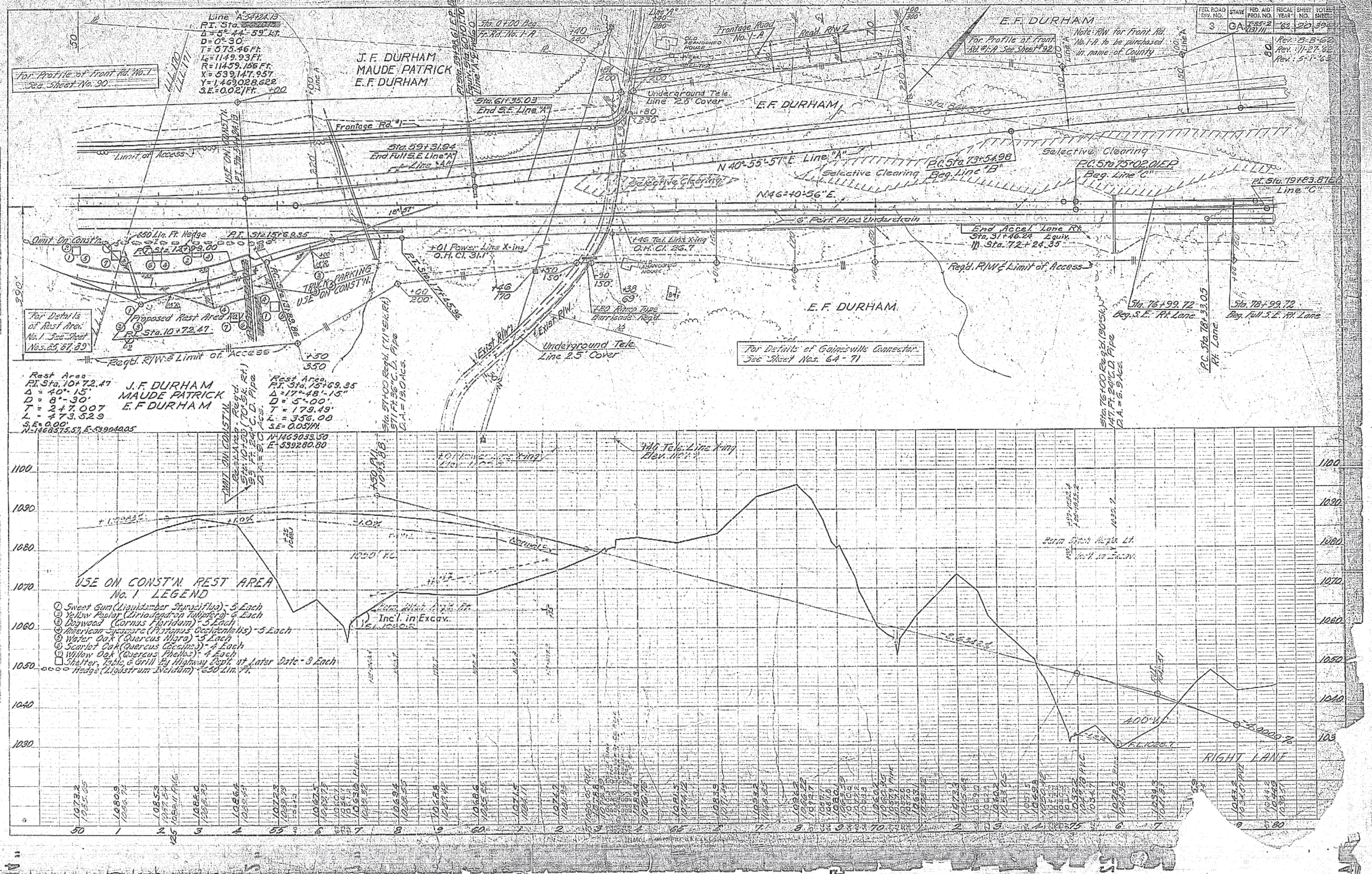
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20



FED. ROAD DIV. NO. 3
STATE GA.
FED. AID PROJ. NO. I-85-2 (13) 111
FISCAL YEAR '62
SHEET NO. 19 394
Rev: 5-1-63
For Front Rd. No. 1 Profile See Sheet No. 90
P.I. Sta. 11+16.19 Fr. Rd. #1
Δ = 5°-53'-59" Rt.
D = 5°-00'
T = 59.049'
L = 117.994'
S.E. = 04'/Ft.
C.C. MARTIN
PC. Sta. 10+57.14
P.I. Sta. 11+16.19
P.T. Sta. 11+75.14
Drainage Easem't Req'd
Req'd. R/W
Frontage Road #1
Limit of Access
Guard Rail
6" Perf. Pipe Underdrain
N 46°-40'-56" E
GENE FLOYD
PUMPHOUSE SPRING
120 Ramp Type Barricade Req'd
RES.
OLD PEACHTREE ROAD
POWER CO.
P.C. Sta. 35+00.00 Rt. Lane
Sta. 33+66.67 Beg. S.E. Rt.
Sta. 35+66.67 Beg. Full S.E. Rt.
P.I. Sta. 37+00.00
Sta. 38+33.33 End Full S.E. Rt.
P.T. Sta. 39+00.00 Rt. Lane
Sta. 40+33.33 End S.E. Rt.
Sta. 40+54.25 Beg. S.E. Rt.
Beg. Exit Ramp Sta. 0+00
P.C. Sta. 41+87.58 Rt. Lane
Sta. 42+54.25 Beg. Full S.E. Rt.
P.I. Sta. 43+87.58 Rt. Lane
Sta. 45+20.01 End Full S.E. Rt.
Equality P.T. Sta. 45+87.58 Bk. = Sta. 45+87.48 Fwd. Rt. Lane
Sta. 47+20.81 End S.E. Rt.
Sta. 47+15.34 Beg. S.E. Line "A"
E.F. DURHAM
J.H. DURHAM MAUDE PATRICK & E.F. DURHAM
P.C. Sta. 39+85.55 Fr. Rd. #1
Sta. 49+15.34 Beg. Full S.E. Line "A"
Hedge
P.C. Sta. 8+25.47
P.T. Sta. 7+70.56
PROPOSED REST AREA
P.I. Sta. 5+63.02
Sta. 48+48.61 Beg. Line "A"
P.I. Sta. 37+00.00
Δ = 1°-00' Lt. ₵ Rt.
D = 0°-15'
T = 200.00 Ft.
L = 400.00 Ft.
SE = 0.02'/Ft.
P.I. Sta. 43+87.58
Δ = 1°-00' Lt. ₵ Rt.
D = 0°-15'
T = 200.00 Ft.
L = 400.00 Ft.
S.E. = 0.02'/Ft.
Rest Area
P.I. Sta. 5+63.02
Δ = 20°-59'-32"
D = 5°-00'
T = 212.304
L = 419.844
S.E. = 0.05'/Ft.
N-1468382.79
E-538663.34
Sta. 20+66 Req'd. (80° Sk. Lt.) 353 Ft. 24" C.D. Pipe D.A. = 5.0 Acs.
Sta. 26+22 Req'd. (52° Sk. Rt.) 449 Ft. 24" C.D. Pipe D.A. = 6.4 Acs.
Sta. 40+00 Req'd. (90° Sk.) 68 Ft. 15" C.D. Pipe
Sta. 41+90 Req'd. (88° Sk. Rt.) 317 Ft. 30" C.D. Pipe D.A. = 8.4 Acs. 1 Drop Inlet, Ga. Std. 9031-F
Sta. 44+00 Req'd. (60° Sk. Rt.) 88 Ft. 15" C.D. Pipe 1 Drop Inlet, Ga. Std. 9031-F Mod.
Sta. 47+75 Req'd. (80° Sk. Rt.) 326 Ft. 30" C.D. Pipe D.A. = 11.3 Acs.
Sta. 49+83 Req'd. (72° Sk. Rt.) 293 Ft. 24" C.D. Pipe D.A. = 4.4 Acs. 1 Drop Inlet - Ga. Std. 9031-F
Surface Ditch Req'd. Rt.
Incl. in Excav.
4.9 Sq. Yds. Sod Dt. Checks
77 Sq. Yds. Sod Dt. Checks
F.L. 1056.2
F.L. 1049.9
F.L. 1054.1
F.L. 1049.5
F.L. 1072.1
F.L. 1071.8
F.L. 1070.0
F.L. 1068.6
500' V.C.
1100
1090
1080
1070
1060
1050
20 1 2 3 4 25 6 7 8 9 30 1 2 3 4 35 6 7 8 9 40 1 2 3 4 45 6 7 8 9 50

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	GA	F-85-2 (19) III	62	20	30

Rev.: 8-8-62
Rev.: 11-27-62
Rev.: 5-1-63



FED. ROAD PRJ. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TO. SHEETS
13	GA	I-85 21(8)111	62	21	399

Rev.: 8-3-62
Rev.: 11-7-62
Rev.: 11-27-62

For Front Rd. No. 1 Profile See Sheet No. 90

Line "A" 44+22.12
P.I. Sta. [illegible]
Δ = 5°44'-59" Lt.
D = 0°30'
T = 575.46'
L_a = 1149.93
N = 1,469,028.622
E = 539,147.957
S.E. = 0.02'/Ft.

P.I. Sta. 41+16.63 Fr. Rd. #1
Δ = 2°37'-16" Lt.
D = 1°-00'
T = 131.078'
L_a = 262.111'
S.E. = 0.02'/Ft.

J.F. DURHAM
MAUDE PATRICK &
E.F. DURHAM

P.T. Sta. 42+47.66 Fr. Rd. #1

Sta. 0+00 Beg. Front. Rd. #1-A

Line "A" 140 880'

For Profile of Front. Rd. #1-A See Sheet #92

End Const. Fr. Rd. #1 Sta. 5.4+00 Front. Rd. #1-A

Note: R/W for Front. Rd. #1-A to be purchased in name of County

For Details of Gainesville Connector See Sheet Nos. 64-71

E.F. DURHAM

Reqd. R/W

Reqd. R/W & Limit of Access

Sta. 74+21.65 Beg. Full S.E. Line "B"

Sta. 61+35.03 End S.E. Line "A"

Frontage Road #12

Underground Tele. Line 2.5' Cover

E.F. DURHAM

1000' Merging Lane

500' Taper

Sta. 59+31.94 End Full S.E. Line "A"

6" Perf. Pipe Underdrain

N 40°-55'-57" E Line "A"

Selective Clearing

Sta. 72+21.65 Beg. S.E. Line "B"

P.C. Sta. 73+54.38 Beg. Line "B"

P.C. Sta. 75+02.01 E.P. Beg. Line "C"

P.I. Sta. 79+33.84 Line "B"

Limit of Access

Guard Rail

P.T. Sta. 41+16.63 Fr. Rd. #1

N 46°-40'-56" E.

+01 Power Line X-ing O.H. Cl. 31.1

Proposed Rest Area No. 1

Reqd. R/W & Limit of Access

+46 Tel. Line X-ing O.H. Cl. 26.1

E.F. DURHAM

J.F. DURHAM
MAUDE PATRICK &
E.F. DURHAM

USE ON CONST'N. P.T. Sta. 54+24.13 P.T. Sta. 55+00.13 Line "A"

Exist. R/W

Underground Tele. Line 2.5' Cover

P.C. Sta. 78+33.05 Ft. Lane

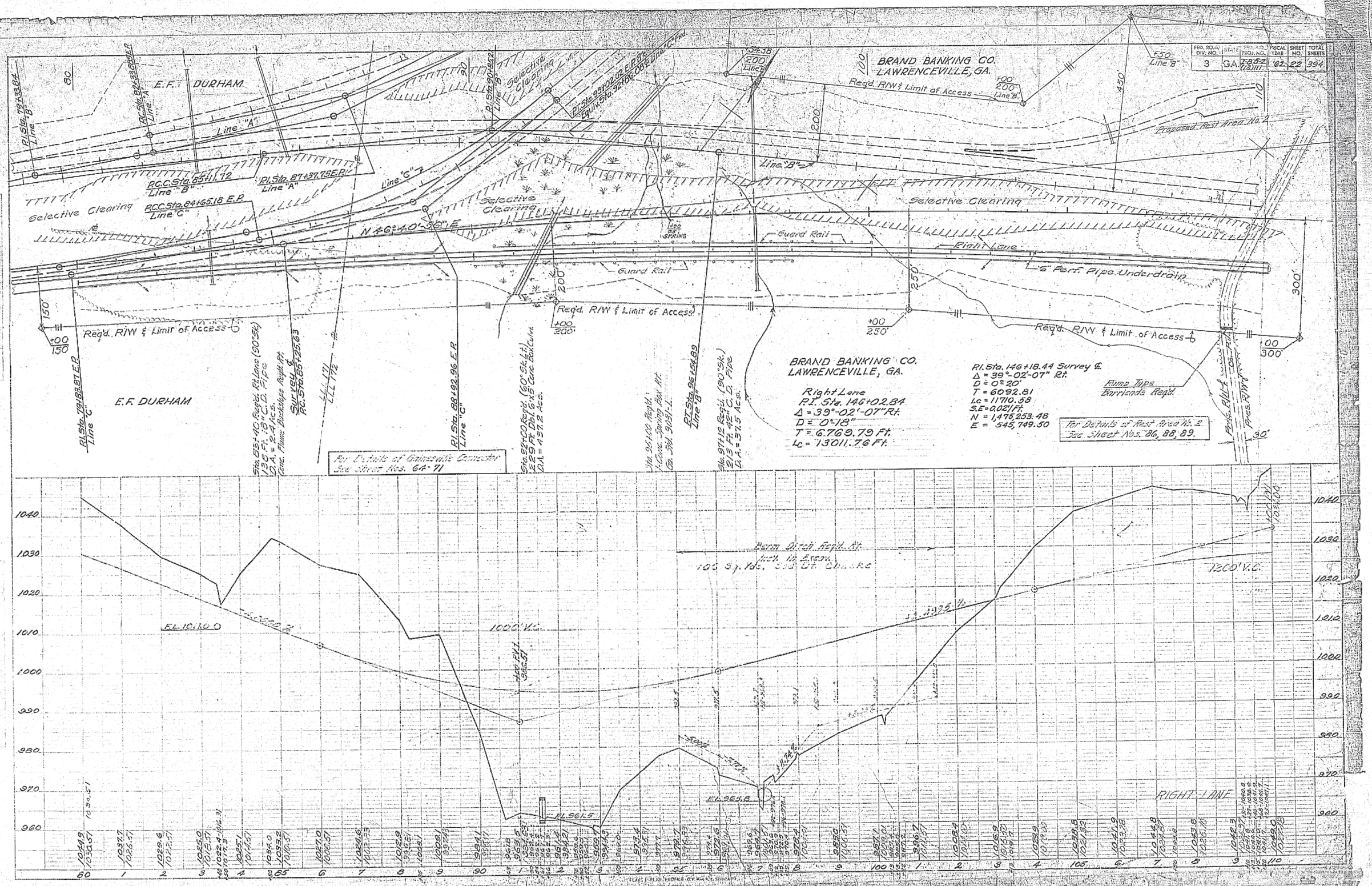
P.T. Sta. 79+83.87 E.P. Line "C"

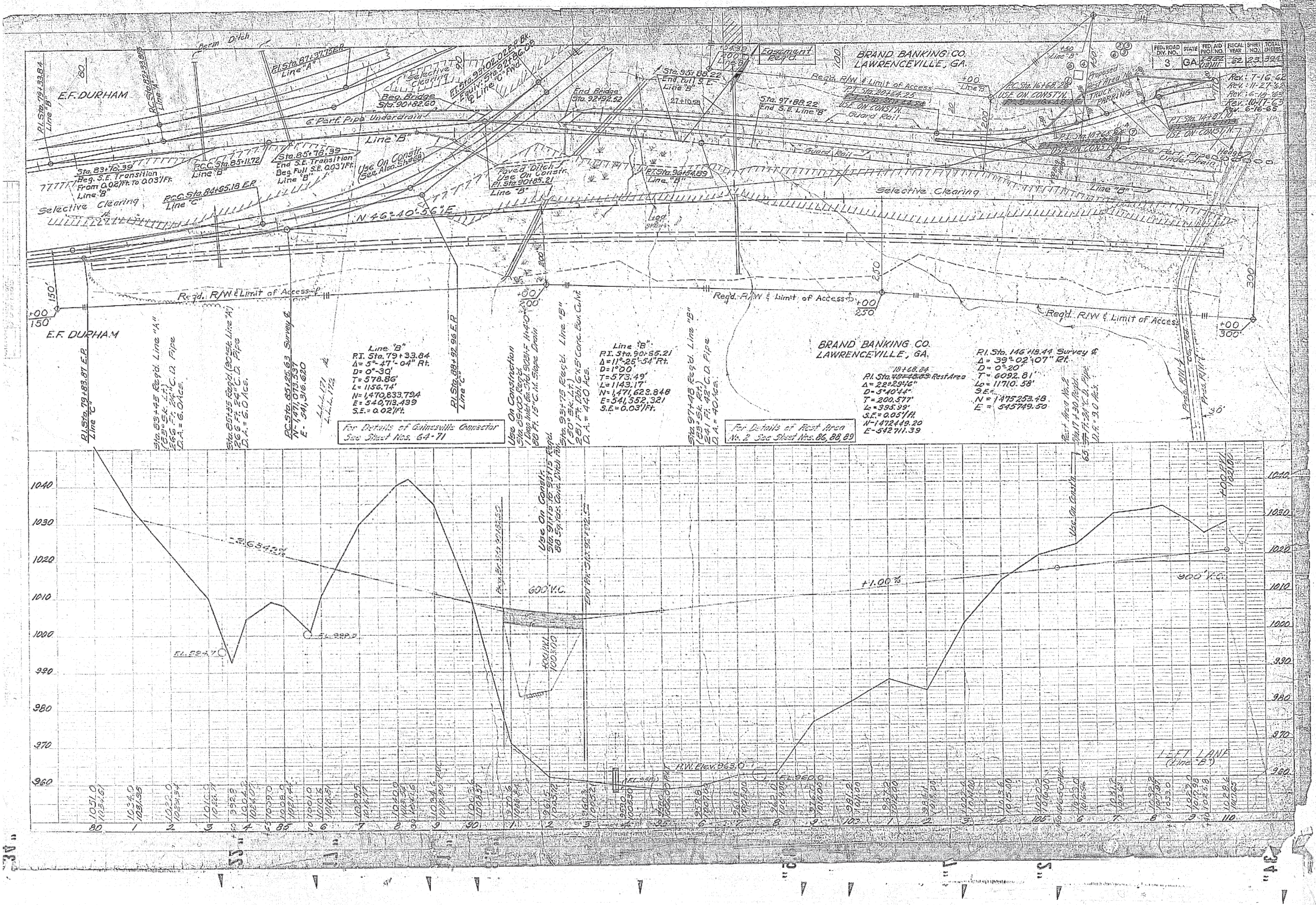
For Details of Rest Area No. 1 See Sheet Nos. 85, 87, 89.

1090
1080
1070
1060
1050
1040

+1.09333%
+1.0%
-1.0%
1050' V.C.
El. 1064.6
LEFT LANE (Line "A")

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	GA.	7852 (2)III	62	22	394




FED. ROAD DIV. NO. 3
STATE GA.
FED. AID PROJ. NO. I-85-2(13)111
FISCAL YEAR 62
SHEET NO. 23
TOTAL SHEETS 394
Rev.: 7-16-62
Rev.: 11-27-62
Rev.: 6-18-63
Rev.: 10-17-63
Rev.: 6-16-65
E.F. DURHAM
BRAND BANKING CO.
LAWRENCEVILLE, GA.
Berm Ditch
P.I. Sta. 79+33.84 Line "B"
P.C. Sta. 82+33.865 Line "A"
P.I. Sta. 87+37.75 E.P. Line "A"
Selective Clearing
Beg. Bridge Sta. 90+82.60
P.T. Sta. 93+02.02 E.P. Bk.
Equiv. Sta. 92+86.09 ℄ Line "C" Fwd.
6" Perf. Pipe Underdrain
Line "B"
Sta. 83+76.39 Beg. S.E. Transition From 0.02'/Ft. to 0.03'/Ft. Line "B"
P.C.C. Sta. 85+11.72 Line "B"
Sta. 85+78.39 End S.E. Transition Beg. Full S.E. 0.03'/Ft. Line "B"
Use On Constr. (See Also Sh.#68)
P.C.C. Sta. 84+65.18 E.P. Line "C"
N 46°-40'-56"E
End Bridge Sta. 92+92.52
Paved Ditch Use On Constr. P.I. Sta. 90+85.21 Line "B"
Sta. 95+88.22 End Full S.E. Line "B"
27+10.58
P.T. Sta. 96+54.89 Line "B"
Easement Req'd.
Req'd. R/W & Limit of Access
P.T. Sta. 20+64.25
USE ON CONST'N.
Sta. 97+88.22 End S.E. Line "B"
Guard Rail
+00 Line "B"
+50 Line "B"
P.C. Sta. 16+68.26
USE ON CONST'N.
Proposed Rest Area No. 2
TRUCK PARKING
P.I. Sta. 18+68.84
USE ON CONST'N.
P.T. Sta. 14+87.10
USE ON CONST'N.
6" Perf. Pipe Underdrain
Hedge
Line "B"
Selective Clearing
Req'd. R/W & Limit of Access
+00 150'
+00 200'
+00 250'
+00 300'
Pres. R/W
Co. Rd.
30'
P.I. Sta. 79+83.87 E.P. Line "C"
Sta. 83+45 Req'd. Line "A" (83° Sk. Lt.) 266 Ft. 24" C.D. Pipe D.A. = 6.0 Acs.
Sta. 85+55 Req'd. (90° Sk. Line "A") 266 Ft. 24" C.D. Pipe D.A. = 6.0 Acs.
P.C. Sta. 85+25.63 Survey ℄ N - 1,471,073.537 E - 541,316.620
L.L. 171 L.L. 172
Line "B" P.I. Sta. 79+33.84 Δ= 5°-47'-04" Rt. D= 0°-30' T= 578.86' L= 1156.74' N= 1,470,833.794 E= 540,713.439 S.E.= 0.02'/Ft.
For Details of Gainesville Connector See Sheet Nos. 64-71
P.I. Sta. 88+92.96 E.P. Line "C"
Use On Construction Sta. 89+00 Req'd. 1 Drop Inlet Ga. Std. 9031-F H: 4.0' 88 Ft. 15" C.M. Slope Drain
Use On Constr. Sta. 91+15 to 93+15 Req'd. 88 Sq. Yds. Conc. Ditch Pav.
Sta. 93+75 Req'd. Line "B" (50° Sk. Lt.) 281 Ft. Dbl. 6'x5' Conc. Box Cul. D.A. = 440 Acs.
Line "B" P.I. Sta. 90+85.21 Δ=11°-25'-54" Rt. D=1°00' T=573.49' L=1143.17' N=1,471,623.848 E=541,552.321 S.E.=0.03'/Ft.
Sta. 97+48 Req'd. Line "B" (83° Sk. Rt.) 241 Ft. 42" C.D. Pipe D.A. = 40 Acs.
For Details of Rest Area No. 2 See Sheet Nos. 86, 88, 89
P.I. Sta. 18+68.84 Rest Area Δ= 22°29'16" D= 5°40'44" T= 200.577' L= 395.99' S.E.= 0.05'/Ft. N-1472449.20 E-542711.39
P.I. Sta. 146+18.44 Survey ℄ Δ= 39°-02'-07" Rt. D= 0°-20' T= 6092.81' Lc= 11710.58' S.E.= N= 1475253.48 E= 545749.50
Rest Area No. 2 Sta. 17+30 Req'd. 65 Ft. 24" C.D. Pipe D.A.= 3.0 Acs.
1040 1030 1020 1010 1000 990 980 970 960
-2.6342%
+1.00%
600' V.C.
900' V.C.
EL. 994.7
EL. 999.3
H.W. Elev. 963.0
EL. 958.0
EL. 960.0
Use On Constr.
LEFT LANE (Line "B")
80 1 2 3 4 85 6 7 8 9 90 1 2 3 4 95 6 7 8 9 100 1 2 3 4 105 6 7 8 9 110

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	GA.	F-85-2 (3) III	62	24	394

For Details of Rest Area No. 2 See Sheet Nos. 86, 88, 89.

Proposed Rest Area No. 2

Line "E"

N46° 40' 56" E

BRAND BANKING CO.

CLAUDE SPRIGGS

J.D. BILLEW

Line "B"

Reqd. R/W & Limit of Access

Selective Clearing

6" Perf. Pipe Underdrain

Sta. 112+55 Reqd. Rt. Lane (90°-Sk.) 150' Ft. RCP C.D. Pipe D.A. = 36.8 Acs.

Sta. 121+55 Reqd. Rt. Lane (70°-Sk. Rt.) 111 Ft. RCP C.D. Pipe D.A. = 20.6 Acs.

Sta. 131+00 Reqd. Rt. Lane 6" Perf. Pipe Backslope Rt.

Sta. 135+56 Reqd. Rt. Lane (90°-Sk. Lt.) 152 Ft. 5'x6' Conc. Box Cul. D.A. = 156.2 Acs.

Sta. 139+31 Reqd. Rt. Lane (70°-Sk. Rt.) 184 Ft. 5'x5' Conc. Box Cul. D.A. = 100.3 Acs.

Right Lane
P.I. Sta. 146+02.84
Δ = 39°-02'-07" Rt.
D = 0°-18'
T = 6769.79 Ft.
L = 13011.76 Ft.

Berm Ditch Reqd. Rt.
Incl. in Excav.
45 Sq. Yds. 300 Dt. Checks

100' P.V.I. 1034.00

1200' V.C.

+1.2500%

-1.2500%

-5.80%

F.L. 995.2

F.L. 995.2

100' P.V.I. 997.00

500' V.C.

+1.4285%

F.L. 965.3

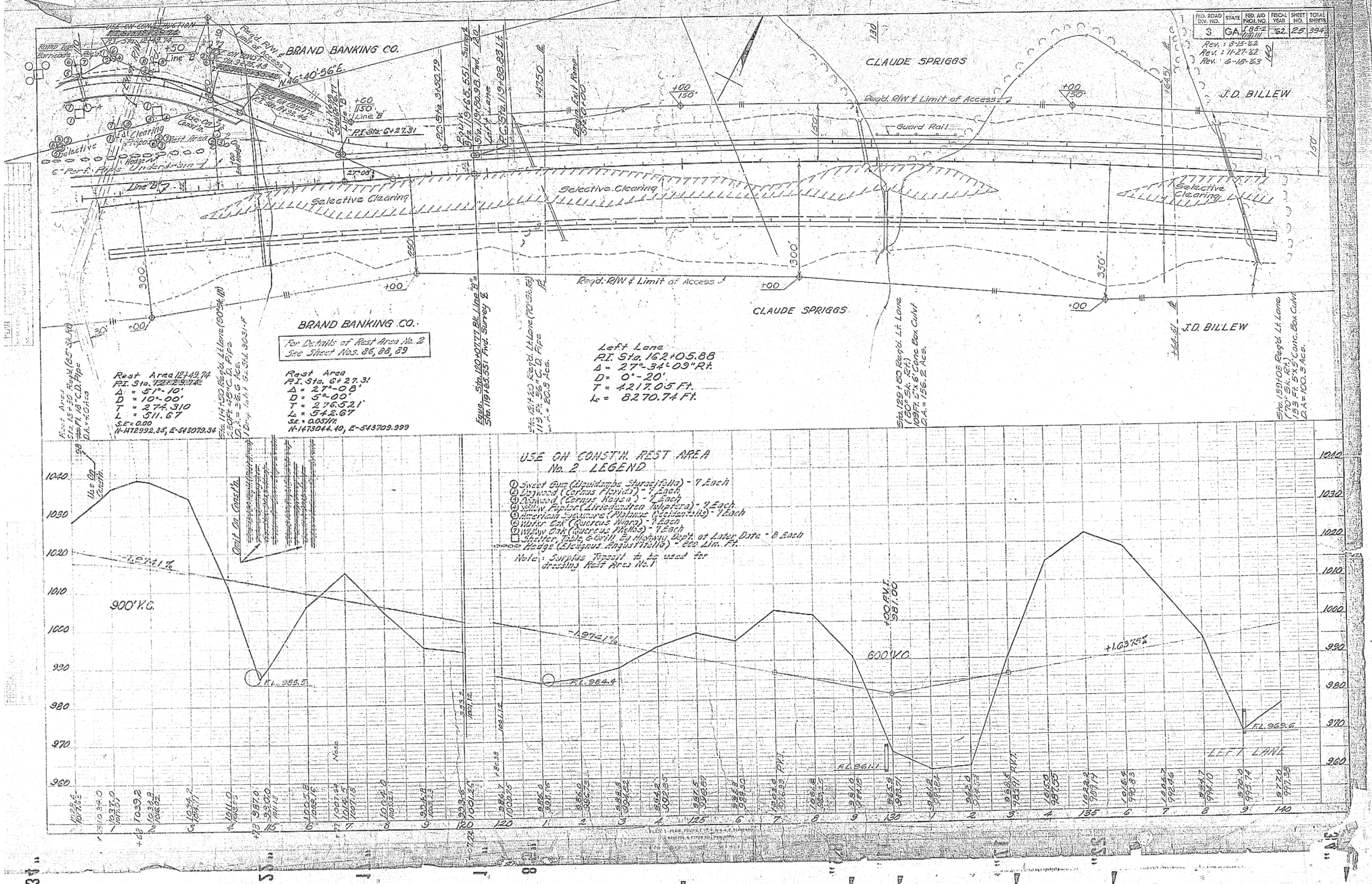
F.L. 973.3

RIGHT LANE

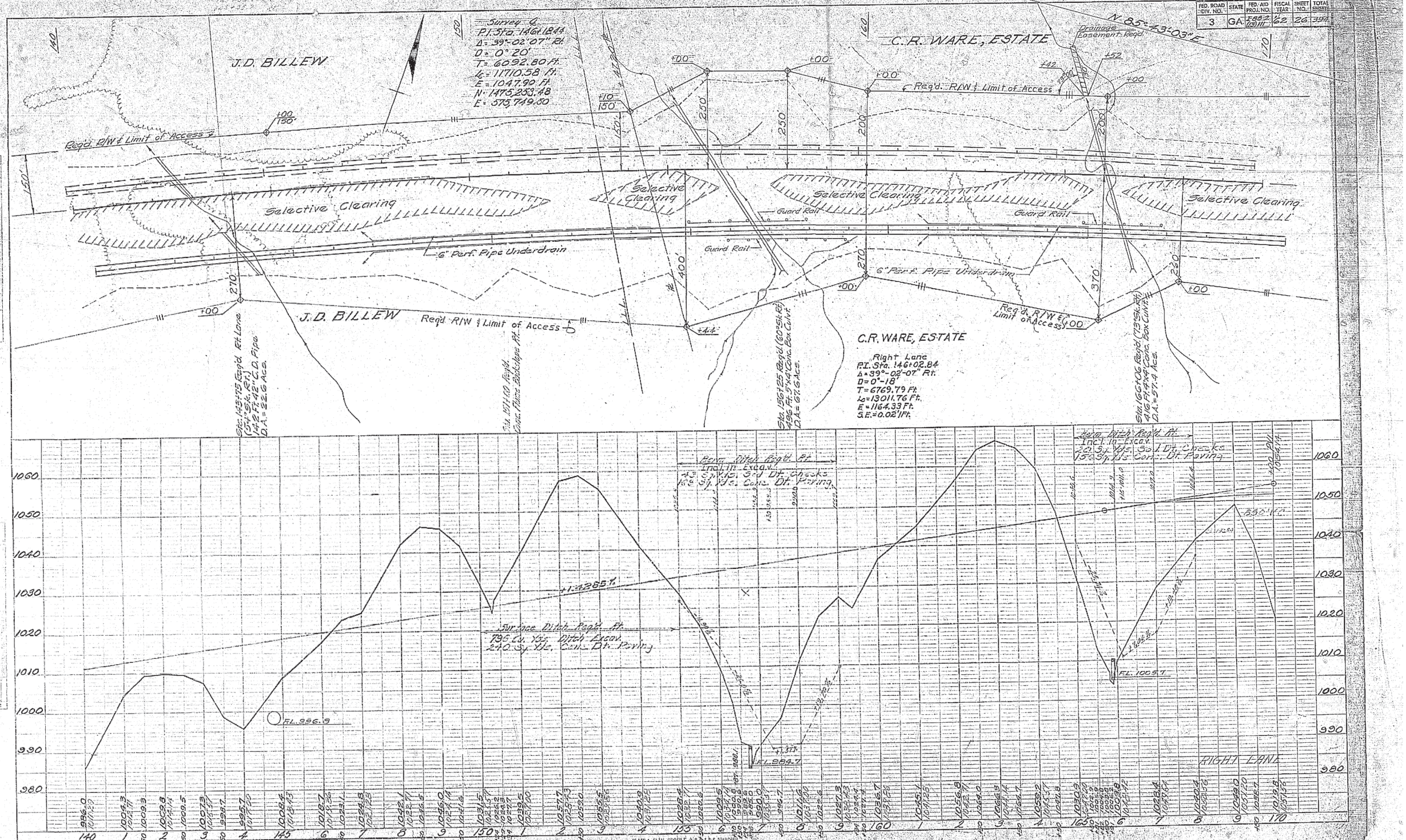
PLATE I. PLAN-PROFILE. C.P.R.A.R.E. STANDARD
KEUFFEL & ESSER CO., NEW YORK

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	GA.	I 85-2 (13)	62	25	394

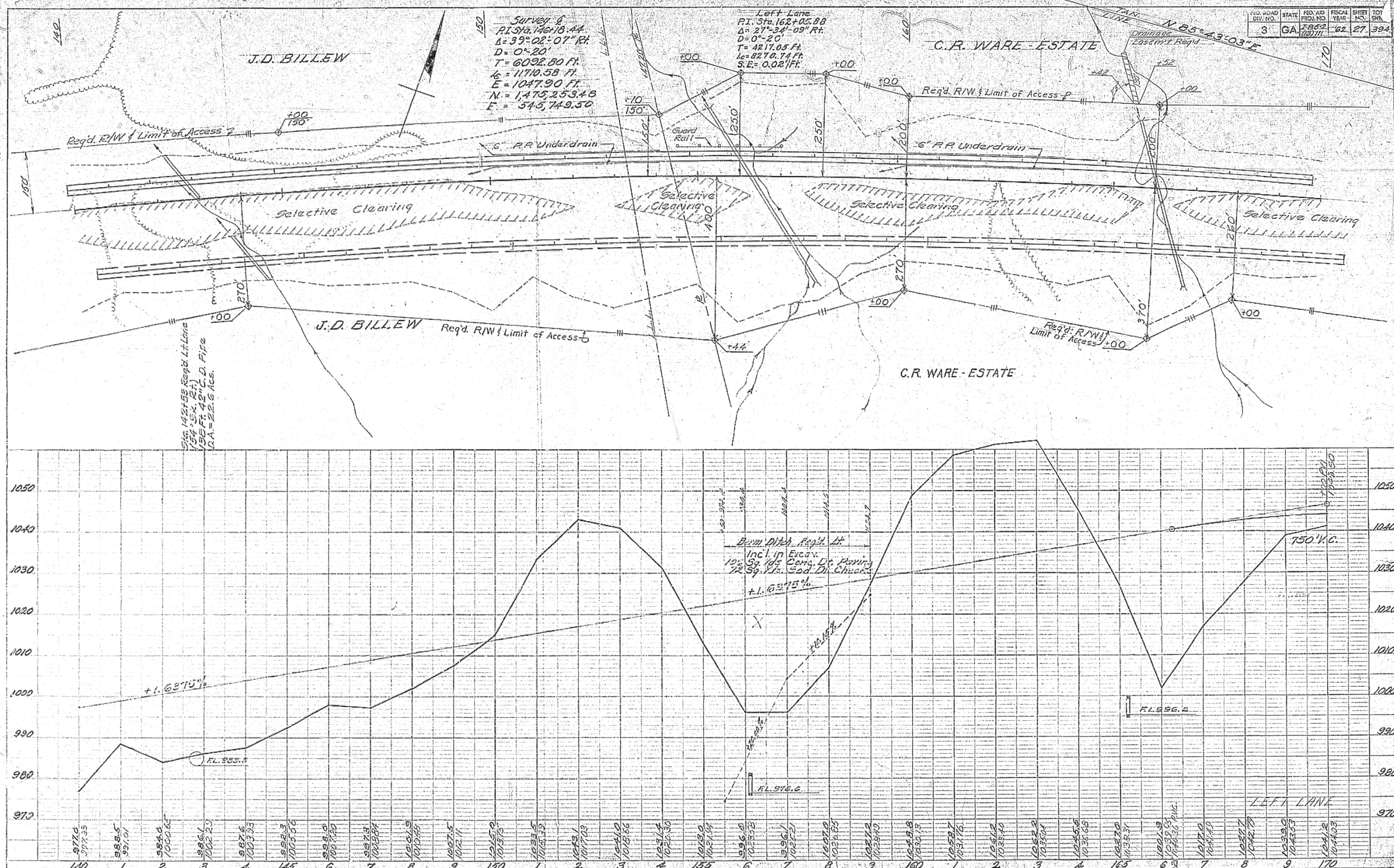
Rev.: 8-15-62
Rev.: 11-27-62
Rev.: 6-18-63



FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	GA	F-862-1 (9) III	62	26	394

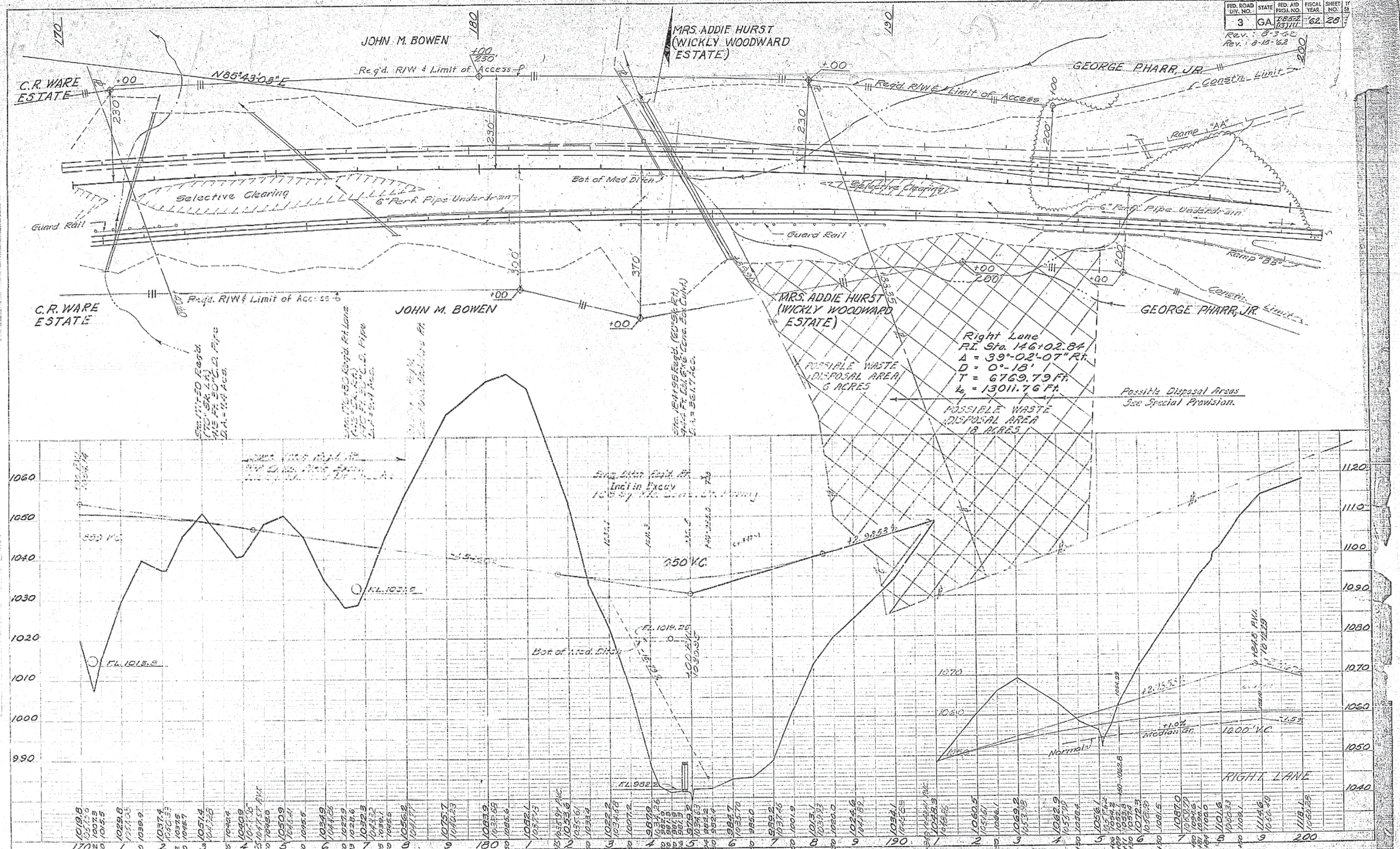


FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOT. SHS.
3	GA	F-852 (12) III	62	27	394



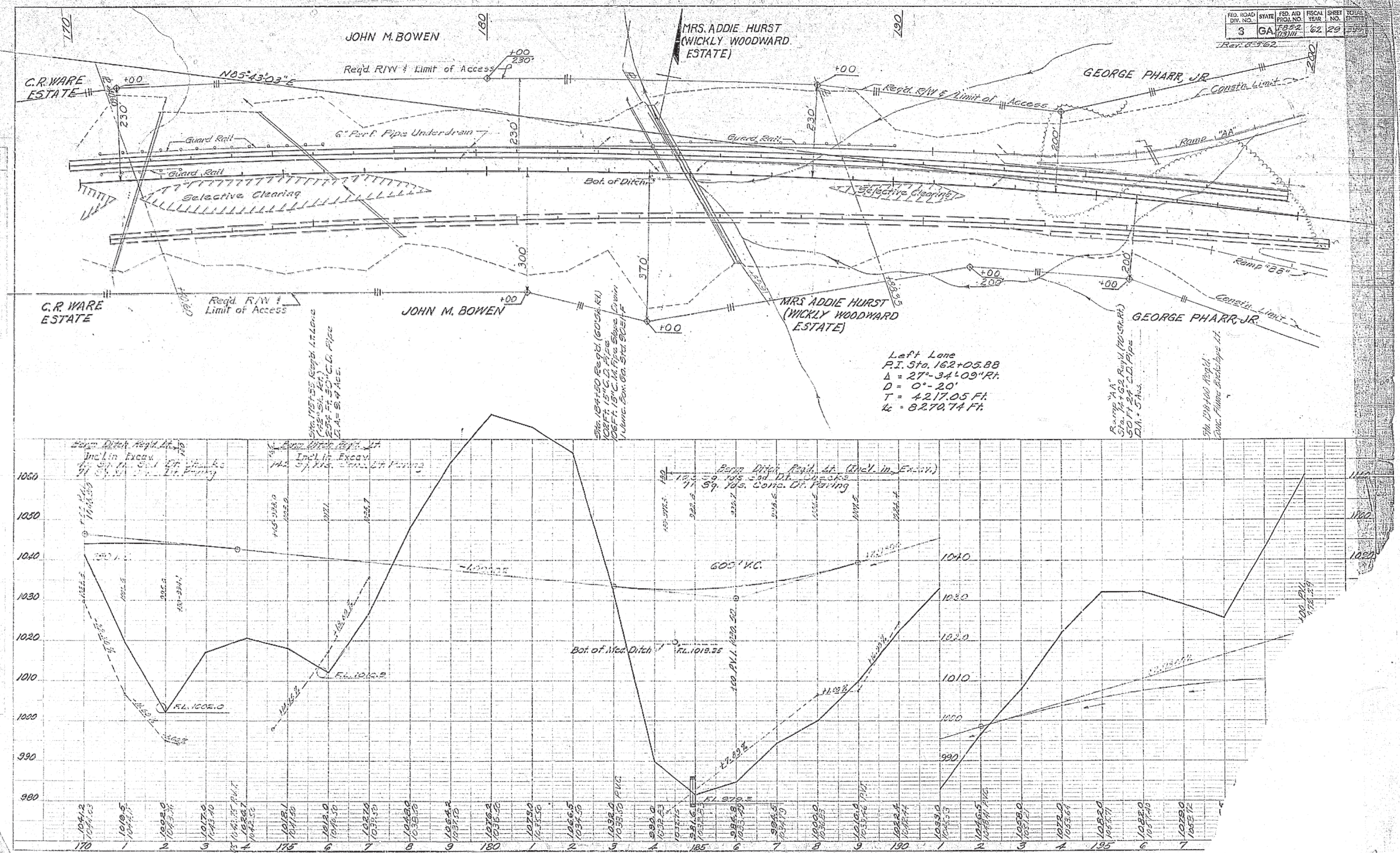
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.
3	GA.	F-B-522 (13) III	'62	28

Rev.: 8-3-62
Rev.: 8-15-62



FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	GA.	F-B-52 (13) III	62	29	[illegible]

Rev. 6-5-62



FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	GA.	F-87-2 (13) III	'62	30	39½

Rev.: 8-3-62
Rev.: 8-15-62
Rev.: 10-17-63

FOR DETAILS OF INTERCHANGE SEE SHEET NOS. 72-76

GEORGE W. PHARR, JR.
MRS. L.T. MAYFIELD
JOE BAXTER
LAWRENCEVILLE
BUFORD
CREEK
North Fork
Drainage Easement Req'd. for Ivy Creek Channel Change
Beg. Constr. Sta. 14+45.00
Ramp "AA"
Ramp "BB"
Ramp "C"
Ramp "D"
Ramp "A"
Selective Clearing
Guy Wire
Sta. 201+92.90 End Full S.E. Lt. Lane
Sta. 203+61.70 End S.E. Lt. Lane
Sta. 17+45.22 S.R. #20 Sta. 209+01.67 M
Sta. 211+79.54 End S.E. Rt. Lane
Sta. 209+79.54 End Full S.E. Rt. Lane
End Constr. Sta. 20+27.20
Req'd. R/W & Limit of Access
6" Perf. Pipe Underdrain
Guard Rail
N85°-43'-03"E
Sta. 228+00.83 Beg. S.E.
PC Sta. 229+34.16
PT Sta. 202+36.22 N = 1,475,708.45 E = 5,51,825.24
EQUIV. EQUALITY Sta. 202+61.42 BK = Sta. 202+36.22 Fwd.
EQUIV. EQUALITY Pt. Sta. 209+28.81 Fwd. Sta. 209+44.81 Bk.
Constr. Limit
+04 Pow. Line X-ing Elev. 1059.0
+07 Tel. Line X-ing Elev. 1049.2
Normal 3.0' Mod. Ditch
+1.0000%
F.L. 1043.9
F.L. 1038.8
F.L. 1034.0
F.L. 1015.6
H.W. Elev. 1010.0
Stock Ditch Req'd. Rt.
1120
1110
1100
1090
1080
1070
1060
1050
1040
1030
1020
1010
1000
200
205
210
215
220
225
230

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.
3	GA	I-85-2 (19)111	'62	31

P.I. Sta. 244+53.50
Δ = 15° 06'-19" Rt.
D = 0°-30'
T = 1519.34 Ft.
Lc = 3021.06 Ft.
R = 11459.156 Ft.
E = 100.284 Ft.
S.E. = 0.0271 Ft.
N = 1476,023.37
E = 556,030.71

G.W. PHARR

JOE BAXTER

Sta. 230+00.83
Beg. Full S.E.
Reqd. R/W & Limit of Access

Guard Rail

6" Perf. Pipe Under Dr.

Bot. of Ditch

N 85° 43'-03" E

Woods

JOE BAXTER

CHARLES B. WEST

MRS. J. B. PADEN

Reqd. R/W & Limit of Access

P.I. Sta. 239+55.22

S 79° 10'-38" E

Sta. 258+88.55
End Full S.E.

MRS. J. B. PADEN

CHARLES B. WEST

Sta. 252+00 Reqd. (90°-Sk.)
76 Ft. 15" C.D. Pipe
1 Drop Inlet; Gr. Sta. 5021+F

Sta. 254+00 Reqd. (90°-Sk.)
215 Ft. 30" C.D. Pipe
D.A. = 11.7 Acs.

Sta. 237+00 Reqd.
Conc. Flume Backslope Rt.

Sta. 240+94 Reqd. (90°-Sk.)
150 Ft. 18" C.D. Pipe
D.A. = 2.6 Acs.
Conc. Flume Backslope Rqd. Rt.

Sta. 243+00 Reqd. (90°-Sk.)
90 Ft. 18" C.D. Pipe
1 Drop Inlet; Gr. Sta. 5031+F

Sta. 243+00 Reqd. (90°-Sk.)
58 Ft. 15" C.D. Pipe
52 Ft. 15" C.M. Pipe Sides Drain
1 Drop Inlet; Gr. Sta. 5031+F
1 Junc. Box; Gr. Sta. 5021+F

Sta. 249+00 Reqd. (90°-Sk.)
214 Ft. 5'x4' Conc. Box Culvert
D.A. = 108.9 Acs.

Sta. 253+00 Reqd. (90°-Sk.)
65 Ft. 15" C.D. Pipe
1 Drop Inlet; Gr. Sta. 5023+F

Sta. 256+00 Reqd. (90°-Sk.)
90 Ft. 15" C.D. Pipe

Berm Ditch Reqd. Rt.
Incl. in Excav.
3.5 Sq. Yds. Sod On Shacks

Surface Ditch Reqd. Rt.
Incl. in Excav.
3.5 Sq. Yds. Sod On Shacks

F.L. 1017.6

F.L. 1033.5

F.L. 1027.0

H.W. Elev. - 1020.6

1060 1050 1040 1030 1020 1010

230 1 2 3 4 235 6 7 8 9 240 1 2 3 4 245 6 7 8 9 250 1 2 3 4 255 6 7 8 9 260

PLATE 1 - PLAN - PROFILE - O.P.R.R.A.R.E. STANDARD
PENNIFIELD LESSEE CO., NEW YORK

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	GA	I-85-2 (2)III	'62	32	394

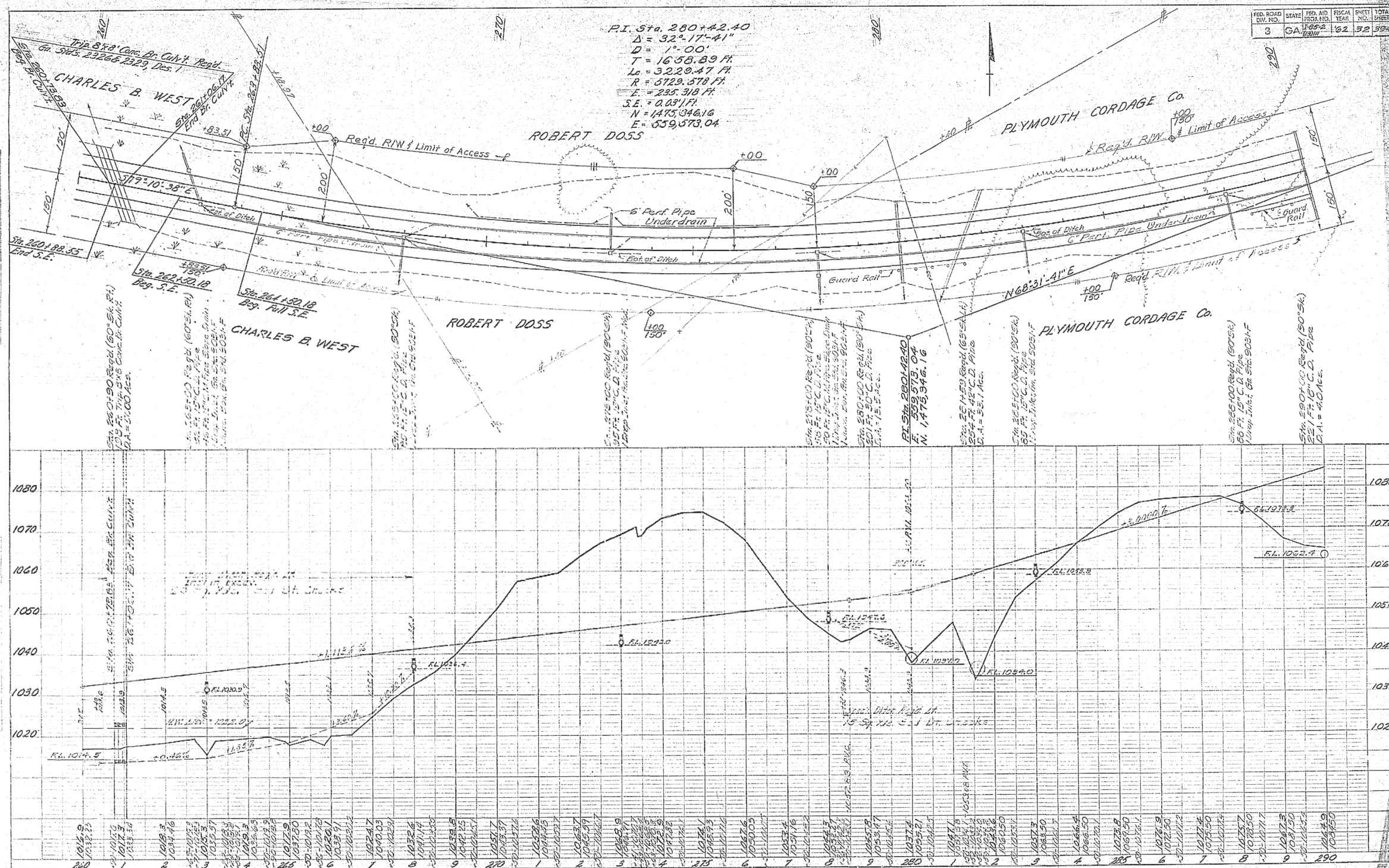


PLATE 1 - PLAN-PROFILE O.T.R. & R.C. STANDARD
KUFFEL & KESSER CO., NEW YORK

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	GA.	I-85-2 (13) III	62	33	39

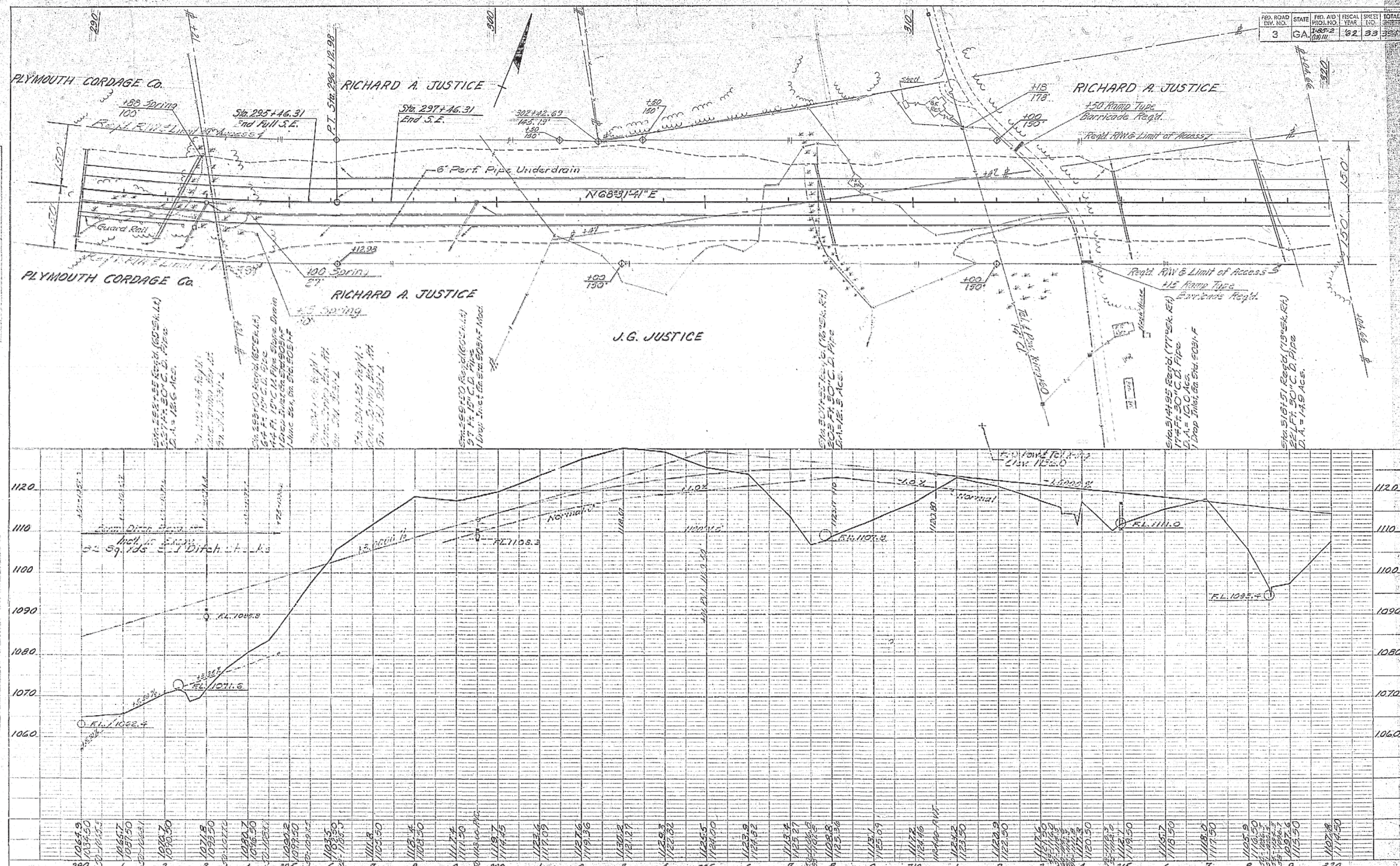


PLATE 1 - PLAN-PROFILE O.P.R.S. & E. STANDARD
REV. EL & ENGR CO., NEW YORK

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	GA.	F85-2 (13)111	62	34	39A

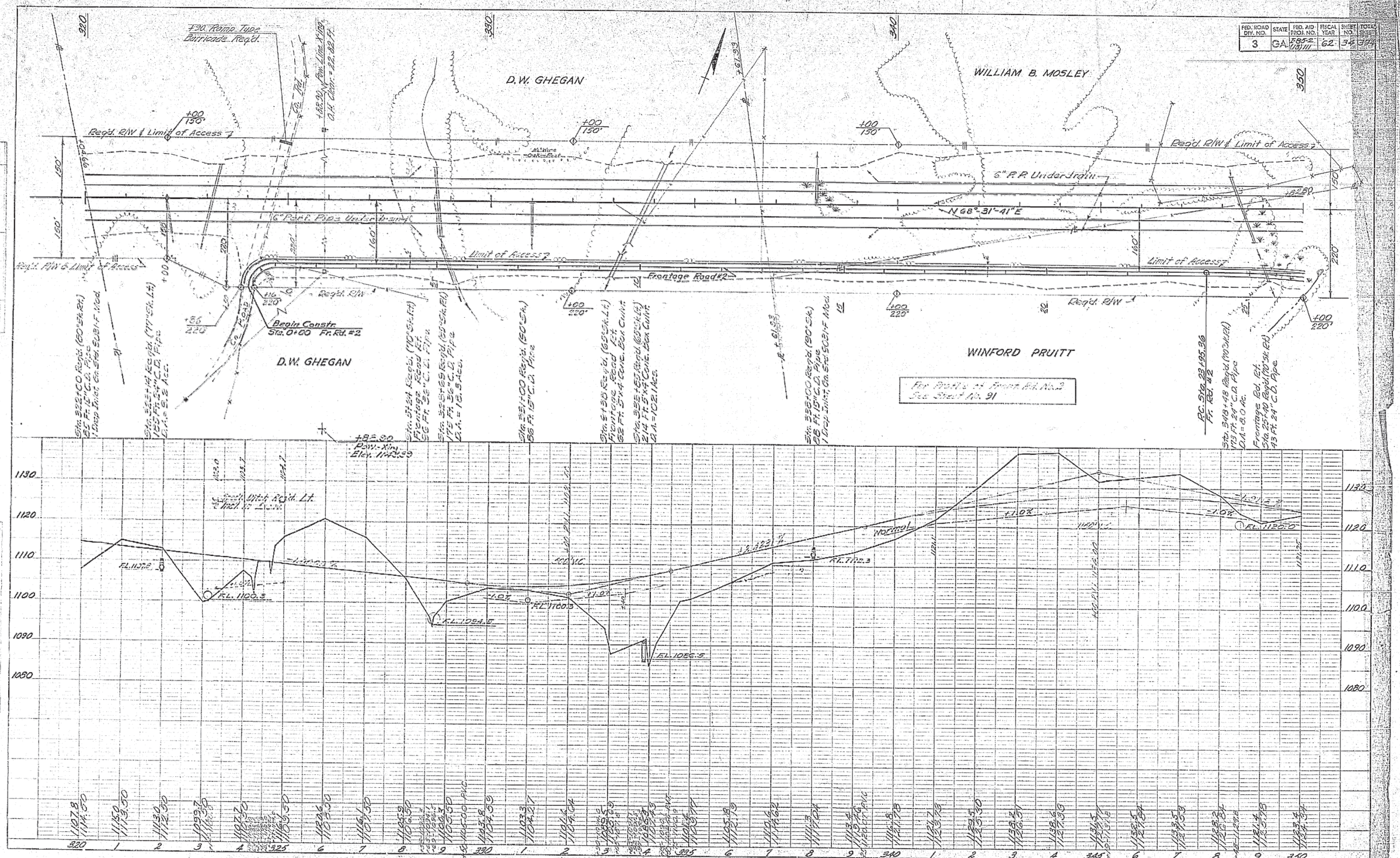
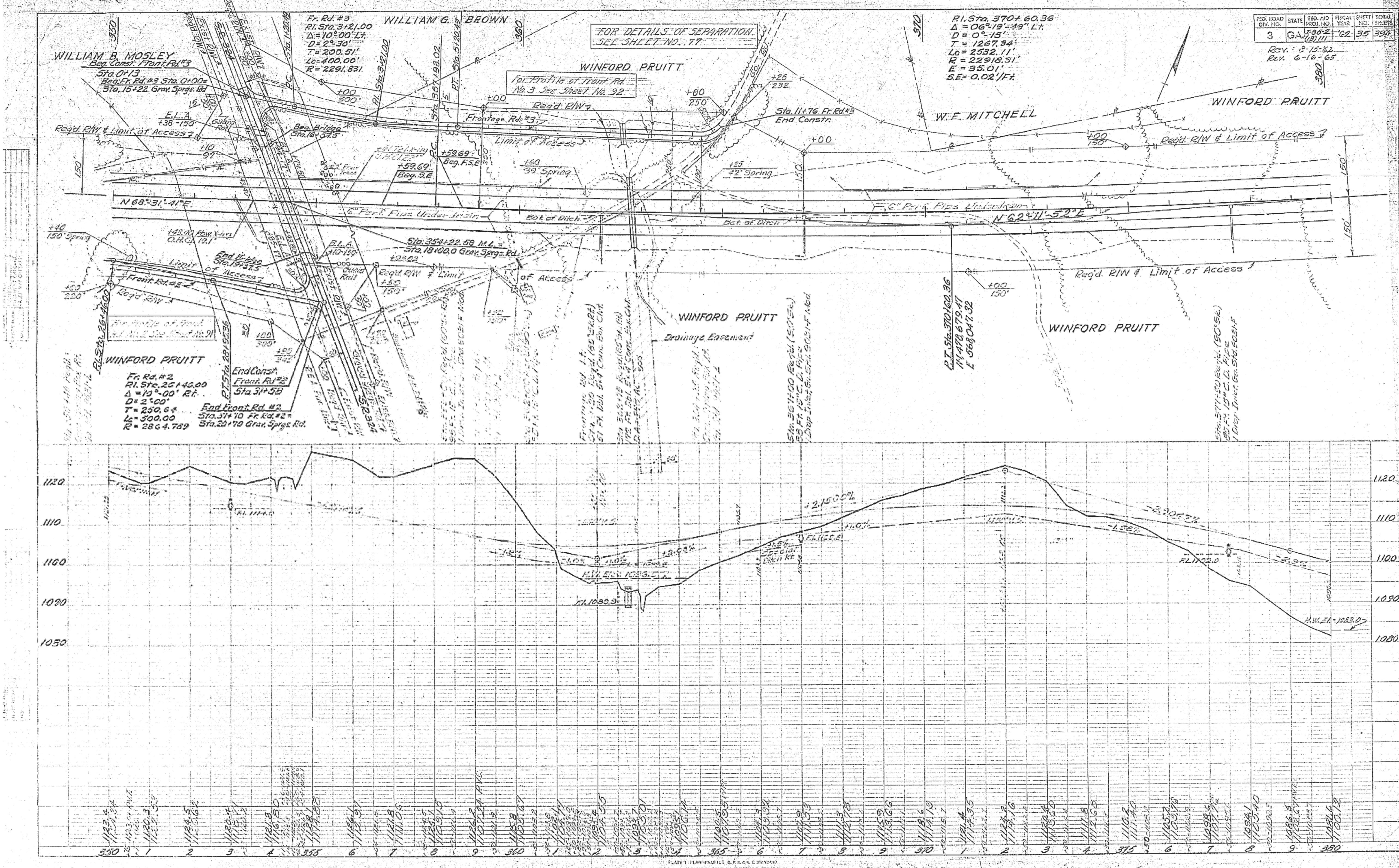


PLATE I - PLAN-PROFILE O.P.R. & R.E. STANDARD
MERRITT & CHAPMAN CO. NEW YORK


FED. ROAD DIV. NO. 3
STATE GA.
FED. AID PROJ. NO. I-85-2(13)111
FISCAL YEAR '62
SHEET NO. 35
TOTAL SHEETS 394
Rev.: 8-15-62
Rev. 6-16-65
WILLIAM B. MOSLEY
WILLIAM G. BROWN
WINFORD PRUITT
W.E. MITCHELL
FOR DETAILS OF SEPARATION SEE SHEET NO. 77
For Profile of Front Rd. No. 3 See Sheet No. 92
Fr. Rd. #3
P.I. Sta. 3+21.00
Δ = 10°-00' Lt.
D = 2°-30'
T = 200.51'
Lc = 400.00'
R = 2291.831
Beg. Const. Front Rd. #3
Sta. 0+13
Beg. Fr. Rd. #3 Sta. 0+00 = Sta. 15+22 Grav. Sprgs. Rd.
Beg. Bridge Sta. 16+57.5
End Bridge Sta. 19+37.5
Sta. 354+22.58 M.L. = Sta. 18+00.0 Grav. Sprgs. Rd.
Sta. 11+76 Fr. Rd. #3 End Constr.
Frontage Rd. #3
Req'd. R/W & Limit of Access
Limit of Access
6" Perf. Pipe Under drain
Bot. of Ditch
N 68°-31'-41" E
N 62°-11'-52" E
+59.69 Beg. S.E.
+59.69 Beg. F.S.E.
+60 39' Spring
+25 42' Spring
+40 150' Spring
+43.40 Pow. X-ing O.H.C. 19.1'
Front Rd. #2
Fr. Rd. #2
P.I. Sta. 26+46.00
Δ = 10°-00' Rt.
D = 2°-00'
T = 250.64
Lc = 500.00
R = 2864.789
P.T. Sta. 28+95.36
End Const. Front Rd. #2 Sta. 31+58
End Front Rd. #2
Sta. 31+70 Fr. Rd. #2 = Sta. 20+70 Grav. Sprgs. Rd.
P.I. Sta. 370+60.36
Δ = 06°-19'-49" Lt.
D = 0°-15'
T = 1267.34'
Lc = 2532.11'
R = 22918.31'
E = 35.01'
S.E. = 0.02'/Ft.
P.T. Sta. 370+60.36
N 1,478,679.47
E 568,047.32
Drainage Easement
Sta. 367+00 Req'd. (50' Sk.) 58 Ft. 15" C.D. Pipe 1 Drop Inlet, Ga. Std. 9031-F Mod.
Sta. 377+50 Req'd. (90' Sk.) 25 Ft. 15" C.D. Pipe 1 Drop Inlet, Ga. Std. 9031-F
+2.1500%
+1.0%
-1.5%
-2.3062%
-2.9%
H.W. Elev. 1085.5
Fl. 1089.9
Fl. 1105.8
Fl. 1102.0
H.W. El. = 1083.0
1120
1110
1100
1090
1080
350 1 2 3 4 355 6 7 8 9 360 1 2 3 4 365 6 7 8 9 370 1 2 3 4 375 6 7 8 9 380
PLATE 1 - PLAN-PROFILE

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	GA.	I-85-2 (9)111	62	36	394E

Rev. 6-16-65

For Profile of Frnt Rd. No. 4
See Sheet No. 92

Trip. 7"x4" Conc. Br. Cut'n Reqd.
Ga. Std's. 2226 & 2229, Des. 2

Sta. 380+91.21
End Br. Cut'n

Sta. 380+72.79
Beg. Br. Cut'n

150' Beg. Marsh

+50 End Marsh

Reqd. R/W & Limit of Access

WINFORD PRUITT

P.T. Sta. 383+26.13

J.R. PIRKLE

Sta. 0+00 Fr. Rd. #4
Begin Construction

DORTHY A. PIRKLE

Reqd. R/W

Frontage Road #4

Limit of Access

6" Perf. Pipe Underdrain

N62°-11'-52"E

Sta. 10+00 Fr. Rd. #4
End Construction

R.C. MASTERS

Lake

Drainage Easement

Sta. 382+58.46
End Full S.E.

Sta. 384+58.46
End S.E.

J.R. PIRKLE

WINFORD PRUITT

+00 Pow. X-ing
Elev. 1150.54

Branch

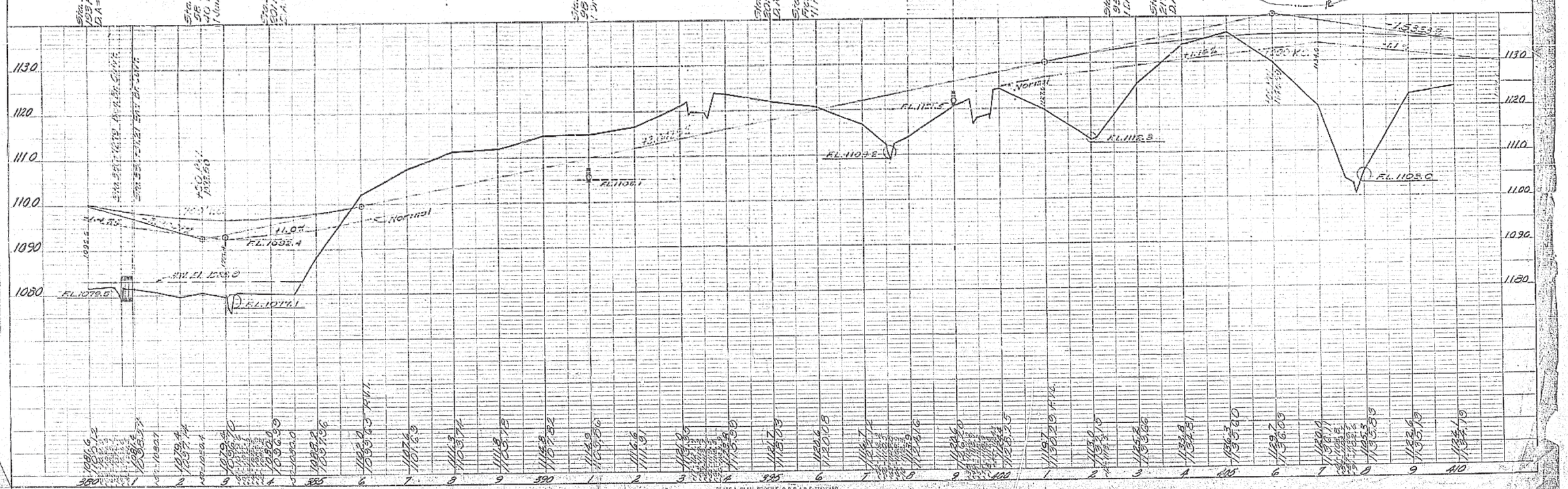
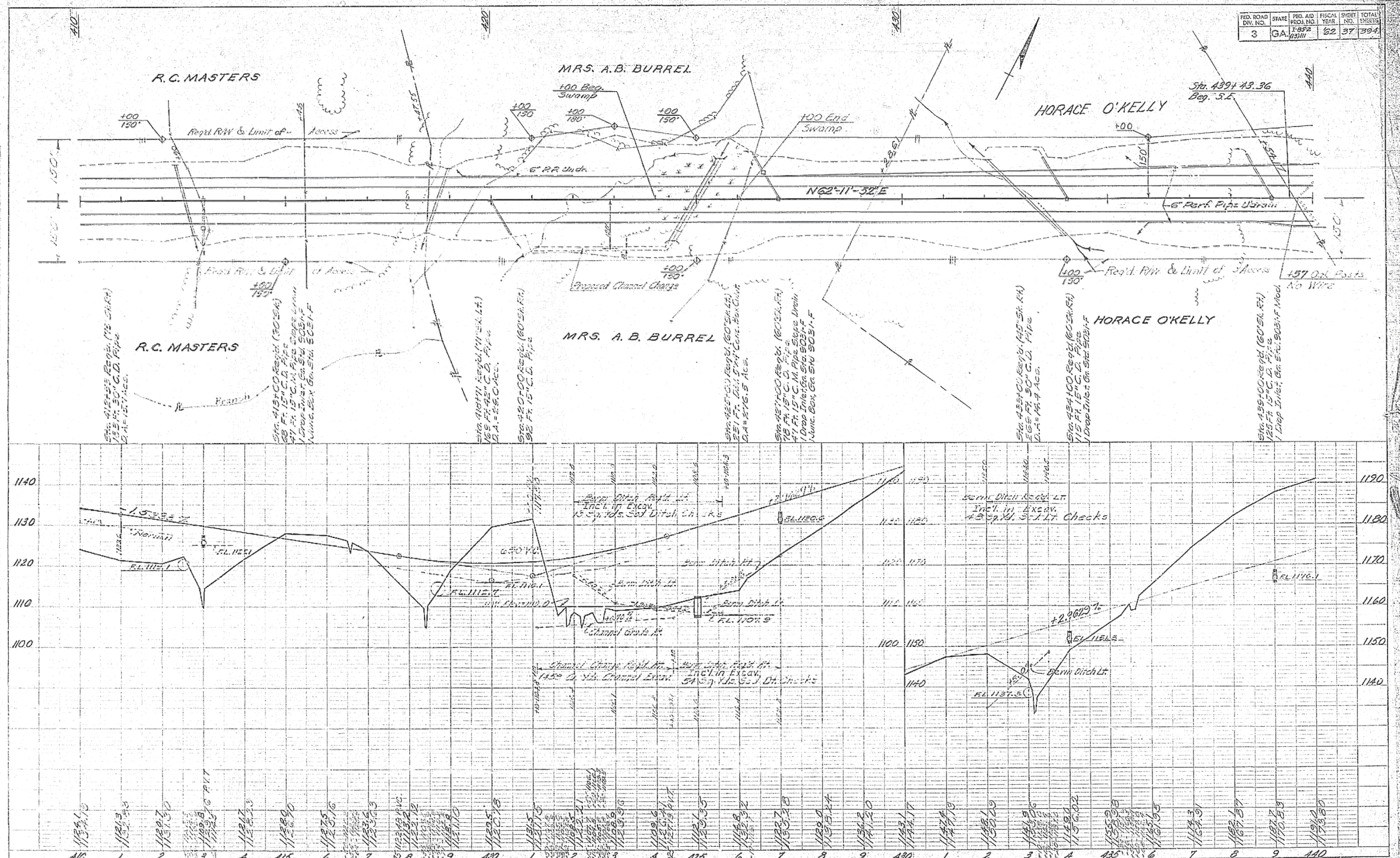


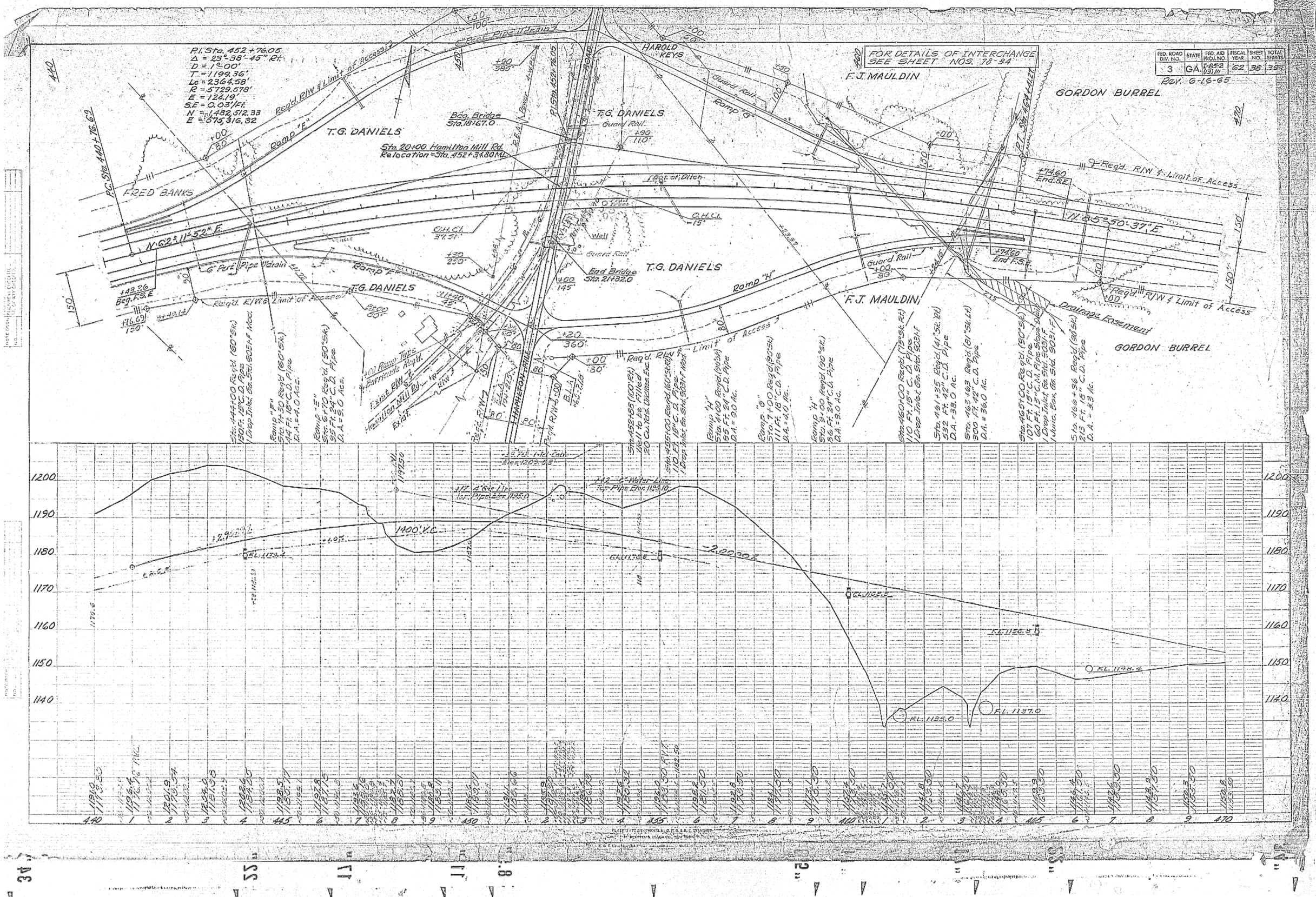
PLATE 1 - PLAN-PROFILE O.P.R. & R.F. STANDARD
SCUTELLA & LEVER CO., NEW YORK

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	GA.	I-85E2 (13)111	62	37	394



FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	GA.	I-85-2 (13) III	62	38	39

Rev. 6-16-65



FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	CA	I-85-2 (13)111	62	39	322

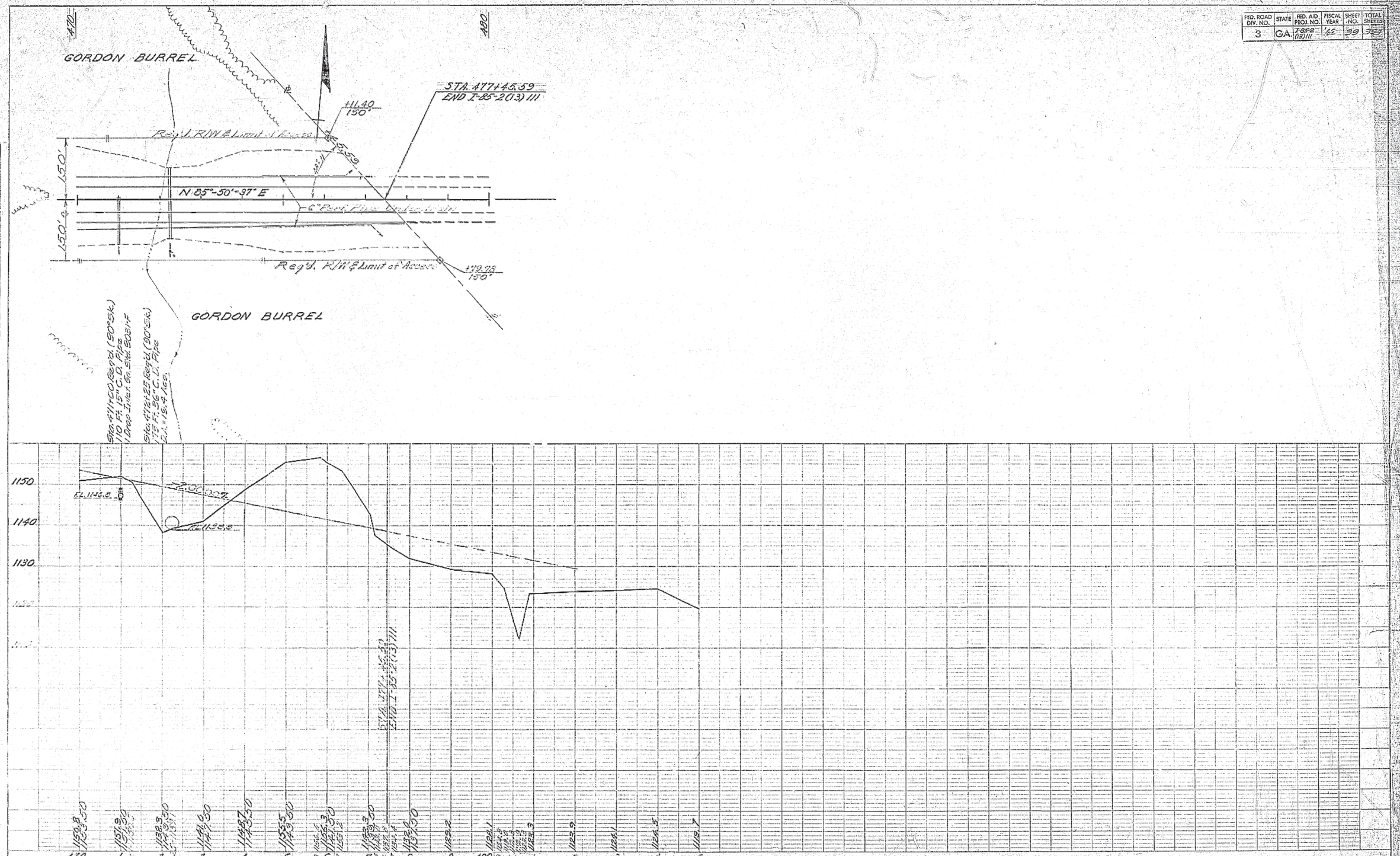


PLATE I - PLAN & PROFILE O.F.R.A.R.E. STANDARD
MONTH & STATE OF NEW YORK

Appendix H. Inside Shoulder Design Exception Letter

DESIGN EXCEPTION

I-85 HOT from Old Peachtree Road to Hamilton Mill Road
Project Number: NHIM0-0085-02(164)
Counties: Gwinnett
P.I. Number: 110600

HNTB Work Order No. 48033

Department of Transportation
State of Georgia
Innovative Delivery

November 30, 2014

Inside Shoulder Width

HNTB Corporation
Engineers Architects Planners

3715 Northside Parkway
200 Northcreek, Suite 800
Atlanta, GA 30327

Telephone (404) 946-5700
Facsimile (404) 841-2820
www.hntb.com

HNTB

Andrew Hoenig, PE
State Innovative Delivery Engineer
Georgia Department of Transportation
One Georgia Center
600 West Peachtree Street
Atlanta, Georgia 30308

Re: Design Exception Package for Substandard Inside(Median) Shoulder Width
I-85 HOT Lane Extension Project, Gwinnett County
NHIM0-0085-02(164)
P.I. No. 110600

November 30, 2014

Approval of a Design Exception is requested for substandard inside shoulder width along I-85, between Old Peachtree Road and Hamilton Mill Road.

This project involves widening along Interstate 85 (I-85), one lane in each direction, from just north of Old Peachtree Road to Hamilton Mill Road. The project is approximately 10 miles in length and located entirely within Gwinnett County. The proposed new lanes will be tolled managed lanes. The purpose of the proposed managed lanes is to create realistic travel time savings through the use of variable priced tolling to manage volume in the lanes and maintain a minimum average speed.

South of I-985, the project proposes to widen I-85 outside of the existing eight-lane mainline. While north of I-985, widening on the inside shoulder along the four-lane I-85 section. Existing travel lanes have a posted speed limit of 65 MPH south of I-985 and 70 MPH on points north along I-85. The proposed design speeds for the project will match the current posted speed limits along the interstate mainlines.

Adjacent to the northern terminus of this project, P.I. 110610 will extend the proposed managed lanes from Hamilton Mill Road to S.R. 211 in Barrow County. The southern terminus of this project is associated with the following projects: Projects CSMSL-0009-00(295), CSMSL-0009-00(296), CSMSL-0009-00(297), P.I. Numbers 0009295, 0009296, and 0009297, which are currently completed and operational and have converted the existing High Occupancy Vehicle (HOV) lanes along I-85 from Chamblee Tucker Road to just north of Old Peachtree Road to High Occupancy Toll (HOT) lanes.

Approval of the following design exception is requested for the project.

Design Exception Request: Permit an exception from the required inside shoulder width. AASHTO requires on freeways of six or more lanes that the usable paved width of the inside shoulders must be a minimum of 10 feet. The exception includes the inside shoulder between Old Peachtree Road and the end of the project at Hamilton Mill Road, located from mile post 109.80 to mile post 119.64.

Existing conditions along the I-85 corridor, between Old Peachtree Road and I-985, have an inside shoulder varying between 6.5' – 12.25'. The existing conditions from I-985 to Hamilton Mill Road have an inside shoulder that varies from 2' – 4'. The proposed design, from Old Peachtree Road to I-985,

maintains the existing inside shoulder width. From I-985 to Hamilton Mill Road, the proposed design has an inside shoulder varying between 4' – 18'.
Typical sections and cost estimates through the limits in question can be found in Appendices A, B, C, and D.

The Average Daily Traffic (ADT) volumes can be seen in Table 1 below for the project corridor.

TABLE 1
AVERAGE DAILY TRAFFIC BY SEGMENT INCLUDING MANAGED LANES (HOT)

LOCATION		2014 (EXISTING)	2018 (BUILD)	2038 (DESIGN)
I-85 - APPROACHING OLD PEACHTREE ROAD	GP	140100	145800	194200
	HOT	5200	5500	9600
I-85 - OLD PEACHTREE ROAD I-85 HOT INGRESS/EGRESS	GP	118300	121700	159900
	HOT	N/A	5500	11500
I-85 - I-85 HOT INGRESS/EGRESS TO LAWRENCEVILLE SUWANEE HWY/SR 317	GP	157600	158600	209500
	HOT	N/A	5500	11500
I-85 - LAWRENCEVILLE SUWANEE HWY/SR 317 TO I-85/I-985 SPLIT	GP	150600	151200	198900
	HOT	N/A	5600	12300
I-85 - I-85/I-985 SPLIT TO I-85 HOT INGRESS/EGRESS	GP	87600	85600	110500
	HOT	N/A	5600	12300
I-85 - I-85 HOT INGRESS/EGRESS TO BUFORD DRIVE/SR 20	GP	87600	83100	112700
	HOT	N/A	5100	10100
I-85 - BUFORD DRIVE/SR 20 TO I-85 HOT INGRESS/EGRESS	GP	72900	70700	93200
	HOT	N/A	5100	10100
I-85 - I-85 HOT INGRESS/EGRESS TO GRAVEL SPRINGS ROAD/SR 324	GP	72900	70050	94600
	HOT	N/A	5750	8700
I-85 - GRAVEL SPRINGS ROAD/SR 324 TO I-85 HOT INGRESS/EGRESS	GP	72900	70050	91400
	HOT	N/A	5750	8700
I-85 - I-85 HOT INGRESS/EGRESS TO HAMILTON MILL ROAD	GP	72900	74200	97750
	HOT	N/A	1600 (SB only)	2350 (SB only)
I-85 - BEYOND HAMILTON MILL ROAD	GP	57200	59500	80200
	HOT	N/A	N/A	N/A

Total crashes, crash rates, and the comparison to statewide crash rate averages for the project corridor from 2010-2012 are shown in Table 2 below. As indicated Table 2, crash rates in the project corridor are lower than statewide averages.

Crash History of I-85 from Old Peachtree Rd. to Hamilton Mill Road Overpass

Table 2 Crash History of I-85 from South of Old Peachtree Road to Hamilton Mill Road (Urban Interstate)				
Year	Average Annual Daily Traffic	Total Crashes/ Crash Rate/Statewide Average Crash Rate*	Total Injuries/ Injury Rate/Statewide Average Injury Rate*	Total Fatalities/ Fatality Rate/Statewide Average Fatality Rate*
2012	109,655	620/143/205	205/47/63	0/0/0.50
2011	109,078	521/120/181	150/35/57	4/0.92/0.52
2010	114,430	435/96/175	149/33/59	2/0.44/0.51

* All crashes, injury, and fatality rates are per 100 million vehicle miles.

To construct this project without correcting the existing median shoulder widths the following requirements would have to be waived:

- AASHTO Section 8.2.4 Freeway: Traveled Way and Shoulders – On freeways with six or more lanes, the paved width of the right and left shoulder should be 10 feet; where the DDHV for truck traffic exceeds 250 veh/h, a paved shoulder width of 12 feet should be considered.
- GDOT Design Policy Manual Section 6.5 Shoulders – For high speed freeways and interstates, GDOT has adopted 14-ft as the typical overall outside shoulder width with 12-ft paved adjacent to the traveled way, and 12-ft as the typical overall inside shoulder width with 10-ft wide paved adjacent to the traveled way. Interstate ramp shoulders should be 12-ft wide outside with 10-ft paved adjacent to the traveled way, and 8-ft wide inside with 4-ft paved adjacent to the traveled way.

In order to meet AASHTO guidance, the existing inside shoulders, from Old Peachtree Road to I-985, need to be widened to 10 feet and the existing travel lanes shifted to the outside. From I-985 to Hamilton Mill Road, the inside shoulders need to be widened to 10 feet and travel lanes widened with additional outside paved shoulder. The approximate cost for meeting AASHTO guidelines is $26.38 million or 24% of total project cost.

Further considerations for inside shoulder adjustment include:

- Additional excavation and embankment for the affected areas that shift the travel lanes further outside than the proposed design. Parcels between Old Peachtree Road and SR 317 would be affected by this shift. Right-of-way acquisition would be required in order to meet proper outside shoulder and slope guidelines, thereby disrupting the project schedule. The approximate cost of a right of way acquisition process for the parcels involved is $14.15 million.
- Adjusting the inside shoulder to meet AASHTO guidance requires longer pipe lengths, box culvert extensions, and more outlet structures. The approximate cost for additional pipe and box culvert extensions is $202,000. Along with the cost, the additional drainage structures raise more complexities with erosion control, MS4 requirements, and drainage construction staging.
- The approved full depth pavement design has five layers. The additional pavement required, in

order to meet AASHTO shoulder width guidance, would cause a significant construction cost increase of approximately $9.7 million.

- Three bridges require widening due to the proposed design. Increasing shoulder width would affect the I-85 SB Bridge over I-985 and the two I-85 Bridges over SR 20. Widening the bridges would increase the cost and complexity of construction. I-85 SB Bridge profile over I-985 was designed so that the bridge could be safely constructed while the new NB HOT lane bridge temporarily carried all SB I-85 traffic. Widening the I-85 SB Bridge design would complicate this staging plan by pushing the NB HOT lane bridge farther away from the I-85 SB lanes. The approximate cost for additional widening of all three bridges is $429,000.
- Complications with I-85/SR317 Ramps. Widening the inside shoulders and shifting existing travel lanes outward would require the reinstallation of the soil nail retaining walls near the SR 317 interchange. The existing wall exceeds 15 feet for the majority of the wall's length. This constrains the options of reinstalling the soil nail walls without coming into conflict with standard retaining wall options.
- Most of the project's Environmentally Sensitive Areas are located between SR 20 and Hamilton Mill Road, the same area that would require the most construction impacts to correct the inside shoulder width. Increasing the impervious area would complicate the project in terms of water quality treatment, detention, and erosion control.
- The proposed design uses a 2 foot minimum inside shoulder. Although this does not meet desirable shoulder guideline, the proposed design does meet an allowable shoulder width according to the Federal Highway Administration Priced Managed Lane Guide Chapter 6 and AASHTO, Guide for High Occupancy Vehicle Facilities, October 2004.

Possible mitigation measures include pull-off areas at regular intervals where there is substandard inside shoulder. Pull-off areas provide certain advantages including the ability to store disabled vehicles and an area where law enforcement can detain vehicles. However, few spots would be feasible to implement these mitigation measures.

HNTB recommends that the existing median shoulder width to remain in place and use the current proposed design for the project.

Submitted By: _____ _____
Engineer of Record (Wayne Mote, PE) Date

Recommend: _____ _____
Director of Engineering Date

Recommend: _____ _____
Chief Engineer Date

Approved: _____ _____
FHWA Division Administrator Date

Conclusion:

The project aims to provide an alternative to the congested general purpose lanes as a continuation to the HOV to HOT conversion currently operational along the I-85 corridor. This design exception does not impact the goals of the project.

HNTB recommends approval of the design exception requested within this document.

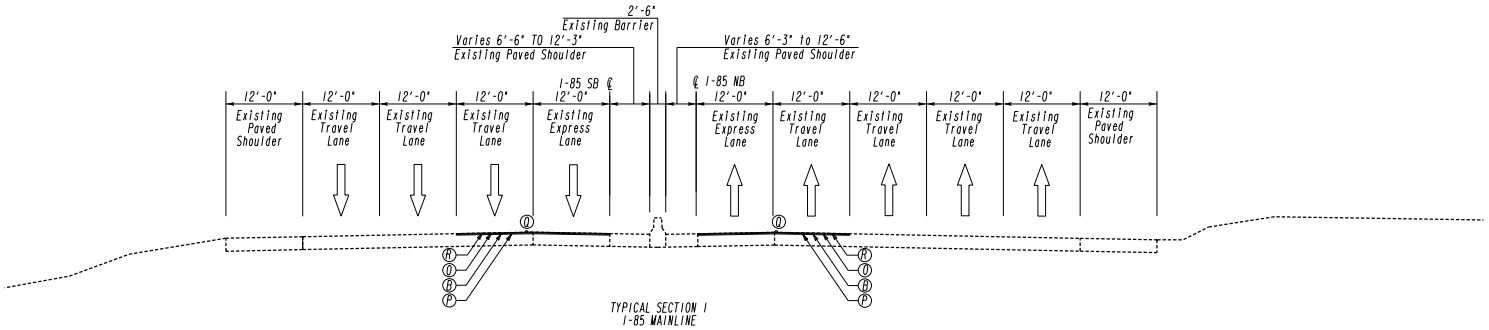
Best regards,

HNTB CORPORATION

Enclosed:

Appendix A – Proposed Typical Sections
Appendix B – Typical Sections with Standard Inside Shoulder
Appendix C – Cost Estimate w/ Standard Inside Shoulder Width
Appendix D – Cost Estimate w/o Standard Inside Shoulder Width

Appendix A – Typical Sections



TYPICAL SECTION 1
I-85 MAINLINE

SB
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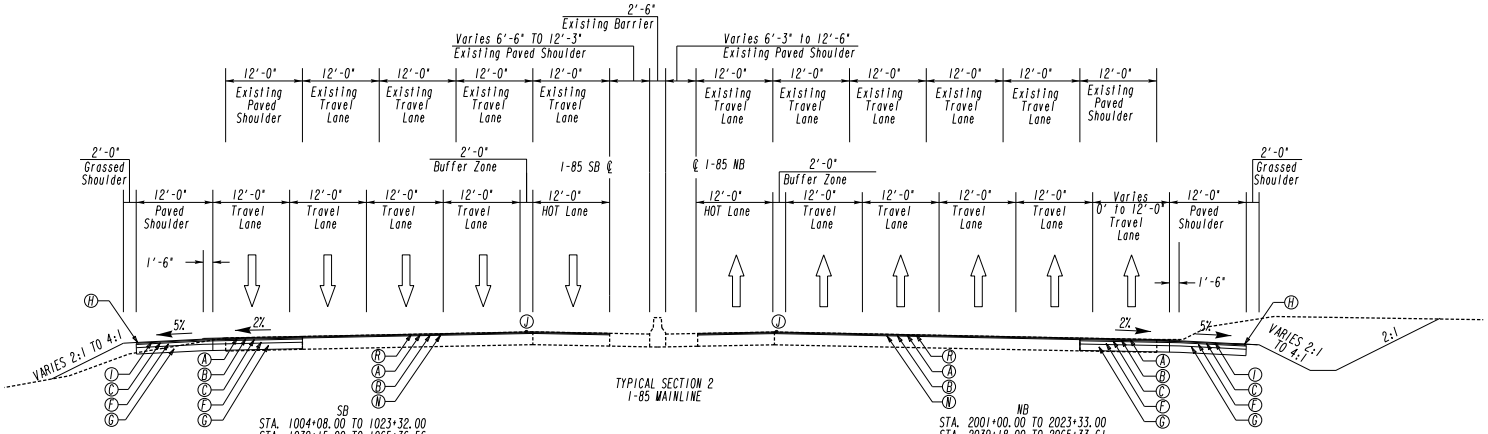
NB
STA. 2000+00.00 TO 2001+00.00



TYPICAL SECTION 2
I-85 MAINLINE

SB
STA. 1004+08.00 TO 1023+32.00
STA. 1039+15.00 TO 1065+36.56
STA. 1084+75.00 TO 1096+01.20
STA. 1104+00.00 TO 1116+00.00

NB
STA. 2001+00.00 TO 2023+33.00
STA. 2039+18.00 TO 2065+33.61
STA. 2084+61.06 TO 2095+98.53
STA. 2103+97.78 TO 2116+00.00

(A) 90 LBS/SY ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(B) 220 LBS/SY RECYCLED ASPH CONC 12.5 MM SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(C) 220 LBS/SY RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
(D) 440 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
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(F) 1320 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
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(H) GDOT DETAIL P7
(I) 220 LBS/SY RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(J) INDENTATION RUMBLE STRIPS
(K) CONCRETE SIDE BARRIER, TYPE 2-S
(L) CONCRETE MEDIAN BARRIER, TYPE S-1
(M) CONCRETE MEDIAN BARRIER, TYPE S-2
(N) MILL ASPH CONC PVMT, 3 IN DEPTH
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(P) MICRO-MILL ASPHALTIC CONCRETE PAVEMENT, VARIABLE DEPTH
(Q) REMOVE RUMBLE STRIPS
(R) LEVELING, AS REQUIRED

NOTES:
1) SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS
2) ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 8%

HNTB

3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

NO SCALE

REVISION DATES

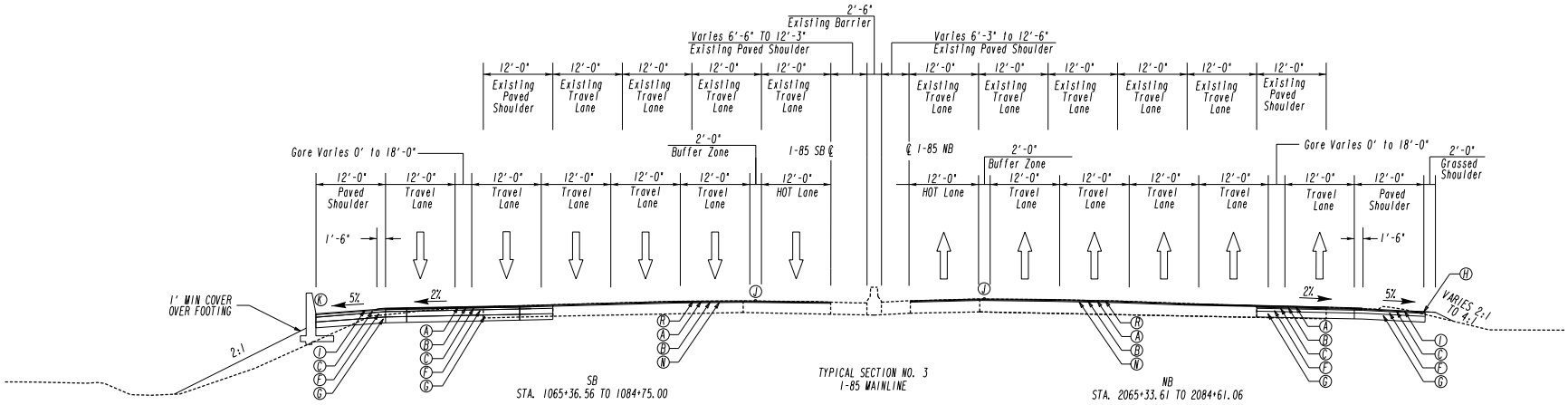
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: INNOVATIVE DELIVERY

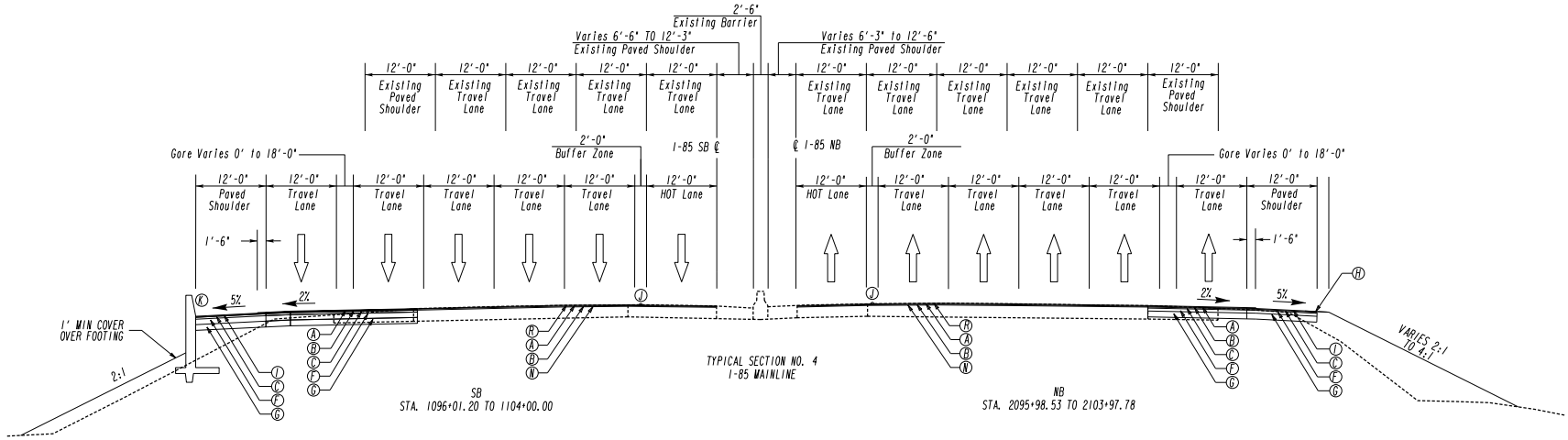
TYPICAL SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING NO.
5-01

DATETIME$$$	TIME$$$	PRF	OGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)		





(A) 90 LBS/SY ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
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(P) MICRO-MILL ASPHALTIC CONCRETE PAVEMENT, VARIABLE DEPTH
(Q) REMOVE RUMBLE STRIPS
(R) LEVELING, AS REQUIRED

NOTES:
1) SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS
2) ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 8%

HNTB

3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

NO SCALE

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: INNOVATIVE DELIVERY

TYPICAL SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 5-02

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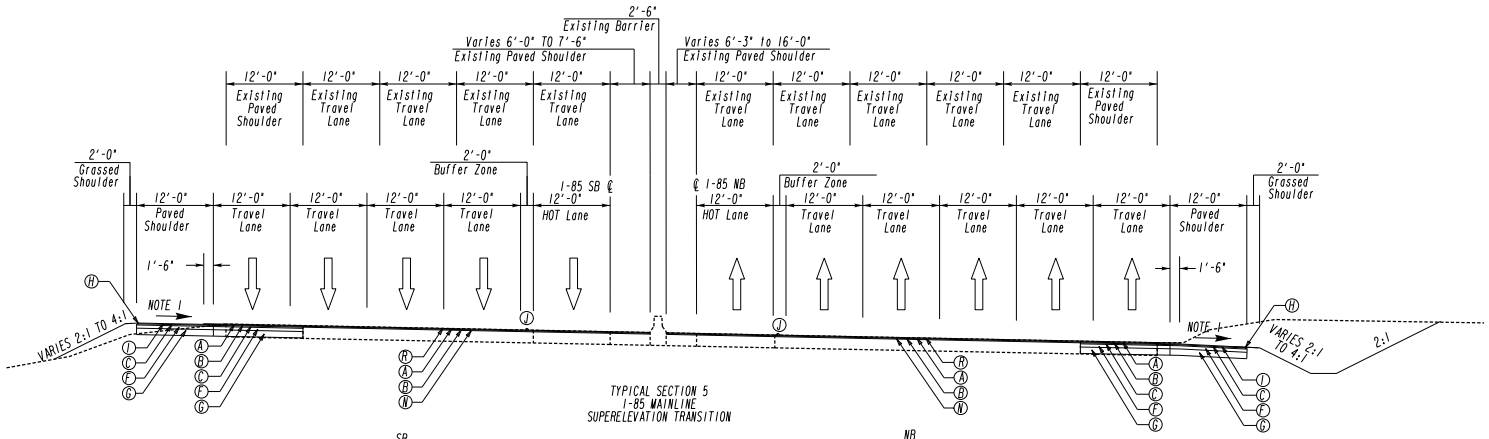

TYPICAL SECTION 5
I-85 MAINLINE
SUPERELEVATION TRANSITION

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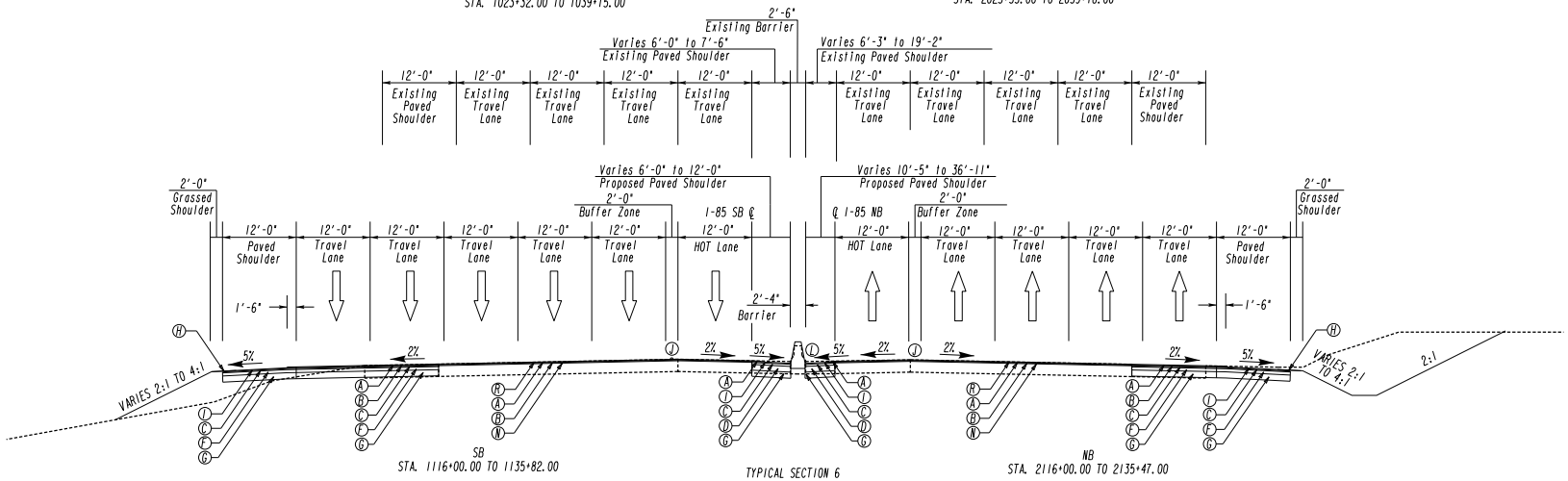
NB
STA. 2023+33.00 TO 2039+18.00



SB
STA. 1116+00.00 TO 1135+82.00

TYPICAL SECTION 6
I-85 MAINLINE

NB
STA. 2116+00.00 TO 2135+47.00

- (A) 90 LBS/SY ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
- (B) 220 LBS/SY RECYCLED ASPH CONC 12.5 MM SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
- (C) 220 LBS/SY RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
- (D) 440 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
- (E) 1100 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
- (F) 1320 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
- (G) GRADED AGGREGATE BASE, 12"
- (H) GDOT DETAIL P7
- (I) 220 LBS/SY RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
- (J) INDENTATION RUMBLE STRIPS
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- (L) CONCRETE MEDIAN BARRIER, TYPE S-1
- (M) CONCRETE MEDIAN BARRIER, TYPE S-2
- (N) MILL ASPH CONC PVMT, 3 IN DEPTH
- (O) 90 LBS/SY ASPH CONC 12.5 MM PEM, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
- (P) MICRO-MILL ASPHALTIC CONCRETE PAVEMENT, VARIABLE DEPTH
- (Q) REMOVE RUMBLE STRIPS
- (R) LEVELING, AS REQUIRED

S.E. RATE	SHOULDER SLOPE
MANAGED LANE 2.0% - 6.0%	6.0% - 2.0%
MAINLINE 2.0% - 4.0%	6.0% - 4.0%

NOTES:
1) SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS
2) ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 8%

HNTB

3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

COSTING PLANS
FOR DESIGN-BUILD

NO SCALE

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: INNOVATIVE DELIVERY

TYPICAL SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 5-03

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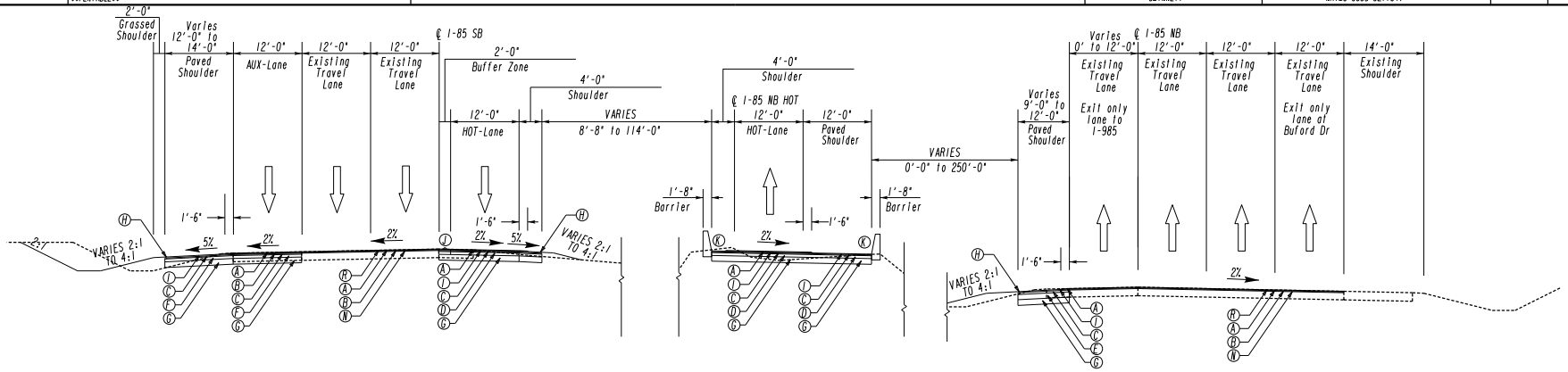

SB
STA. 1135+82.00 TO 1194+00.00

TYPICAL SECTION 7
I-85 MAINLINE

NB
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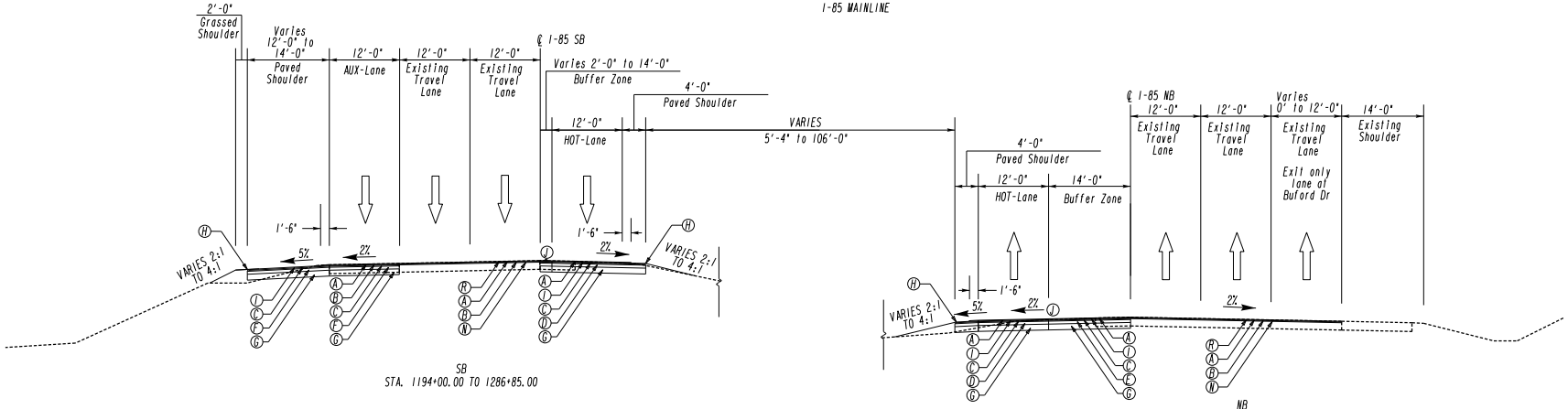

SB
STA. 1194+00.00 TO 1286+85.00

TYPICAL SECTION 8
I-85 MAINLINE

NB
STA. 2193+30.00 TO 2285+40.00

(A) 90 LBS/SY ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(B) 220 LBS/SY RECYCLED ASPH CONC 12.5 MM SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
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(H) GDOT DETAIL P7
(I) 220 LBS/SY RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
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(L) CONCRETE MEDIAN BARRIER, TYPE S-1
(M) CONCRETE MEDIAN BARRIER, TYPE S-2
(N) MILL ASPH CONC PVMT, 3 IN DEPTH
(O) 90 LBS/SY ASPH CONC 12.5 MM PEM, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(P) MICRO-MILL ASPHALTIC CONCRETE PAVEMENT, VARIABLE DEPTH
(Q) REMOVE RUMBLE STRIPS
(R) LEVELING, AS REQUIRED

NOTES:
1) SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS
2) ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 8%

HNTB

3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

NO SCALE

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: INNOVATIVE DELIVERY

TYPICAL SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 5-04

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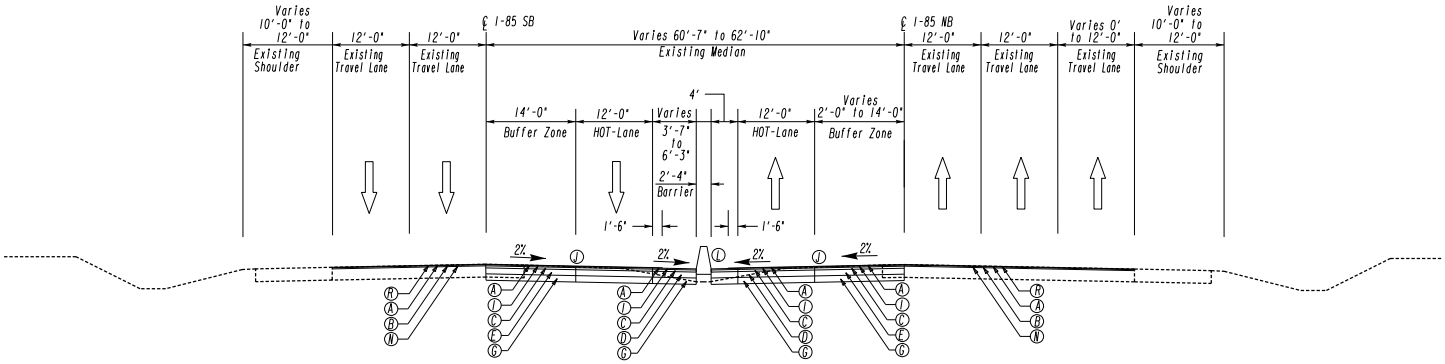

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TYPICAL SECTION 9
I-85 MAINLINE

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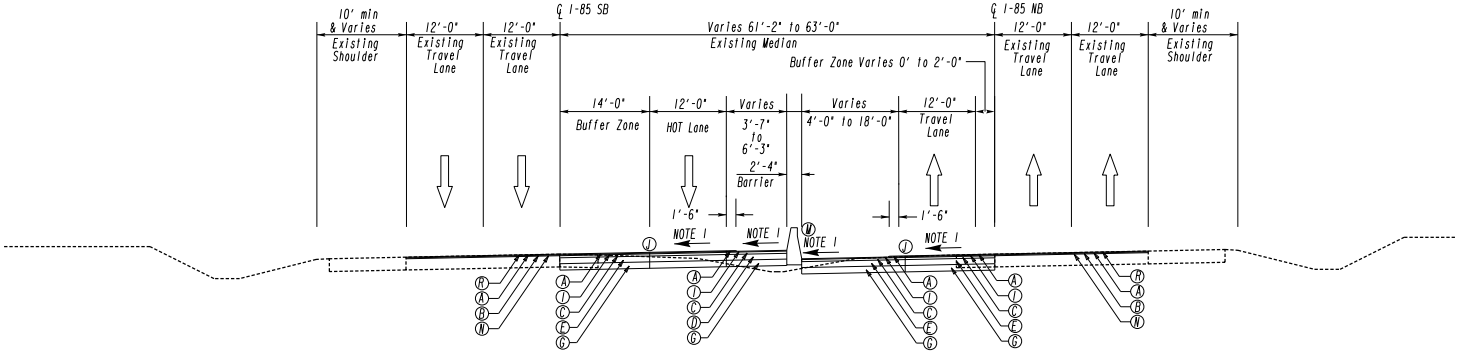

SB
STA. 1342+69.00 TO 1519+15.00

TYPICAL SECTION NO. 10
I-85 MAINLINE

NB
STA. 2341+28.00 TO 2517+86.00

(A) 90 LBS/SY ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(B) 220 LBS/SY RECYCLED ASPH CONC 12.5 MM SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
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(H) GDOT DETAIL P7
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(N) MILL ASPH CONC PVMT, 3 IN DEPTH
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(Q) REMOVE RUMBLE STRIPS
(R) LEVELING, AS REQUIRED

NOTES:
1) SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS
2) ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 8%

HNTB

3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

NO SCALE

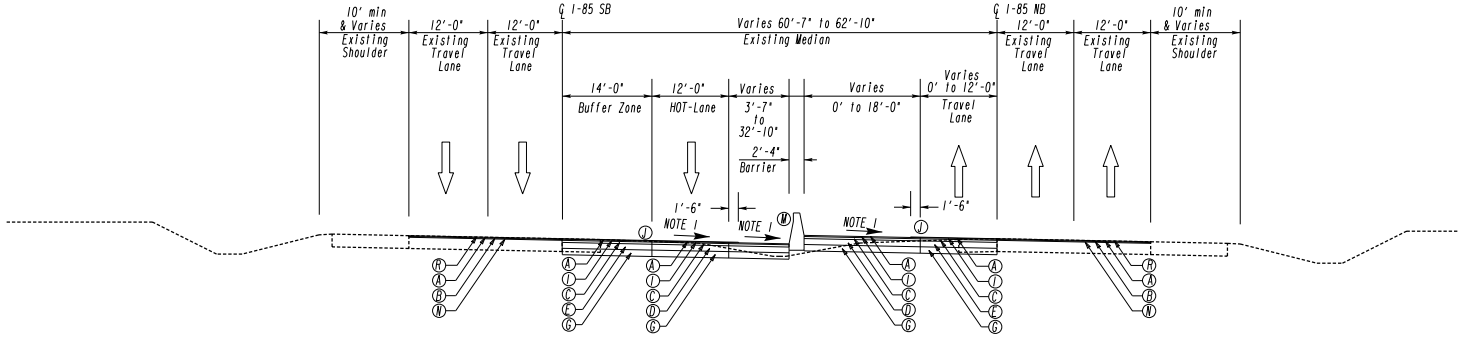
REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: INNOVATIVE DELIVERY

TYPICAL SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 5-05



SB
STA. 1519+15.00 TO 1531+20.00

TYPICAL SECTION NO. 11
I-85 MAINLINE

NB
STA. 2517+86.00 TO 2529+90.00

(A) 90 LBS/SY ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
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(P) MICRO-MILL ASPHALTIC CONCRETE PAVEMENT, VARIABLE DEPTH
(Q) REMOVE RUMBLE STRIPS
(R) LEVELING, AS REQUIRED

S.E. RATE	SHOULDER SLOPE
MAINLINE 2.0% - 4.0%	6.0% - 4.0%

NOTES:
1) SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS
2) ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 8%

HNTB

3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

NO SCALE

REVISION DATES

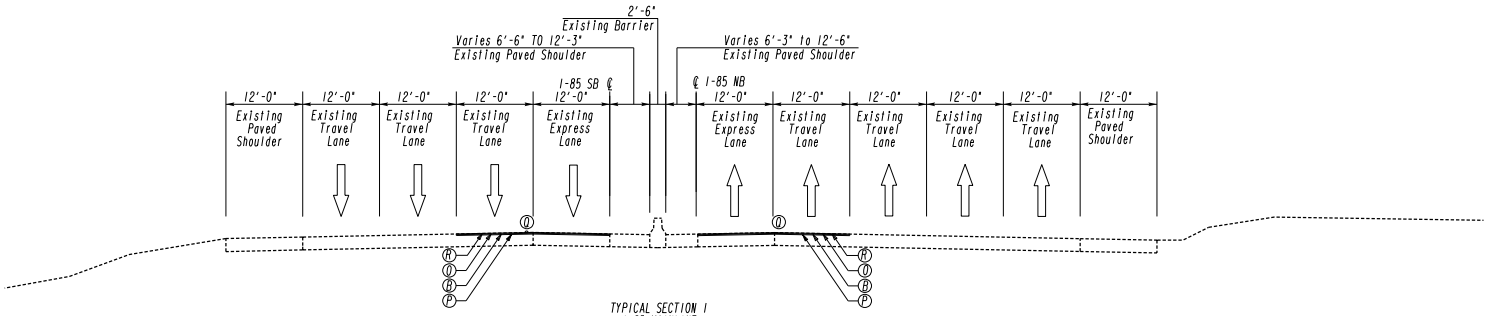
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: INNOVATIVE DELIVERY

TYPICAL SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 5-06

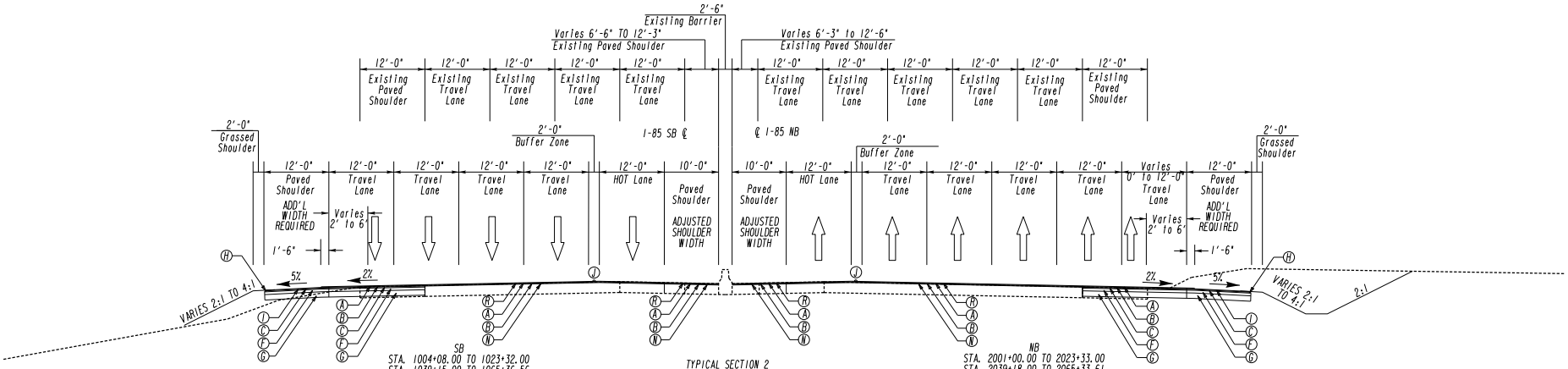
Appendix B – Typical Sections with Standard Inside Shoulder



TYPICAL SECTION 1
I-85 MAINLINE

SB
STA. 1000+00.00 TO 1004+08.00

NB
STA. 2000+00.00 TO 2001+00.00



SB
STA. 1004+08.00 TO 1023+32.00
STA. 1039+15.00 TO 1065+36.56
STA. 1084+75.00 TO 1096+01.20
STA. 1104+00.00 TO 1116+00.00

TYPICAL SECTION 2
I-85 MAINLINE

NB
STA. 2001+00.00 TO 2023+33.00
STA. 2039+18.00 TO 2065+33.61
STA. 2084+61.06 TO 2095+98.53
STA. 2103+97.78 TO 2116+00.00

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(F) 1320 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
(G) GRADED AGGREGATE BASE, 12"
(H) GDOT DETAIL P7
(I) 220 LBS/SY RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(J) INDENTATION RUMBLE STRIPS
(K) CONCRETE SIDE BARRIER, TYPE 2-S
(L) CONCRETE MEDIAN BARRIER, TYPE S-1
(M) CONCRETE MEDIAN BARRIER, TYPE S-2
(N) MILL ASPH CONC PVMT, 3 IN DEPTH
(O) 90 LBS/SY ASPH CONC 12.5 MM PEM, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(P) MICRO-MILL ASPHALTIC CONCRETE PAVEMENT, VARIABLE DEPTH
(Q) REMOVE RUMBLE STRIPS
(R) LEVELING, AS REQUIRED

NOTES:
1) SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS
2) ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 8%

HNTB

3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

NO SCALE

REVISION DATES

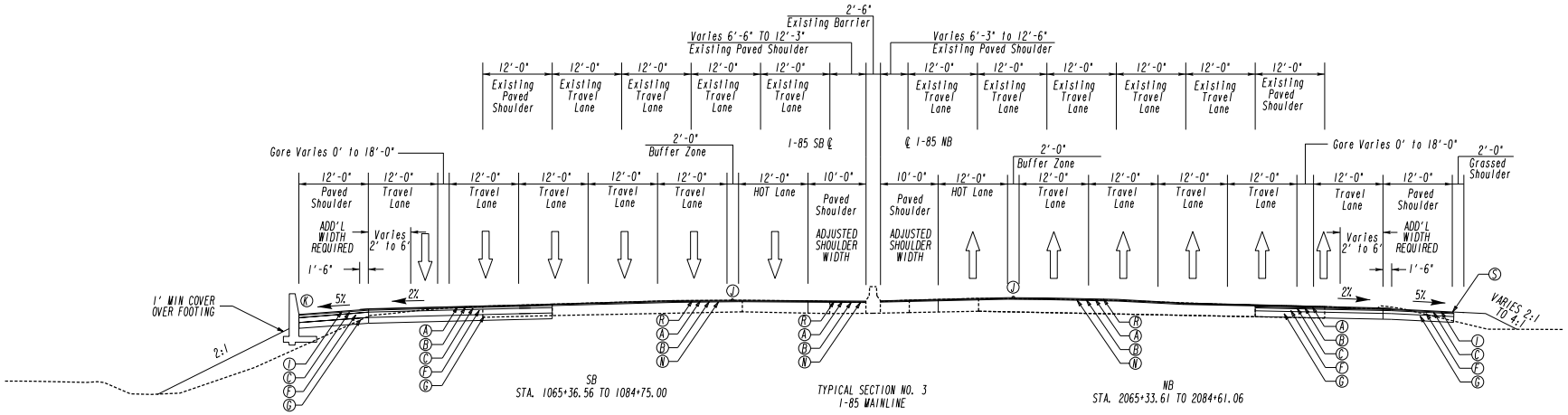
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: INNOVATIVE DELIVERY

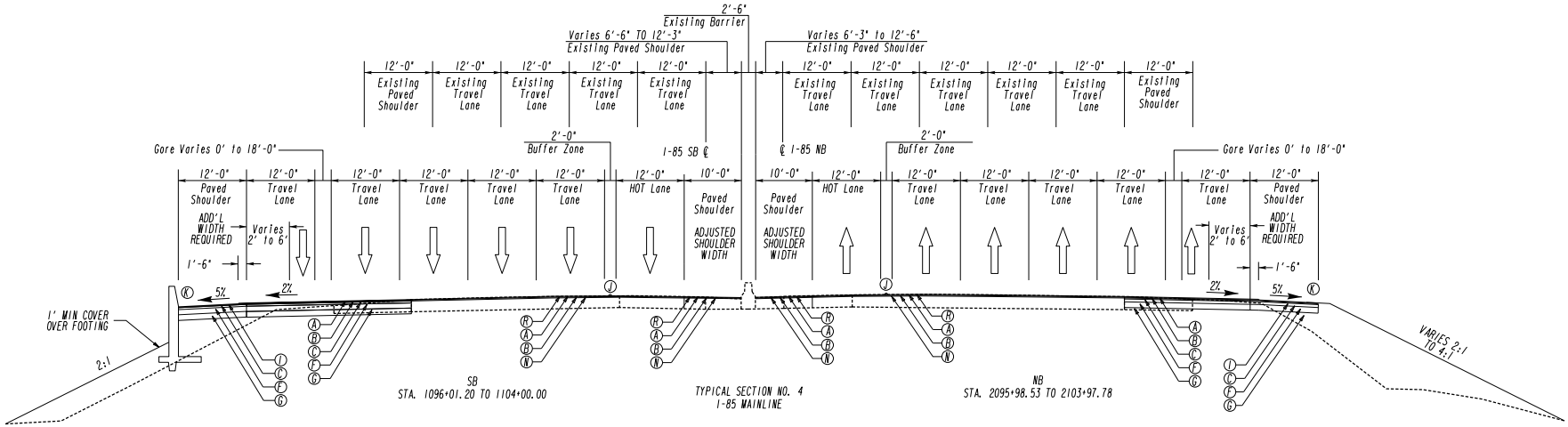
TYPICAL SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 5-01

DATETIME$$$	TIME$$$	PRF	CGN	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
$USER$		$$PENTABLE$$		GWINNETT	NHIMO-0085-02(164)	2	6





- (A) 90 LBS/SY ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
- (B) 220 LBS/SY RECYCLED ASPH CONC 12.5 MM SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
- (C) 220 LBS/SY RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
- (D) 440 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
- (E) 1100 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
- (F) 1320 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
- (G) GRADED AGGREGATE BASE, 12"
- (H) GDOT DETAIL P7
- (I) 220 LBS/SY RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
- (J) INDENTATION RUMBLE STRIPS
- (K) CONCRETE SIDE BARRIER, TYPE 2-S
- (L) CONCRETE MEDIAN BARRIER, TYPE S-1
- (M) CONCRETE MEDIAN BARRIER, TYPE S-2
- (N) MILL ASPH CONC PVMT, 3 IN DEPTH
- (O) 90 LBS/SY ASPH CONC 12.5 MM PEM, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
- (P) MICRO-MILL ASPHALTIC CONCRETE PAVEMENT, VARIABLE DEPTH
- (Q) REMOVE RUMBLE STRIPS
- (R) LEVELING, AS REQUIRED

NOTES:
1) SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS
2) ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 8%

HNTB

3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

NO SCALE

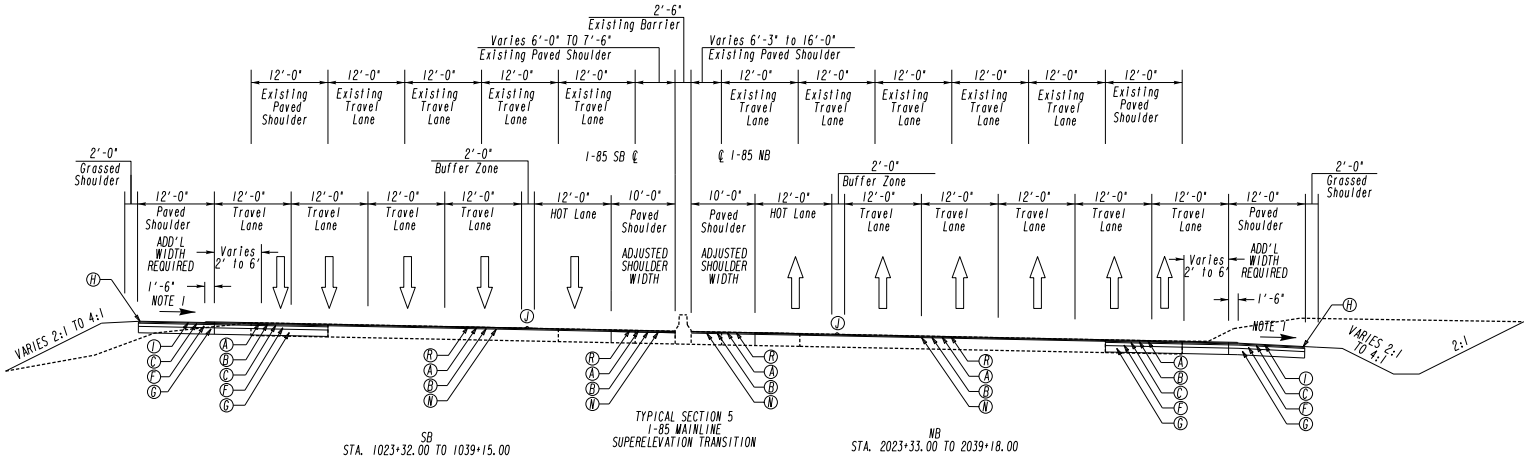
REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: INNOVATIVE DELIVERY

TYPICAL SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

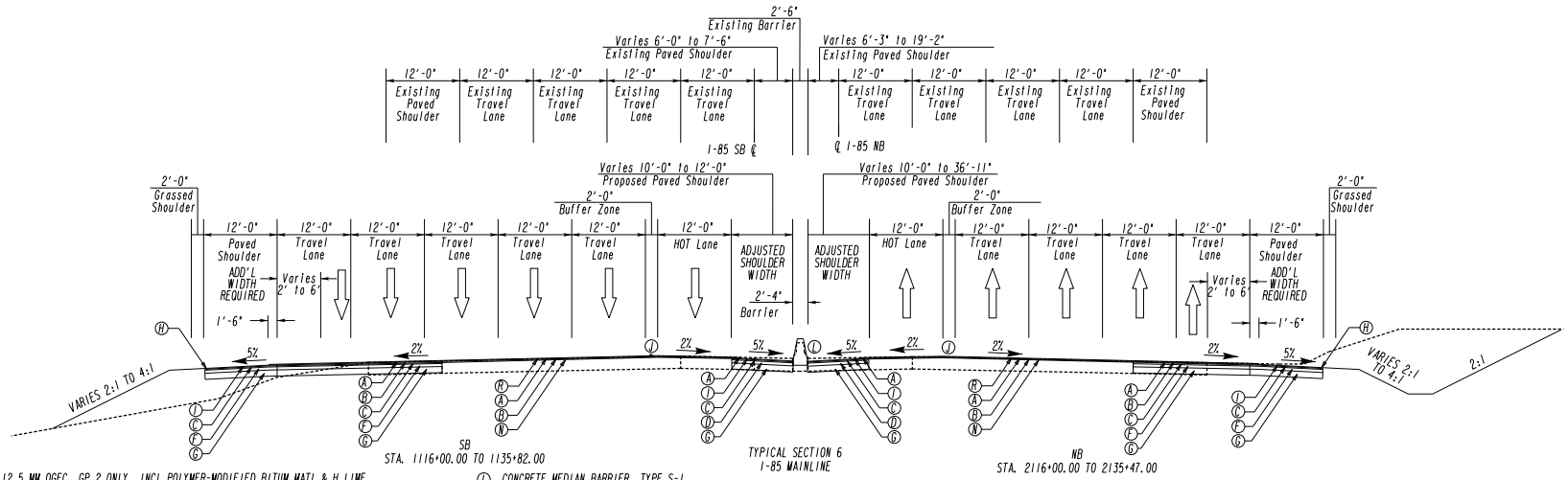
DRAWING No. 5-02



SB
STA. 1023+32.00 TO 1039+15.00

TYPICAL SECTION 5
I-85 MAINLINE
SUPERELEVATION TRANSITION

NB
STA. 2023+33.00 TO 2039+18.00



SB
STA. 1116+00.00 TO 1135+82.00

TYPICAL SECTION 6
I-85 MAINLINE

NB
STA. 2116+00.00 TO 2135+47.00

- (A) 90 LBS/SY ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
- (B) 220 LBS/SY RECYCLED ASPH CONC 12.5 MM SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
- (C) 220 LBS/SY RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
- (D) 440 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
- (E) 1100 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
- (F) 1320 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
- (G) GRADED AGGREGATE BASE, 12"
- (H) GDOT DETAIL P7
- (I) 220 LBS/SY RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
- (J) INDENTATION RUMBLE STRIPS
- (K) CONCRETE SIDE BARRIER, TYPE 2-S
- (L) CONCRETE MEDIAN BARRIER, TYPE S-1
- (M) CONCRETE MEDIAN BARRIER, TYPE S-2
- (N) MILL ASPH CONC PVMT, 3 IN DEPTH
- (O) 90 LBS/SY ASPH CONC 12.5 MM PEM, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
- (P) MICRO-MILL ASPHALTIC CONCRETE PAVEMENT, VARIABLE DEPTH
- (Q) REMOVE RUMBLE STRIPS
- (R) LEVELING, AS REQUIRED

S.E. RATE	SHOULDER SLOPE
MANAGED LANE 2.0% - 6.0%	6.0% - 2.0%
MAINLINE 2.0% - 4.0%	6.0% - 4.0%

NOTES:
1) SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS
2) ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 8%

HNTB

3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

NO SCALE

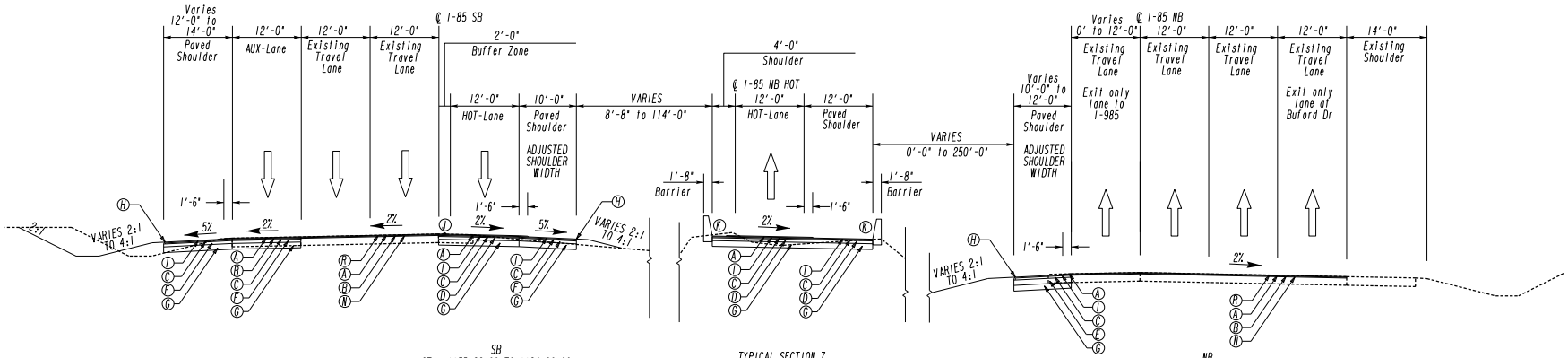
REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: INNOVATIVE DELIVERY

TYPICAL SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

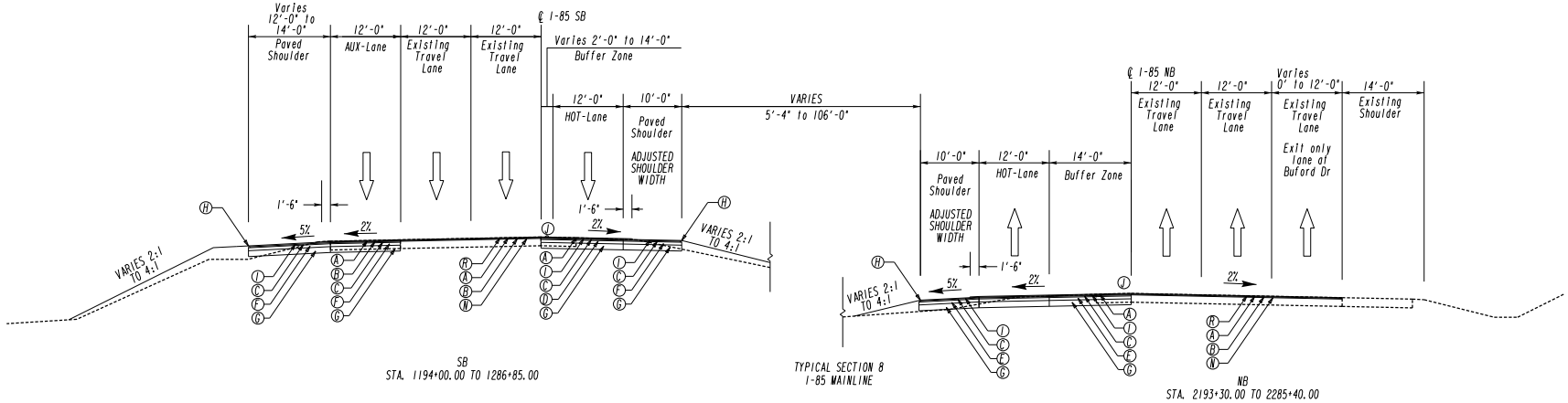
DRAWING No. 5-03



SB
STA. 1135+82.00 TO 1194+00.00

TYPICAL SECTION 7
I-85 MAINLINE

NB
STA. 2135+47.00 TO 2193+30.00



SB
STA. 1194+00.00 TO 1286+85.00

TYPICAL SECTION 8
I-85 MAINLINE

NB
STA. 2193+30.00 TO 2285+40.00

(A) 90 LBS/SY ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(B) 220 LBS/SY RECYCLED ASPH CONC 12.5 MM SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(C) 220 LBS/SY RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
(D) 440 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
(E) 1100 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
(F) 1320 LBS/SY RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME
(G) GRADED AGGREGATE BASE, 12"
(H) GDOT DETAIL P7
(I) 220 LBS/SY RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(J) INDENTATION RUMBLE STRIPS
(K) CONCRETE SIDE BARRIER, TYPE 2-S
(L) CONCRETE MEDIAN BARRIER, TYPE S-1
(M) CONCRETE MEDIAN BARRIER, TYPE S-2
(N) MILL ASPH CONC PVMT, 3 IN DEPTH
(O) 90 LBS/SY ASPH CONC 12.5 MM PEM, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(P) MICRO-MILL ASPHALTIC CONCRETE PAVEMENT, VARIABLE DEPTH
(Q) REMOVE RUMBLE STRIPS
(R) LEVELING, AS REQUIRED

NOTES:
1) SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS
2) ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 8%

HNTB

3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

NO SCALE

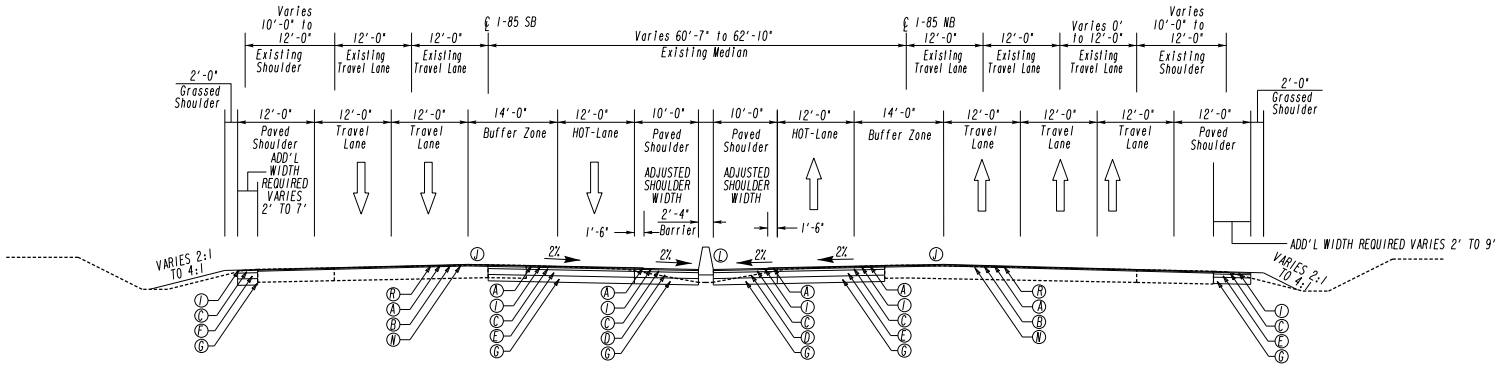
REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: INNOVATIVE DELIVERY

TYPICAL SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

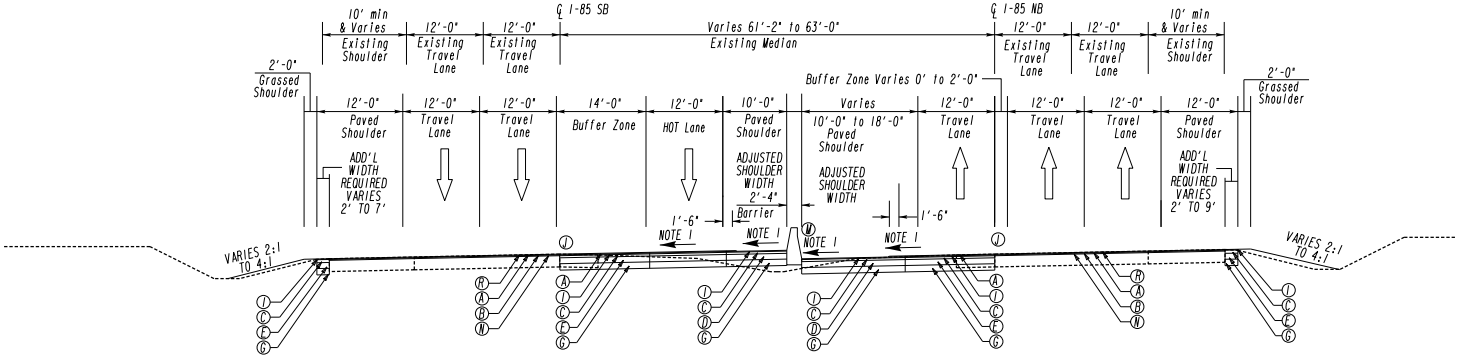
DRAWING No. 5-04



SB
STA. 1286+85.00 TO 1342+69.00

TYPICAL SECTION 9
I-85 MAINLINE

NB
STA. 2285+40.00 TO 2341+28.00



SB
STA. 1342+69.00 TO 1519+15.00

TYPICAL SECTION NO. 10
I-85 MAINLINE

NB
STA. 2341+28.00 TO 2517+86.00

(A) 90 LBS/SY ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(B) 220 LBS/SY RECYCLED ASPH CONC 12.5 MM SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
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(G) GRADED AGGREGATE BASE, 12"
(H) GDOT DETAIL P7
(I) 220 LBS/SY RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(J) INDENTATION RUMBLE STRIPS
(K) CONCRETE SIDE BARRIER, TYPE 2-S
(L) CONCRETE MEDIAN BARRIER, TYPE S-1
(M) CONCRETE MEDIAN BARRIER, TYPE S-2
(N) MILL ASPH CONC PVMT, 3 IN DEPTH
(O) 90 LBS/SY ASPH CONC 12.5 MM PEM, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(P) MICRO-MILL ASPHALTIC CONCRETE PAVEMENT, VARIABLE DEPTH
(Q) REMOVE RUMBLE STRIPS
(R) LEVELING, AS REQUIRED

S.E. RATE	SHOULDER SLOPE
MAINLINE 2.0% - 4.0%	6.0% - 4.0%

NOTES:
1) SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS
2) ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 8%

HNTB
3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

NO SCALE

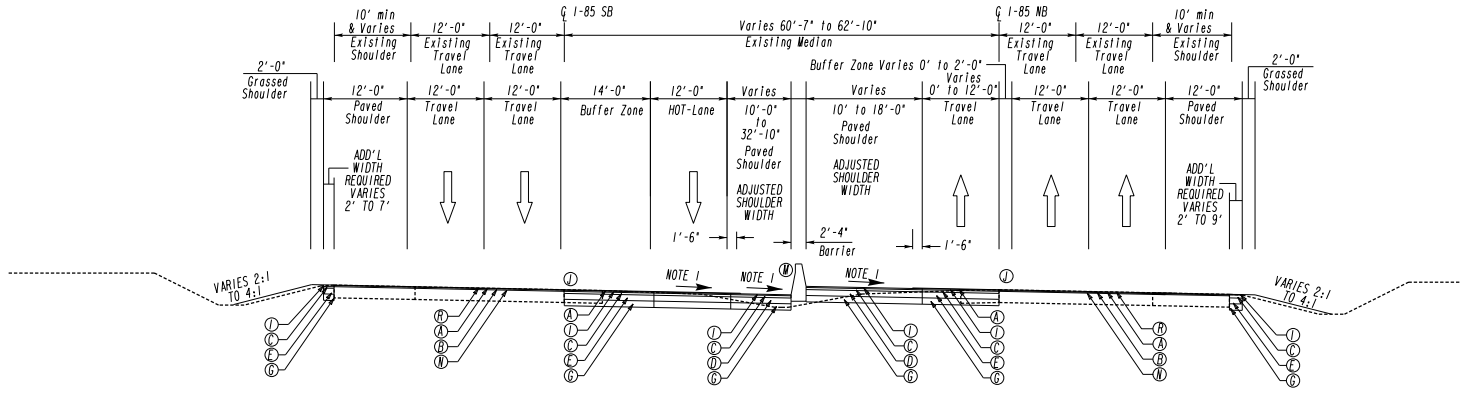
REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: INNOVATIVE DELIVERY

TYPICAL SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 5-05



(A) 90 LBS/SY ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
(B) 220 LBS/SY RECYCLED ASPH CONC 12.5 MM SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
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(Q) REMOVE RUMBLE STRIPS
(R) LEVELING, AS REQUIRED

S.E. RATE	SHOULDER SLOPE
MAINLINE 2.0% - 4.0%	6.0% - 4.0%

NOTES:
1) SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS
2) ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 8%

HNTB

3715 NORTHSIDE PARKWAY, NW
200 NORTHCREEK, SUITE 800
ATLANTA, GEORGIA 30327

COSTING PLANS FOR DESIGN-BUILD

NO SCALE

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: INNOVATIVE DELIVERY

TYPICAL SECTIONS

PROJECT: I-85 NORTH EXPRESS LANE
COUNTY: GWINNETT

DRAWING No. 5-06

Appendix C – Cost Estimate w/ Standard Inside Shoulder Width

I-85 HOT Lanes

Project	Activity		Total
I-85 North Express Lanes Extension	GDOT Administrative =	0.0%	$ -
PI 110600	PM Support =	0.0%	$ -
Gwinnett County			$ -
From Old Peachtree to Hamilton			$ -
Mill Road			$ -
	Design-Build Contract		$ 9,991,000
	Asphalt Index		$ 1,242,309
	Engineering and Inspection =	0.0%	$ -
	Contingency =	10.0%	$ 999,100
	Project Total		$ 12,232,409

JOB NUMBER:	110600		
DESCRIPTION:	Cost of pavement for standard inside shoulder		
Construction Complete =	**$**	**9,538,993.62**	
Design Complete (0%) =	**$**	**-**	<=Excludes Asphalt Index
Contingency (0%) =	**$**	**-**	<=Based on all above costs
Subtotal =	**$**	**9,538,993.62**	

SCHEDULE ASSUMPTIONS:

Current Date:	Nov-14
Design & Construction Start:	Mar-16
Construction Completed:	Mar-18
Mid Point Construction/Agency:	Mar-17
Months between Start & Complete:	24
(Years):	2.000
Months between Mid-Point Construction and Current:	28
(Years):	2.333

ANNUAL INFLATION RATE ASSUMPTIONS:

Construction:	2.00%

CONSTRUCTION COSTS (11/2014 $) =	$	9,538,994
YOE Total Project Costs	**$**	**9,991,000.00**

STATE HIGHWAY AGENCY
JOB ESTIMATE REPORT

JOB NUMBER: 110600
DESCRIPTION: I-85 HOT LANES with Standard Inside Shoulder

COST GROUPS FOR I-85 HOT LANES with Standard Inside Shoulder PI# 110600

COST	GROUP	DESCRIPTION	QUANTITY	PRICE	AMOUNT
		TERMPORARY EROSION CONTROL	1	$ -	$ -
		PERMANENT EROSION CONTROL	1	$ -	$ -
		ITS (GENERAL PURPOSE) -	1	$ -	$ -
		SIGNS (GENERAL PURPOSE	1	$ -	$ -
		MARKING	1	$ -	$ -
		ITS (TOLLING - GDOT)	1	$ -	$ -
		SIGN (TOLLING)	1	$ -	$ -
		GANTRIES (TOLLING)	1	$ -	$ -
		TOLLING (SRTA)	1	$ -	$ -
		ITS (TOLLING - SRTA)	1	$ -	$ -
ACTIVE COST GROUP TOTAL					$ -

ITEMS FOR I-85 HOT LANES with Standard Inside Shoulder PI# 110600

LINE	ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
	150-1000		LS	TRAFFIC CONTROL	0	$ 561,400.00	$ -
	201-1500		LS	CLEARING & GRUBBING -	0	$ -	$ -
	205-0001		CY	UNCLASS EXCAV	0	$ 3.16	$ -
	206-0002		CY	BORROW EXCAV, INCL MATL	0	$ 5.50	$ -
	540-1102		LS	REMOVAL OF EXISTING BR, BR NO -	0	$ 60.00	$ -
	540-1102		LS	REMOVAL OF EXISTING BR, BR NO -	0	$ 30.00	$ -
	543-9000		LS	CONSTRUCTION OF BRIDGE COMPLETE - I-85 OVER I-985 SB	1	$ 150,000.00	$ 150,000.00
	543-9000		LS	CONSTRUCTION OF BRIDGE COMPLETE - I-85 over SR 20 NB & SB	1	$ 180,000.00	$ 180,000.00
	543-9000		LS	CONSTRUCTION OF BRIDGE COMPLETE -	0	$ 150.00	$ -
	621-6002		LF	CONCRETE BARRIER, TP S-2	0	$ 82.00	$ -
	641-1100		LF	GUARDRAIL, TYPE T	0	$ 41.95	$ -
	641-1200		LF	GUARDRAIL, TP W	0	$ 14.05	$ -
	641-5001		EA	GUARD RAIL ANCHORAGE, TP 1	0	$ 596.00	$ -
	641-5012		EA	GUARDRAIL ANCHORAGE, TP 12	0	$ 1,827.88	$ -
	621-6200		LF	CONCRETE SIDE BARRIER, TP 2-S	0	$ 350.00	$ -
	621-6201		LF	CONCRETE SIDE BARRIER, TP 2-SA	0	$ 400.00	$ -
	621-6202		LF	CONCRETE SIDE BARRIER, TP 2-SB	0	$ 500.00	$ -
	621-6203		LF	CONCRETE SIDE BARRIER, TP 2-SC	0	$ 550.00	$ -
	621-6211		LF	CONCRETE SIDE BARRIER, TP 6-SA	0	$ 450.00	$ -
	627-1010		SF	MSE WALL FACE, 10 - 20 FT HT, WALL NO -	0	$ 40.00	$ -
	310-1101		TN	GR AGGR BASE CRS, INCL MATL	65779	$ 23.19	$ 1,525,414.63
	400-3205		TN	ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL BITUM MATL & H LIME	7236	$ 104.14	$ 753,557.04
	402-3113		TN	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	414	$ 78.11	$ 32,337.54
	402-3121		TN	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME; 1320LB/SY	48300	$ 65.66	$ 3,171,378.00
	402-3190		TN	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2,INCL BITUM MATL & H LIME; 220LB/SY	8106	$ 75.84	$ 614,759.04
	413-1000		GL	BITUM TACK COAT	13990	$ 2.63	$ 36,794.49
	402-3600		TN	RECYCLED ASPH CONC 12.5 MM, SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME	2076	$ 129.22	$ 268,260.72
	436-1000		LF	ASPHALTIC CONCRETE CURB -	0	$ 6.00	$ -
	446-1100		LF	PVMT REINF FABRIC STRIPS, TP 2, 18 INCH WIDTH	0	$ 1.60	$ -
	207-0203		CY	FOUND BKFILL MATL, TP II	17	$ 38.80	$ 650.98
	500-3101		CY	CLASS A CONCRETE	230	$ 450.00	$ 103,500.00
	511-1000		LB	BAR REINF STEEL	24318	$ 0.88	$ 21,399.84
	550-1240		LF	STORM DRAIN PIPE, 24 IN, H 1-10	0	$ 45.72	$ -
	550-1300		LF	STORM DRAIN PIPE, 30 IN, H 1-10	46	$ 68.04	$ 3,129.84
	550-1360		LF	STORM DRAIN PIPE, 36 IN, H 1-10	84	$ 88.08	$ 7,398.72
	550-1420		LF	STORM DRAIN PIPE, 42 IN, H 1-10	146	$ 111.43	$ 16,268.78
	550-1480		LF	STORM DRAIN PIPE, 48 IN, H 1-10	40	$ 86.00	$ 3,440.00
	550-4124		EA	FLARED END SECTION 24 IN, SIDE DRAIN	0	$ 530.00	$ -
	603-2182		SY	STN DUMPED RIP RAP, TP 3, 24 IN	0	$ 27.28	$ -
	615-1000		LF	JACK OR BORE PIPE -	0	$ 150.00	$ -
	668-2100		EA	DROP INLET, GP 1	0	$ 1,847.60	$ -
	151-1000		LS	MOBILIZATION - GENERAL CONSTRUCTION	0	$ 516,250.00	$ -
	999-2010		LS	DESIGN COMPLETE - GENERAL CONSTRUCTION	1	$ -	$ -
	151-1000		LS	MOBILIZATION - GDOT TOLLING ITEMS	1	$ -	$ -
	999-2010		LS	DESIGN COMPLETE - GDOT TOLLING ITEMS	1	$ -	$ -
	151-1000		LS	MOBILIZATION - SRTA TOLLING ITEMS	1	$ -	$ -
	999-2010		LS	DESIGN COMPLETE - SRTA TOLLING ITEMS	1	$ -	$ -
ITEM TOTAL							$ 9,538,993.62
						Total =	**$ 9,538,993.62**
						Asphalt Index =	**$ 1,242,308.52**

Appendix D – Cost Estimate without Standard Inside Shoulder Width

STATE HIGHWAY AGENCY

DATE : 11/24/2014
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JOB ESTIMATE REPORT

JOB NUMBER : 110600_HNTB_HOT SPEC YEAR: 01
DESCRIPTION: I-85 HOT LANES PHASE 1 (OPT TO HMR)
NO I-985 CONNECTION RAMPS AND NO FLYOVER RAMP
NOTE: This estimate is the product of a more detailed quantity takeoff and cost estimate. Detailed estimate can be provided upon request.

COST GROUPS FOR JOB 110600_HNTB_HOT

COST GROUP	DESCRIPTION	QUANTITY	PRICE	AMOUNT	ACTIVE?
UDEF	GANTRIES (TOLLING)	1.000	5794891.00000	5794891.00	Y
UDEF	REMOVE CABLE BARRIER	1.000	89407.00000	89407.00	Y
UDEF	GEOTECHNICAL	1.000	194175.00000	194175.00	Y
UDEF	BOX CULVERT 5'X5'	1.000	40175.00000	40175.00	Y
UDEF	BOX CULVERT 5' X 6'	1.000	39896.00000	39896.00	Y
UDEF	BOX CULVERT END 5'X5'	1.000	3937.00000	3937.00	Y
UDEF	BOX CULVERT END 5'X6'	1.000	4613.00000	4613.00	Y
UDEF	SAWCUT BITUM PAVEMENT	1.000	193883.00000	193883.00	Y
UDEF	CCTV/VDS/POLE ASSEMBLY	1.000	1955128.00000	1955128.00	Y
UDEF	ITS HUB BLDG	1.000	628648.00000	628648.00	Y
UDEF	BRIDGE REMOVAL	1.000	76461.00000	76461.00	Y
UDEF	CONC BAR TP 22 MOD	1.000	3952926.00000	3952926.00	Y
UDEF	SOUND BARRIER ABG 20'	1.000	2309737.00000	2309737.00	Y
UDEF	BOX CULVERT 7'X8'	1.000	35713.00000	35713.00	Y
UDEF	BOX CULVERT END 7'X8'	1.000	7411.00000	7411.00	Y
UDEF	REMOVE CONCRETE BARRIER	1.000	98666.00000	98666.00	Y
UDEF	FLARED END SECTION 48"	1.000	1958.00000	1958.00	Y
ACTIVE COST GROUP TOTAL				15427625.00	
INFLATED COST GROUP TOTAL				15427625.00	

ITEMS FOR JOB 110600_HNTB_HOT

LINE	ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0004	151-1000		LS	MOBILIZATION - 110600	1.000	5698296.00	5698296.00
0005	201-1500		LS	CLEARING & GRUBBING - 110600	1.000	480431.00	480431.00
0009	609-1000		SY	REMOVE ROADWAY SLAB	107072.000	9.04	968561.53
0010	610-0959		LF	REMOVE PIPE - 110600	3714.000	26.14	97091.98
0014	610-1055		LF	REM GUARDRAIL	33778.000	3.87	130907.99
0019	610-1075		EA	REM GUARDRAIL ANCH, ALL TYPES	81.000	261.95	21217.95
0020	610-2735		SY	REM CONC DITCH PAVING	7000.000	14.52	101684.03
0028	610-5715		EA	REM CATCH BASIN,DROP INLET/JC	43.000	603.51	25951.00
0029	610-6155		EA	REM FLARED END SECTION	61.000	515.00	31415.00
0060	205-0001		CY	UNCLASS EXCAV	374884.000	7.82	2932886.23
0064	310-1101		TN	GR AGGR BASE CRS, INCL MATL	280824.000	22.09	6205952.04
0095	441-0204		SY	PLAIN CONC DITCH PAVING, 4 IN	3283.000	38.59	126695.99
0115	550-1150		LF	STM DR PIPE 15",H 1-10	1780.000	35.28	62810.09
0120	550-1180		LF	STM DR PIPE 18",H 1-10	32970.000	39.95	1317158.09
0125	550-1240		LF	STM DR PIPE 24",H 1-10	986.000	45.72	45083.26
0130	550-1300		LF	STM DR PIPE 30",H 1-10	218.000	68.04	14832.72
0135	550-1360		LF	STM DR PIPE 36",H 1-10	176.000	88.07	15501.00
0140	550-1420		LF	STM DR PIPE 42",H 1-10	146.000	111.43	16268.78

JOB ESTIMATE REPORT

0144	550-1480	LF	STM DR PIPE 48",H 1-10	87.000	123.22	10721.00
0145	550-4215	EA	FLARED END SECT 15 IN, ST DR	12.000	559.94	6719.28
0150	550-4218	EA	FLARED END SECT 18 IN, ST DR	53.000	598.15	31701.95
0155	550-4224	EA	FLARED END SECT 24 IN, ST DR	11.000	790.64	8697.04
0160	550-4230	EA	FLARED END SECT 30 IN, ST DR	3.000	913.67	2741.01
0165	550-4236	EA	FLARED END SECT 36 IN, ST DR	3.000	1582.33	4746.99
0170	550-4242	EA	FLARED END SECT 42 IN, ST DR	3.000	1799.67	5399.01
0179	600-0001	CY	FLOWABLE FILL	243.000	239.98	58316.00
0180	603-2182	SY	STN DUMPED RIP RAP, TP 3, 24"	860.000	42.71	36739.00
0185	615-1000	LF	JACK OR BORE PIPE - 36" PIPE	1578.000	1250.19	1972810.00
0190	668-1100	EA	CATCH BASIN, GP 1	121.000	3829.96	463426.00
0195	668-1200	EA	CATCH BASIN, GP 2	26.000	5049.15	131278.00
0200	999-3110	EA	DETENTION POND	1.000	119187.00	119187.00
0205	163-0232	AC	TEMPORARY GRASSING	120.000	458.21	54985.20
0210	163-0240	TN	MULCH	900.000	199.70	179733.00
0215	163-0300	EA	CONSTRUCTION EXIT	53.000	1087.51	57638.03
0220	163-0550	EA	CONS & REM INLET SEDIMENT TRAP	161.000	159.16	25626.00
0225	165-0010	LF	MAINT OF TEMP SILT FENCE, TP A	55277.000	0.49	27206.79
0230	171-0010	LF	TEMPORARY SILT FENCE, TYPE A	55277.000	2.46	136349.01
0235	163-0232	AC	TEMPORARY GRASSING	900.000	199.70	179733.00
0240	700-6910	AC	PERMANENT GRASSING	69.000	1031.33	71161.77
0245	713-3001	SY	WOOD FIBER BLANKET,TP I,SLOPES	33400.000	1.64	54793.70
0248	621-3022	LF	CONCRETE BARRIER, TYPE 22	300.000	158.54	47562.00
0249	621-3020	LF	CONCRETE BARRIER, TYPE 20	5488.000	84.41	463247.02
0254	621-6201	LF	CONC SIDE BARRIER, TP 2-SA	104.000	426.87	44395.00
0255	621-6203	LF	CONC SIDE BARRIER, TP 2-SC	11434.000	81.11	927470.05
0258	621-4020	LF	CONCRETE SIDE BARRIER, TY 2	7000.000	279.13	1953949.97
0259	621-4021	LF	CONCRETE SIDE BARRIER, TY 2A	1300.000	589.20	765966.01
0264	627-1010	SF	MSE WALL FACE, 10 - 20 FT HT, WALL NO - 110600	71737.000	48.59	3485789.07
0268	628-0100	LS	PERMANENT SOIL-NAILED WALL 110600	1.000	98964.00	98964.00
0269	400-3205	TN	ASPH CONC 12.5MM OGFC,GP2,BMHL	33280.000	100.32	3338856.93
0273	400-3206	TN	ASPH CONC 12.5 MM OGFC,GP 2,INCL PMBM&HL	49.000	104.14	5103.00
0274	402-3113	TN	RECYL AC 12.5MM SP,GP1/2,BM&HL	90266.000	75.52	6817501.23
0279	402-3121	TN	RECYL AC 25MM SP,GP1/2,BM&HL	39362.000	69.72	2744420.98
0284	402-3190	TN	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	46698.000	70.99	3315520.17
0289	413-1000	GL	BITUM TACK COAT	82987.000	2.62	217943.78
0294	432-0208	SY	MILL ASPH CONC PVMT/ 2" DEP	392730.000	2.99	1176776.17
0299	446-1100	LF	PVMT REF FAB STRIPS, TP2,18 INCH WIDTH	102915.000	4.59	472710.21
0304	456-2012	GLM	INTENT. RUMB. STRIPS - GRND-IN-PL (CONT)	31.100	2272.63	70679.00
0309	205-0001	CY	UNCLASS EXCAV	377.000	3.27	1232.79
0314	206-0002	CY	BORROW EXCAV, INCL MATL	2800.000	24.45	68486.99
0319	208-0100	CY	IN PLACE EMBANKMENT CROSSOVER RESTORATION LS	1.000	26720.00	26720.00
0324	310-1101	TN	GR AGGR BASE CRS, INCL MATL	1587.000	29.73	47190.00
0329	402-1812	TN	RECYL AC LEVELING,INC BM&HL	850.000	79.95	67960.00
0334	402-3121	TN	RECYL AC 25MM SP,GP1/2,BM&HL	164945.000	52.34	8633369.75
0338	402-3121	TN	RECYL AC 25MM SP,GP1/2,BM&HL AT CROSSOVER LS	1.000	67960.00	67960.00
0339	413-1000	GL	BITUM TACK COAT AT CROSSOVER LS	1.000	4133.00	4133.00

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0344	150-1000	LS	TRAFFIC CONTROL - MOT	1.000	650592.00	650592.00
0349	620-0100	LF	TEMP BARRIER, METHOD NO. 1	16077.000	33.96	545974.92
0354	543-9000	LS	CONSTR OF BRIDGE COMPLETE - SR 20 BRIDGES	1.000	1689503.00	1689503.00
0359	543-9000	LS	CONSTR OF BRIDGE COMPLETE - I-85 SB BRIDGE	1.000	1581226.00	1581226.00
0364	543-9000	LS	CONSTR OF BRIDGE COMPLETE - NB MNG BRIDGE	1.000	892051.00	892051.00
0369	652-5451	LF	SOLID TRAF STRIPE, 5 IN, WHITE	112488.000	0.15	17827.10
0374	652-5452	LF	SOLID TRAF STRIPE, 5 IN, YELLO	113151.000	0.15	17932.17
0379	652-5801	LF	SOLID TRAF STRIPE, 8 IN, WHITE	183176.000	0.81	149295.77
0384	652-5801	LF	SOLID TRAF STRIPE, 8 IN, WHITE 652-5802	12800.000	0.81	10433.02
0389	652-5803	LF	SOLID TRAF STRIPE, 10 IN, WHIT	18516.000	1.04	19282.93
0394	652-6501	GLF	SKIP TRAF STRIPE, 5 IN, WHITE	226532.000	0.11	25609.44
0398	610-9401	LS	REM STR SUP/TP 1/INC I. SIGN S TPI	1.000	65694.00	65694.00
0399	610-9403	LS	REM STR SUP/TP 3/INC ILL SIGN TP 3	1.000	31527.00	31527.00
0409	654-1003	EA	RAISED PVMT MARKERS TP 3	5369.000	5.66	30388.54
0414	611-5360	EA	RESET HIGHWAY SIGN	24.000	1030.77	24738.48
0419	611-5551	EA	RESET SIGN	64.000	515.38	32984.32
0424	636-1070	SF	HWY SIGNS, ALUM E PLNS RS TP 2	17004.000	21.50	365722.37
0429	638-1001	LS	STR SUPPORT OVHD SIGN,TP I,STA 110600	1.000	5398371.00	5398371.00
0439	641-1100	LF	GUARDRAIL, TP T	185.000	47.54	8795.91
0444	641-1200	LF	GUARDRAIL, TP W	34386.000	14.71	506024.72
0449	641-5001	EA	GUARDRAIL ANCHORAGE, TP 1	52.000	622.60	32375.20
0454	641-5012	EA	GUARDRAIL ANCHORAGE, TP 12	41.000	1754.60	71938.60
0459	647-6200	EA	LOOP DETECTOR, 6 FT X 6 FT, BIPOLE	8.000	1572.36	12578.88
0464	682-1404	LF	CABLE, TP XHHW, AWG NO 10	2000.000	1.19	2390.00
0469	682-6222	LF	CONDUIT, NONMETL, TP 2, 2 IN	2800.000	9.08	25428.00
0474	935-1512	LF	OUT PLNT FBR OPT CBL,DROP,SM,12 FBR	1000.000	1.83	1833.00
0479	935-3102	EA	FIBER OPTIC CLOSURE,UNDRGRD,12 FIBER	4.000	405.27	1621.08
0483	682-6233	LF	CONDUIT, NONMETL, TP 3, 2 IN	30840.000	6.76	208660.97
0484	682-7062	LF	CONDUIT DUCT BANK, TYPE 3	122000.000	55.45	6765764.98
0489	682-9028	EA	ELECTRICAL COMM BOX, TP 5	143.000	3141.02	449166.00
0493	935-3103	EA	FIBER OPTIC CLOSURE,UNDRGRD,24 FBR	20.000	676.65	13533.00
0494	935-3106	EA	FIBER OPTIC CLOSURE,UNDRGRD,72 FIBER	29.000	726.62	21072.00
0498	935-3108	EA	FIBER OPTIC CLOSURE,UNDRGRD,144 FIBER	114.000	744.53	84877.00
0499	935-1113	LF	OUT PLNT FBR OPT CBL,LOOSE TB,SM,24 FBR	30840.000	2.17	67065.90
0503	935-1116	LF	OUT PLNT FBR OPT CBL,LOOSE TB,SM,72 FBR	41282.000	2.82	116527.11
0504	935-1118	LF	OUT PLNT FBR OPT CBL,LOOSE TB,SM,144 FBR	174570.000	3.51	613526.27
0509	647-6200	EA	LOOP DETECTOR, 6 FT X 6 FT, BIPOLE	295.000	1572.36	463847.00
0514	682-1407	LF	CABLE, TP XHHW, AWG NO 4	176000.000	2.44	430302.40
0519	682-6222	LF	CONDUIT, NONMETL, TP 2, 2 IN	52800.000	9.08	479500.03
0524	682-9028	EA	ELECTRICAL COMM BOX, TP 5	48.000	4619.72	221747.00
0529	682-9950	LF	DIRECTIONAL BORE - DIRECTIONAL BORING 2" TO OVERHEAD STRUCT	11400.000	13.58	154858.06
0534	935-1512	LF	OUT PLNT FBR OPT CBL,DROP,SM,12 FBR	36000.000	1.63	58952.16
0539	935-3102	EA	FIBER OPTIC CLOSURE,UNDRGRD,12 FIBER	48.000	405.26	19452.88
0544	999-2010	LS	DESIGN COMPLETE DESIGN FEE 7%	1.000	5449623.41	5449623.42

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JOB ESTIMATE REPORT

ITEM TOTAL	84626975.23
INFLATED ITEM TOTAL	84626975.23

TOTALS FOR JOB 110600_HNTB_HOT

ESTIMATED COST:	100054600.21
CONTINGENCY PERCENT (10.0):	10005460.02
ESTIMATED TOTAL:	110060060.23

Appendix I. Public Involvement Plan

GEORGIA Express Lanes
I-85 Extension

Public Involvement Plan

November 2014

DRAFT

Public Involvement Plan

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1.0 INTRODUCTION

This Public Involvement Plan (PIP) was developed as part of the Georgia Department of Transportation (GDOT) Interstate 85 (I-85) Express Lanes Project. A PIP was developed for the project in 2011 and then updated in 2012 and 2013 for this project. This current PIP updates results from a change in the project description and guidance from FHWA on new environmental documentation level requirements based on Map-21 legislation (Public Law 112-141 Section 1316. Categorical Exclusions for Projects within the Right-of-Way) and the resulting change to the Federal Regulations (23 CFR 771 – Docket No. FHWA-2013-007). This PIP guides the project through the development and completion of a Categorical Exclusion.

The updated project involves widening along I-85, one new tolled managed lane in each direction, from just north of Old Peachtree Road to Hamilton Mill Road. Additionally, auxiliary lanes will be constructed along I-85 southbound from SR 20 to SR 317 and along I-85 northbound from SR 20 to the SR 324 overpass. Figure 1 shows the project location map. The purpose of the proposed managed lanes is to create reliable travel times through the use of variable priced tolling to manage volume in the lanes and maintain a minimum average speed.

2.0 PLAN CONTEXT

Express lanes, or managed lanes, employ strategies including pricing, vehicle eligibility, access control, or a combination thereof to actively manage the volume of traffic in a lane in order to enhance mobility and provide improved travel conditions to eligible users. Currently, Atlanta has two systems of managed lanes 1) High Occupancy Vehicles (HOV) lanes – a type of managed lane employing eligibility requirements (vehicles with 2 or more occupants or motorcycles) and restricted access points. The HOV system in the Atlanta region currently provides the benefit of avoiding congested general purpose lanes for those vehicles meeting the eligibility requirements. 2) High Occupancy Toll (HOT) lanes that allow registered transit, three or more person carpools, motorcycles, emergency vehicles, and Alternative Fuel Vehicles (AFV) with the proper AFV license plate (does not include hybrid vehicles) to use the Express Lanes toll-free. Vehicles with fewer than three occupants, including solo drivers, will be able to choose whether to use the general purpose lanes or pay for a more reliable trip in the Express Lanes.

The I-85 Express Lanes Extension Project will construct new managed lanes beginning at the northern end of the existing I-85 Express Lanes and extend that will allow transit vehicles, emergency vehicles, motorcycles, and vehicles with 3 or more occupants to connect to the existing I-85 Express Lanes and continue to ride for free in these lanes. In addition, it will provide vehicles that do not meet these requirements the option to pay a toll to travel in the lanes. The toll rates will adjust based on the congestion levels in the lane in order to maintain reliable vehicle travel times a managed lane concept. Toll rates rise as demand increases during peak travel times and fall at off-peak times.

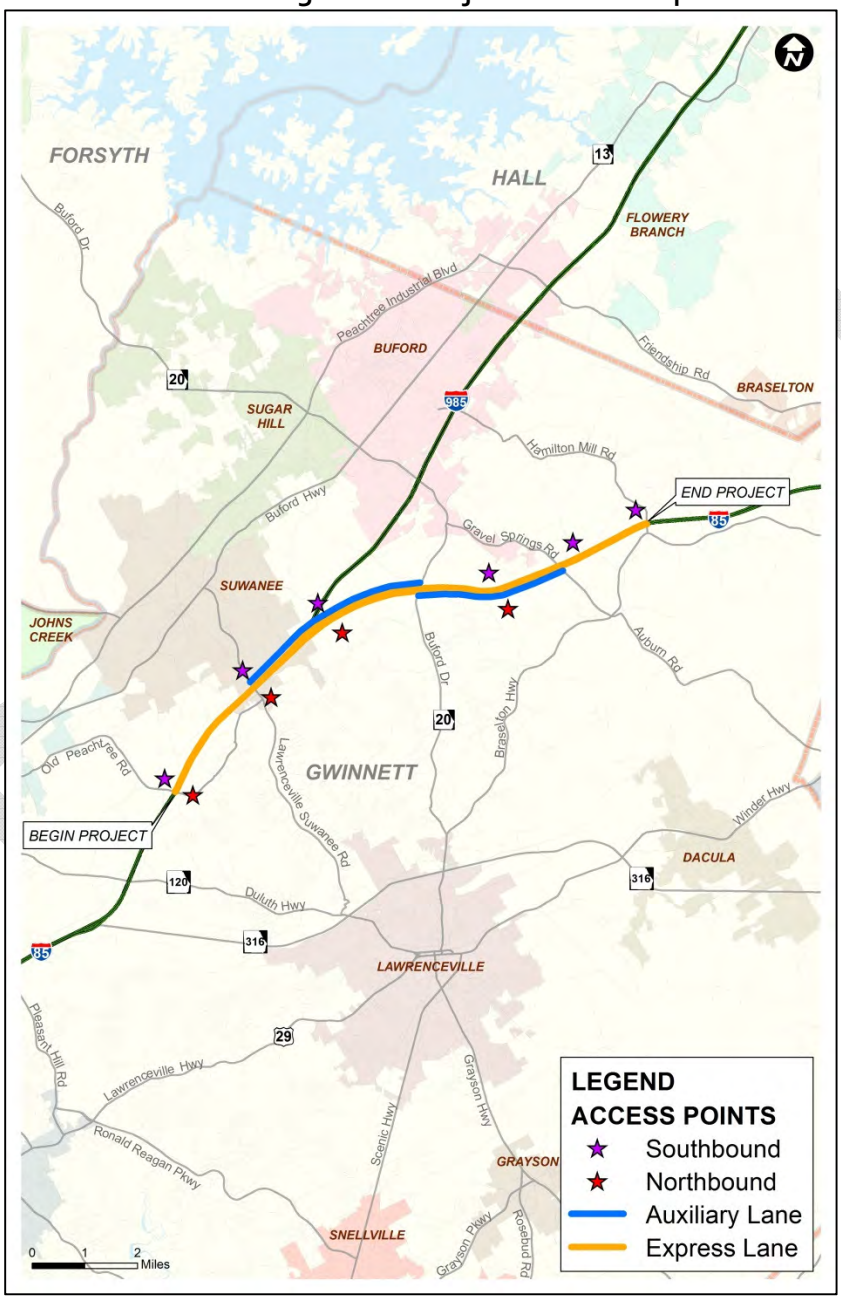
This PIP provides a vision for sharing information about this project with citizens, local governments, planning agencies, and other interested stakeholders. It will also serve as a

blueprint for the coordination of project activities with key stakeholders who are most likely to be affected by the study.

2.1 Study Area

Figure 2-1 illustrates the project location and proposed termini for the I-85 Express Lanes Extension Project.

Figure 2-1: Project Location Map



2.2 Study Duration

Concept development and environmental documentation on the I-85 Express Lanes Extension Project began in July 2009. The project is expected to begin construction in winter 2016, and open to traffic in 2017.

3.0 REGULATORY FRAMEWORK

A number of federal laws and regulations have been established to guide the public involvement process as it relates to transportation planning. GDOT must adhere to these provisions per its transportation planning responsibilities for the state. The I-85 Express Lanes Extension Project public involvement process will be carried out in a manner that complies with these provisions and provides timely and open opportunities for those who would like to participate in the planning process to do so. Table 3-1 identifies the key laws and regulations pertaining to public involvement and stakeholder coordination in transportation planning.

Table 3-1: Laws and Regulations Pertaining to Public Involvement

Law or Regulation	Guidance or Requirements
National Environmental Policy Act (NEPA) of 1969 and associated regulations (23 CFR 771)	Outlines the requirements for public input during the project development process, including requirements for publishing public notices and providing the opportunity for public hearings to obtain input about transportation projects.
Americans with Disabilities Act (ADA)	Encourages the involvement of people with disabilities in the development and improvement of transportation and paratransit plans and services. ADA provides accommodations for persons with disabilities for all public involvement activities, including access to meetings and communicating effectively with people who have hearing, vision, or speech difficulties.
SAFETEA – LU ("Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users" of 2005) and Map 21 (2012)	A successor to the Intermodal Surface Transportation Equity Act of 1991 and the Transportation Equity Act for the 21st Century (TEA-21) of 1998. Emphasizes public participation in the transportation planning and programming process. The legislation calls for early and continuing opportunities for the public to be involved in the identification of social, economic, and environmental impacts. This legislation requires public involvement in development and amending metropolitan and rural long-range transportation plans, Transportation Improvement Programs (TIPs), the Statewide Long-Range Transportation Plan (LRTP), the State Transportation Improvement Program (STIP), and project development.

Law or Regulation	Guidance or Requirements
Presidential Executive Order 12898 – "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations"	Requires each federal agency to achieve environmental justice by identifying and addressing, as appropriate, the disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations in the U.S. Meaningful opportunities for public involvement by members of these groups during the planning and development of programs, policies, and activities must be provided.
Title VI of Civil Rights Act of 1964	Section 601. No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. Three protected classes: Race: U.S. Census categories define race. Persons of any race are protected classes. Color: Discrimination based on skin color or complexion is prohibited. National Origin: Foreign born ancestry. Title VI applies institution-wide and is applicable to both federal aid recipients and sub-recipients.
Executive Order 13166	Requires all recipients of federal funds to take reasonable steps to ensure meaningful access to their programs and activities for Limited English Proficiency (LEP) persons and for those individuals to have an adequate opportunity to provide input.
"The Plan Development Process", Policies & Procedures Section 4055-1 on Public Involvement, and the Official Code of Georgia Annotated.	Procedures on how GDOT conducts public information open houses and public hearing open houses.
Public Involvement Plan and a Public Involvement Policy, and Chapter 2 of the Environmental Procedures Manual	These documents represent a conscious effort to create more proactive programs and initiatives that form additional partnerships and provide greater opportunities to involve residents and other stakeholders in transportation planning and project development.

3.1 SAFETEA-LU and Map-21 Legislation

With the authorization of the current federal transportation bill: Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU), and now Map-21 legislation, the opportunity for managed lanes and facilities in major metropolitan areas has been highlighted. Needs that may be addressed by managed lanes projects, such as the I-85 Express Lanes Extension Project, have been identified in the SAFETEA-LU legislation as

important transportation considerations including the use of priced facilities as a means to enhance mobility options in metropolitan areas.

3.2 Environmental Justice

Environmental Justice (EJ) acknowledges minority and low-income populations and ensures that these groups are not disproportionately impacted as a result of transportation improvement recommendations. The US DOT Order on Environmental Justice and Executive Order 12898 defines EJ populations as persons belonging to any of the following groups:

- Black;
- Hispanic;
- Asian American;
- American Indian or Alaskan Native; and
- Low-Income – a person whose household income (or in the case of a community or group, whose median household income) is at or below the U.S Department of Health and Human Services poverty guidelines.

Ongoing outreach to EJ populations will ensure full and fair participation by all potentially affected communities in the transportation decision-making process. U.S. Census data, in addition to speaking with local governments and community leaders, will be used to determine potential EJ areas. Those areas identified as EJ communities will be specifically targeted for notification of opportunities to participate in the planning process and will be given special attention when scheduling and preparing for public involvement open houses and other outreach activities.

3.3 Executive Order 13166

U.S. Executive Order 13166 requires all recipients of federal funds to take reasonable steps to ensure meaningful access to their programs and activities for Limited English Proficiency (LEP) persons.

In areas identified with populations of potential LEP persons, the production of multilingual (e.g. Spanish, Korean, etc.) materials and documents as well as an interpreter will be provided at public meetings and, when appropriate, at kiosks.

4.0 PUBLIC INVOLVEMENT GOALS AND OBJECTIVES

This PIP is designed to engage agencies and the public as participants in the project development process and enable them to provide meaningful input into the outcomes of the I-85 Express Lanes Extension Project. The plan strives to establish new forums for information exchange while also utilizing opportunities with existing groups and organizations. Outreach efforts will educate, inform and involve the public in the purpose and progress of the project by

highlighting local issues, technical considerations, and potential impacts. Outreach techniques are designed to encourage participation in the public process and to generate meaningful feedback. This plan provides tools for two-way communication - both disseminating project-related information and gathering input that reflects community concerns and interests.

The public involvement process educates stakeholders to ensure they have a full understanding of the project. Generating public awareness and creating partnerships with residents, elected officials, local agencies, businesses, civic associations, and special interest groups is critical to the successful implementation of the I-85 Express Lanes Extension Project. Since this is an extension of a recently completed project, the public outreach process will build off of recent efforts in the now completed section. In particular, the outreach process for this project will consider the various groups that have formed in opposition of the existing I-85 Express (HOT) Lanes

Though the existing HOT lanes on I-85 provide context for the project, pricing as a means to manage congestion and the concept of managed lanes is new to Georgia and the traveling public on the I-85 corridor. With this consideration in mind, the following goals and objectives are proposed for the PIP. The goal statements are broad expressions of the desired outcomes of public involvement activities. Objectives are statements that express in more detail how each of the goals will be achieved.

- **Goal 1: Educate citizens, stakeholders, and other interested parties about the benefits of the I-85 Express Lanes Extension Project through an active engagement process that is open, inclusive, and accessible and recognizes citizen and stakeholder perspectives.**
  - Objective 1.1: Provide educational opportunities about managed lanes on I-85 that are accessible to stakeholders and the public.
  - Objective 1.2: Develop partnerships with local governments, regional commissions, and other community organizations interested in and impacted by managed lanes on I-85.
  - Objective 1.3: Through outreach activities in the community, build credibility and trust among citizens, stakeholders, and project participants, especially among members of traditionally underserved communities as well as groups formed in opposition of the existing I-85 Express Lanes.
- **Goal 2: Provide easy to understand and timely project information through a variety of media to reach elected officials, agency partners, business representatives, and the general public regarding managed lanes on I-85.**
  - Objective 2.1: Use non-technical language and simple graphics to explain the technical aspects of the project to citizens and stakeholders.

- Objective 2.2: Use tools including the Internet, collateral materials such as fact sheets, presentations at public meetings, hard copy and electronic surveys, electronic mail inquiries, and one-on-one briefings to exchange information about the project with interested parties, especially prior to key decision points.

- Objective 2.3: Provide informational materials in a timely manner to allow sufficient time for citizens, stakeholders, and other interested parties to properly consider and respond to the information.

- Objective 2.4: Look for opportunities to reach out and obtain input from low-income and ethnically diverse communities that may not traditionally participate in the transportation planning process.

- **Goal 3: Provide mechanisms to receive input from stakeholders and citizens and integrate this information into the development of the project.**

  - Objective 3.1: Provide opportunities for two-way information exchange through web based tools and outreach in the community to systematically identify potential issues of concern to citizens and stakeholders.

  - Objective 3.2: Document issues and concerns received from citizens and stakeholders throughout the project and convey them to the technical team.

  - Objective 3.3: Acknowledge receipt of issues and concerns received from citizens and stakeholders during the project and follow up with updates or actions.

- **Goal 4: Continuously monitor the progress and effectiveness of the public involvement program and make adjustments if techniques are not achieving desired outcomes.**

  - Objective 4.1: Poll citizens and stakeholders participating in public involvement activities to obtain their feedback on the information presented and its level of effectiveness in addressing their needs and desires. This will be accomplished through both hard copy surveys at public meetings and electronic surveys available via the website.

  - Objective 4.2: Monitor the dissemination of information through the media, Internet, and other sources to gauge the accessibility of information to target audiences.

  - Objective 4.3: Solicit feedback from citizens and stakeholders on the level of satisfaction with the public involvement process.

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The PIP must be flexible in order to be responsive to the public's request for information and on-going involvement. In projects of this magnitude and importance, there is no doubt that unanticipated concerns may arise. This PIP is intended to ensure flexibility, and it has be revised throughout the project duration as the needs of the local community and GDOT have evolved. The plan is a "living" document that has been and will continue to be further developed and refined during each phase of project development.

5.0 STAKEHOLDER IDENTIFICATION

The GDOT I-85 Express Lanes Extension Project has involved and will continue to involve a range of participants including citizens and community stakeholders from across the study area. One of the basic principles of public involvement for federally funded transportation projects is to proactively reach out to the public early and often in project development. First, it is necessary to identify the appropriate stakeholders and define the target audiences. Based on the recent and well-organized public interest in the adjacent I-85 HOV to HOT Lanes Conversion Project, there are a number of known stakeholders in the project vicinity. A database of interested stakeholders collected during the I-85 HOV to HOT Lanes outreach effort and earlier efforts on this project are being built upon as the I-85 Express Lanes Extension Project efforts move forward. In addition, interest groups that have formed as a result of the adjacent project will also be invited to actively participate from the beginning of this process.

Through the identification of key stakeholders, GDOT will develop a working relationship with the community, present and discuss key issues as the project moves forward, and refine project concepts based on feedback. The levels of experience and interest in transportation planning vary greatly across key stakeholder groups such as government officials and agency representatives and staff, the business community, property owners, civic groups, the general public, and EJ populations. The techniques identified and outlined in the following section for the public involvement process address the needs of all stakeholders potentially impacted by the I-85 Express Lanes Extension Project, taking into account their varying interests and experience levels.

5.1 Target Audiences

The following audiences have been identified as target audiences for the I-85 outreach program. This list is intended as a broad-base starting point and will be refined as outreach activities are implemented and more information is obtained about specific groups in the area.

- **Area Residents and the Commuting Public**
  Citizens of communities in the study area and employees that work in the area or commute through the area have a vested interest in the efficient operation of I-85, since this highway provides a key link between jobs and housing in the Atlanta region.

- **Business and Special Interest Groups**
  Community-based organizations with a general interest in community and transportation planning, such as Chambers of Commerce, regional or local

development authorities, and others, may have an interest in the benefits and impacts of the I-85 project.

- **Environmental Justice Communities**

Outreach efforts will be specifically targeted to address the needs of Environmental Justice communities in order to build and sustain meaningful participation for these stakeholders. Specifically, the approach will include: Coordination with area organizations that represent the interests of Environmental Justice populations of concern, including local interest groups and neighborhood groups, church associations, Latin American Association, media such as Telemundo; distribution of project information via minority social and community organizations; Translation and Interpretation services, as needed, to ensure suitable communication; and, adherence to Americans with Disabilities Act (ADA) requirements for public information.

- **Elected Officials**

State and local elected officials must be informed of projects that impact their constituencies. Elected officials and/or their staff will be briefed and provided information regarding the I-85 Express Lanes Extension Project and invited to participate in Public Information Open Houses (PIOH).

- **Planning Partner Agencies**

Planning partner agencies, including the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), State Road and Tollway Authority (SRTA), Atlanta Regional Commission (ARC), Georgia Regional Transportation Authority (GRTA), Gwinnett County, Barrow County, and cities located adjacent to the project will be provided information on project details on an ongoing basis.

5.2 Staff Roles and Responsibilities

Effective implementation of the PIP relies on an understanding of clearly defined roles and responsibilities. The roles described below are considered keys to a successful public involvement process.

- **GDOT Project Manager**

The GDOT Project Manager is responsible for directing the overall project on behalf of GDOT and is the leader of the project team. The GDOT Project Manager will provide ultimate approval on all outreach activities and materials. The Project Manager's contact information will also be provided to the public as a resource for specific questions regarding the project. All comment acknowledgements and responses will be provided on behalf of the GDOT Project Manager.

- **GDOT Communications Staff**

GDOT Communications Staff will review and provide comment on outreach materials including press releases, fact sheets, and web materials and will provide assistance in promoting Public Information Open Houses and other outreach activities through

established media contacts. GDOT Communications will also provide messaging and materials to align the I-85 Express Lanes Project with the Georgia Express Lanes system outreach plan. Communications Staff contact information will be provided to the media for project-specific inquiries. All media requests will be handled by GDOT Communications Staff.

- **GDOT Environmental Liaison**

A liaison from GDOT's Office of Environmental Services will ensure that outreach activities achieve the requirements of the NEPA process for the I-85 Express Lanes Extension Project and ensure that these activities are consistent with GDOT's approach for projects of similar size and scope. The liaison will also inform the project team of potential issues related to impacts in the community and will review outreach materials to ensure that they effectively communicate the benefits and burdens potentially associated with the I-85 project.

- **SRTA Communications Staff**

SRTA Communications Staff will coordinate with GDOT throughout the process with tasks to include review of public materials including press releases, fact sheets, and web materials. SRTA Communications staff will also be in attendance at PIOH meetings and at stakeholder briefings to provide support as needed.

- **Consultant Project Manager**

The Consultant Project Manager is responsible for directing the work of the consultant team and serves as the primary point of contact between the technical team and GDOT. The Consultant Project Manager will be informed and engaged in all project outreach activities.

- **Public Involvement Task Leader**

The Public Involvement Task Leader is responsible for the development and management of all public involvement tasks and the implementation of strategies and tools identified in this PIP.

- **Communications Task Lead**

The Communications Task Leader is responsible for coordinating the overall Georgia Express Lanes system communications initiative at GDOT, including the I-85 Express Lanes Extension project, the coordinated effort of the larger managed lanes initiative at GDOT and providing input on the public outreach and media activities.

6.0 PREVIOUS PUBLIC INVOLVEMENT ACTIVITIES

Two PIOHs were held March 21, 2013, at the Gwinnett Center and on March 28, 2013, at the Braselton Community Room. A total of 51 people attended the **Error! Reference source not found.** on March 21, 2013, and 28 people attended the PIOH held on March 28, 2013. Three (3)

people submitted comments via email, 3 people submitted comments via the online comment option, 2 people spoke to the court reporter and 35 people submitted comment forms. Of the 43 respondents who formally commented, 14 were in support of the project, 23 were opposed, 2 were uncommitted, and 4 expressed conditional support.

Additional outreach included an email to legislators informing them of the project, sent just prior to the PIOH meetings noted above. Also, stakeholder meetings were held prior to the PIOH with Gwinnett County Planning, Transportation and Communications to coordinate outreach activities.

Materials developed for the PIOH included a fact sheet, frequently asked questions, and website updates.

7.0 PUBLIC INVOLVEMENT ACTIVITIES, STRATEGIES, AND TOOLS

The outreach activities identified in this plan are intended to continue to engage the target audiences identified in Section 5.1 as well as the public at-large. Specific activities anticipated include:

7.1 Public Information Open Houses (PIOH)

Two additional PIOHs will be held September 29 and October 2, 2014, to engage stakeholders and the general public in the project and provide the opportunity for dialogue with the project team as well as a forum in which to review and comment on the project. The meetings are to be held at the same locations as those meetings held in March 2013 – the Gwinnett Arena Complex and the Braselton Community Room. The meetings will be held for 2 hours from 5 p.m. to 7 p.m. per the preference of the project team. One meeting will be held at the Gwinnett Arena Complex - Atrium, near the south end of the project. This will provide an opportunity to outreach to the business community as part of an ongoing coordinated effort with the Chamber staff to invite interested businesses. It would also offer an opportunity for commuters to stop by on their way home. The second meeting will be held north of the project area in Braselton, GA in the Community Room on the lower level of the Braselton Police & Municipal Court Building. The ultimate goal is to make the sessions as convenient as possible for members of the public to attend and provide input. These meetings will be held in an open house format, with staff available for one-on-one discussion with attendees. Interpreters will be present at meeting locations where there is the potential for LEP attendance. Graphic and written materials will be provided in non-technical formats, and project team members will be in attendance to present information and answer questions. When appropriate, multilingual versions of materials will be available. The content provided at each of the two meetings will be identical. These materials will also be posted online as part of a virtual public meeting (see section 7.4) that will be available for those that may not be able to attend meetings in person.

7.1.1 PIOH Meeting Materials

Display boards will be prepared for each public meeting to illustrate the project alternatives and to graphically convey the results of technical analysis including future traffic and environmental impacts. The technical content will be developed by the consultant team and approved by GDOT representatives. A project fact sheet will also be available at the meetings to provide a quick reference for project background and highlights. To assist participants in visualizing the project, a video will be developed which will illustrate the lane design and operation from the driver's perspective. Following the PIOHs, meeting materials will be available to download from the project website for individuals who were not able to attend the meetings. Comment forms will also be available at the meeting and online to encourage public feedback on specific study-related issues.

7.2 Public Hearing Open Houses (PIOH)

The project was originally scoped to hold a Public Hearing Open House (PHOH); however, because the level of environmental documentation has been changed from an Environmental Assessment to a Categorical Exclusion, only the PIOHs and a series of staffed kiosks will be used.

7.3 Public Meeting Notification

In accordance with GDOT's public meeting procedures, print advertisements and signage will be initiated at least three weeks prior to the PIOH meetings. A flyer will also be developed announcing the dates, times, and locations of each meeting. These announcements will be distributed in a variety of ways in order to reach as many constituents as possible. A press release will also be developed in consultation with the GDOT Office of Communications and distributed by Communication Staff to local print, television, and radio media outlets. Working with the GDOT webmaster, the announcement will be made available on the GDOT Home Page and will also be available on the I-85 Express Lanes Extension Project webpage. Existing social media outlets, such as GDOT's and SRTA's Facebook pages and GDOT's Twitter account, will be utilized to announce the public meetings and hearings. The project team will also work with GDOT District Office representatives, ARC's Public Involvement Advisory Group, and Gwinnett and Jackson Counties to assist in publicizing the meetings.

7.4 Virtual Public Meetings

The materials from the PIOH meetings will be developed into an electronic Virtual Public Meeting that will be available on the project website following the public meetings. The Virtual Public Meeting will provide 24-7 access for a period of time to those who are not available to attend the meeting in person. The Virtual Public Meeting will include all materials presented at the public meetings in an easy to follow format. Visitors to the Virtual Public Meeting will have

the opportunity to submit official electronic comments. Any associated deadlines will be clearly communicated as part of the website content.

7.5 Environmental Justice Outreach

Extra efforts will be made to engage populations historically underrepresented in the transportation planning process through the use of specialized media outlets and local EJ groups through local churches and civic organizations. Media outlets that target EJ stakeholders will be identified and utilized to disseminate information regarding public meetings. Special attention will be given to scheduling meetings at locations and at times that encourage participation from the environmental justice communities. Further, project team members will be available to visit EJ groups to provide information on the project and answer specific questions. Additional strategies will include the distribution of project materials at staffed kiosks in areas of identified EJ populations such as Hispanic retail establishments, through organizations such as the Latin American Association and media outlets such as Telemundo.

7.6 Media Relations

The media will be an important resource for people who may not attend meetings or seek out project information via the website. Working with the GDOT Office of Communications, project information will be disseminated to local media regarding the I-85 Express Lanes Extension Project. The project team will help to prepare press releases and identify opportunities for media coverage, including the announcement of public meetings. A representative from GDOT Communications will be designated to handle interviews and media inquiries regarding the project.

7.7 Stakeholder Database

During the course of the project, a database will be developed based on contact information gathered on comment forms at the PIOHs, project kiosks, and community meetings, as well as contact information submitted through the project website. The project team will utilize the database when notifying the public of upcoming meetings or other project information.

7.8 Stakeholder Briefings

Briefings, if requested, will be conducted by the project team to address groups that have expressed specific interest in learning more about the project. These briefings are intended to provide area stakeholders with project details, gather feedback, and encourage further dissemination of information associated with the project to stakeholder constituencies. The project team will coordinate with the GDOT Project Manager to identify key stakeholders and develop a schedule and scope for these briefings in support of the I-85 Express Lanes Extension Project. Additional coordination with the Georgia Express Lanes team will also be utilized.

7.9 Kiosks

Kiosks placed at key locations in the study area will be used to disseminate project information to groups that may not be exposed to the project or voluntarily attend public meetings. The project team will develop materials for project kiosks within the study area, to be held at two publically accessible locations such as major shopping centers like The Mall of Georgia, or Discover Mills, to provide access to educational materials and project details for visitors to those facilities. ***Attempts were made to set up kiosks at the malls; however legal issues prevented the GDOT from being able to do so.* Staffed kiosks were determined to also be an appropriate Environmental Justice (EJ) outreach technique and strategic locations were determined by using census data and the environmental justice analysis. Analyses will be conducted to determine the most strategic locations such as churches, community centers, or local festivals in targeted areas if determined to be a potentially effective method based on discussions with the EJ populations impacted by the project.

<u>Update:</u>
The project team staffed kiosks at several locations that included strategic EJ locations.
September 27, 2014: Gwinnett Public Safety Festival
October 24 & 25, 2014: Braselton Antique Festival
November 12, 2014: Multiple Hispanic retail locations along Buford Highway.

Unstaffed kiosks were placed at the park and ride lots near the corridor including one off Hamilton Mill Road and a second at the park and ride lot located at I-985 and SR 20.

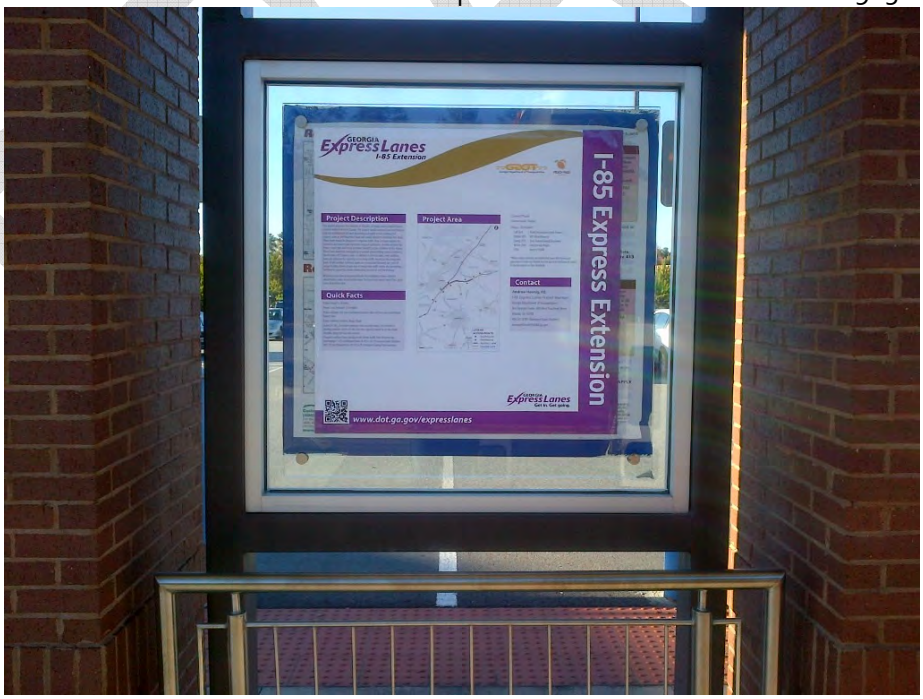


Photo: Kiosk at Park and Ride Lot – photo courtesy of Gwinnett County

7.10 Website

In consultation with GDOT, a website will be maintained under the "Travelling in Georgia" section on GDOT's website to provide 24/7 access to study information regarding the I-85 Express Lanes Extension Project. The site will include a project description, calendar of upcoming events, design concepts and analysis results, and have a look and feel consistent with GDOT's Express Lanes branding efforts. All materials developed and provided at the PIOHs will be available for download in PDF format via the project website (see Section 7.4 Virtual PIOH). The website will include an online comment form feature that allows interested parties the opportunity to provide input directly to the project team. The website will also allow members of the public to join the study mailing list and receive further information. Related websites highlighting other local studies will be provided as links to facilitate the educational process and provide a local context for the project.

7.11 Comment Acknowledgement and Analysis

The project team will catalog comments received throughout the public involvement process and analyze the content for trends that will help GDOT to understand public sentiment towards the I-85 project. In addition to providing feedback for consideration in the transportation decision-making process, public comments can be invaluable in directing or re-directing the public involvement approach and determining effective methods of communication with the public. Acknowledgement of each public comment received (via meeting comment form, mail, email, website form, or fax) will be enforced by the project team. Such acknowledgement reinforces to the public that GDOT is incorporating comments into the project development process. Acknowledgements will include responses to public comments developed in consultation with and approved by GDOT.

7.12 Documentation and Deliverables

Documenting all aspects of the public involvement process is integral in order for GDOT to maintain continuity in project decision-making. As the I-85 Express Lanes Extension Project proceeds through the project development process, it is essential that all parties involved understand the issues and impacts to be considered at that phase, particularly any previous concerns raised by the public. The project team will maintain a detailed record of all the public involvement tasks to ensure regulatory compliance and maintain the integrity of the project through a superior level of documentation.

The public involvement process deliverables include the following:

- Public Involvement Plan
- Public Information Open House Summaries
- Stakeholder Database
- Meeting Materials (including Fact Sheets and Comment Forms)

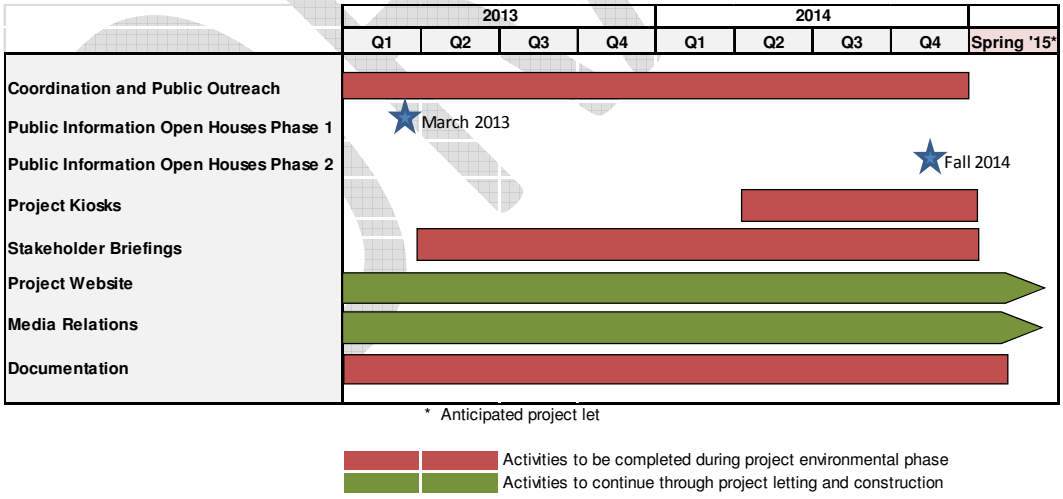
- Press Release
- Kiosk Materials
- Kiosk Outreach Summaries
- Stakeholder Briefing Summaries
- Hard Copy and Electronic Survey Summaries
- Comment Summary Database (including all written comments and responses to comments)
- Project Website
- Website and Comment Form Survey Results
- Final Public Involvement Report

8.0 PUBLIC INVOLVEMENT SCHEDULE

The concept development and environmental documentation phase of the I-85 Express Lanes Extension Project is expected to conclude in spring of 2015. The PIP and associated activities have been scheduled in a manner that encourages public and stakeholder input early and often throughout the process. Many activities continue for the project duration. The PIOHs are anticipated to be held in fall 2014, once the concept development, traffic analysis, and noise analysis are complete.

The anticipated schedule of public involvement activities is included in Figure 8-1:

Figure 8-1: Public Involvement Schedule



9.0 PUBLIC INVOLVEMENT PROGRAM EVALUATION

9.1 Evaluation Process

Efforts will be made throughout the project to ensure that effective tools and practices are used to engage the public and all interested parties that seek to participate in the project. These efforts will include:

Short questionnaires distributed to attendees at meetings and events to determine the level of satisfaction with the efforts used to solicit their input and the level of understanding of project concepts.

Debrief sessions with the GDOT Project Manager and the project team to gauge the level of satisfaction with ongoing public involvement and outreach activities.

Performance measures will be used by the project team to gauge the overall success of the public involvement plan based on its objectives. These measures are described in the following section.

9.2 Performance Measures

Transportation organizations utilize performance measure systems to continuously improve the quality of the services and products they deliver. In keeping with this philosophy, which has been adopted by GDOT, public involvement performance measures have been established for the project. These measures relate directly to the overall goals and objectives of the public involvement activities identified in Section 3.0. The specific objectives and performance measures related to each one are shown in Table 9-1.

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Table 9-1: Public Involvement Performance Measures

Plan Objective	Performance Measure	Measurement Technique
Objective 1.1: Provide educational opportunities accessible to stakeholders and the public regarding managed lanes on I-85.	Public meetings are widely advertised and held in accessible locations at convenient times, and include materials that are easily understood by meeting attendees.	Number of attendees, website hits and participant survey responses
Objective 1.2: Develop partnerships with local governments, regional development centers, and other community organizations interested in and impacted by managed lanes on I-85.	Local governments, community organizations, transportation planning agencies, regional development centers, and other interested parties are invited to participate and are engaged in the planning process.	Participation at meetings, website hits, and participant survey responses
Objective 1.3: Through outreach activities in the community, build credibility and trust among citizens, stakeholders, and project participants, especially among members of traditionally underserved communities and groups formed in opposition of the existing I-85 Express Lanes.	The project team (GDOT and consultants) is welcoming and accessible and available to answer questions, present accurate information, and work cooperatively with citizens and stakeholders during project development.	Participant survey responses
Objective 2.1: Use non-technical language and simple graphics to explain the technical aspects of the project to citizens and stakeholders.	Materials presented to the public are reviewed to eliminate overly technical language that might hinder understanding of the subject matter.	Participation at meetings and participant survey responses
Objective 2.2: Use tools including the Internet, collateral materials such as fact sheets, presentations at public meetings, electronic mail inquiries, and one-on-one briefings to exchange information about the project with interested parties, especially prior to key decision points.	A variety of tools is used to obtain citizen and stakeholder input on the project.	Number of techniques utilized and schedule of activities
Objective 2.3: Provide informational materials in a timely	Information is provided prior to project activities to stakeholders,	Schedule of materials development, notification, and

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Plan Objective	Performance Measure	Measurement Technique
manner to allow sufficient time for citizens, stakeholders, and other interested parties to properly consider and respond to the information.	elected officials, agencies, and citizens.	meetings; Assessment of how the materials are distributed; Length of activities; Participant survey responses
Objective 2.4: Look for opportunities to reach out and obtain input from low-income and ethnically diverse communities that may not traditionally participate in the transportation planning process.	Beginning early in the planning stage, the potential project impacts on traditionally underserved populations are assessed to determine where special efforts to engage those populations should be made.	Outreach techniques and meeting times and locations
Objective 3.1: Provide opportunities for two-way information exchange through web-based tools and outreach in the community to systematically identify potential issues of concern to citizens and stakeholders.	Public involvement techniques engage the public in the exchange of project information, rather than simply providing information.	Outreach techniques utilized and number of comments received
Objective 3.2: Document issues and concerns received from citizens and stakeholders throughout the project and convey them to the technical team.	Public and stakeholder inputs are systematically captured throughout the project and are shared with the technical team for consideration during project development.	Comment responses and impact of comments on technical team decisions
Objective 3.3: Acknowledge receipt of issues and concerns received from citizens and stakeholders during the project.	Written (regular mail or e-mail, as appropriate) acknowledgement of the receipt of comments from the public or stakeholders is provided in a timely manner.	Number and catalog of comment acknowledgements and responses
Objective 4.1: Poll citizens and stakeholders participating in public involvement activities to obtain their feedback on the information presented and its level of effectiveness in addressing their needs and desires.	Objective data is collected from participants to gauge their level of understanding of relevant issues related to the project and their satisfaction with the public involvement process.	Participant survey responses
Objective 4.2: Monitor the dissemination of information through the media, Internet, and other sources to gauge the	Media outreach is monitored and analyzed to show the depth and breadth of media coverage of the project and the reach of project	Press clippings, media inquiries, website hits, social media followers and level of engagement, number of

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Plan Objective	Performance Measure	Measurement Technique
accessibility of information to target audiences.	materials.	comments, number of meetings, public meeting attendees, kiosk accessibility
Objective 4.3: Solicit feedback from the project team on the level of satisfaction with the public involvement process.	GDOT feedback regarding the effectiveness of the public involvement activities in helping to guide the project development process.	Client debrief

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APPENDIX

A-1 Public Meeting Checklist

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A-2 Public Meeting Checklist

This is a sample list of items to be considered and checked prior to holding a Public Information Open House (PIOH). It is not intended that every meeting will require all of these steps; however, it should be considered general guidance in preparing for public events. Professional judgment will be used in applying this checklist based on specific needs for outreach activities.

The following activities are the responsibility of the Consultant Project Manager, the Public Involvement Task Leader, or his/her designee.

I. Meeting Format and Content Planning

A. Review the status of the projects, make-up of the study area, and previous meetings, if any, to determine the appropriate format and content of the meeting.

B. Discuss the preliminary concept for the meeting with the GDOT Project Manager.

C. Assess or reassess any special requirements, i.e. languages spoken in the community; coordination with local, regional, or state-level officials or agencies; etc.

D. Identify team members responsible for presenting information and assure they can communicate the materials effectively.

E. Review the functions needed at the meeting and team members responsible for them (i.e. presenting information, welcoming attendees, answering questions, etc.).

II. Establishment of Meeting Date and Location

A. Identify meeting time(s) that are convenient for the community. Times should be adjusted in response to local concerns and potential conflicts with important events.

B. Potential meeting location(s) should be identified which:

€ Are located in well-lighted safe areas which are easily accessed from major roadways and transit lines.

€ Include places for attendees to wait in case of bad weather.

- € Have facilities appropriate for disabled individuals and others covered under the Americans with Disabilities Act (ADA), such as wheelchair ramps, handicapped-accessible restrooms, etc.
- € Include appropriate areas for conducting the meeting as well as posting maps and other graphics for individuals to view.
- € Have sufficient seating for all attendees.
- € Have adequate sound system or acoustics so that attendees do not have to strain to hear the presentation.

C. Confirm(in writing) the final location for the workshop/meeting. Obtain the name and contact information of the person on-site responsible for coordinating the meeting arrangements.

D. Obtain access to the facility at least two (2) hours prior to the event.

E. Visit the meeting site at least three (3) weeks in advance of the meeting to locate key features of the space (location of power outlets, location of podium and sound system, etc.).

F. Verify the use of heating/air-conditioning for the meeting, if held after normal working hours; availability to display space, access to the building (if event is planned after hours); ADA accessibility and restrooms, etc.

G. Confirm any special needs, i.e. contacting on-site person to lock up after the event, special parking restrictions, etc.)

III. Public Notification of Workshop/Meeting

A. Create location map for meeting site for use in public notices, mail-outs, posters, etc.

B. Forward meeting announcement notices, including the workshop location map, at least 3 weeks prior to the public meetings. Electronic notification will serve as the primary means of communication, as well as regular notices by mail, when possible.

C. The announcement notice should include a simple explanation of the purpose of the meeting; date/time/location, map of the meeting location, GDOT logo and project name, and name and contact person to handle questions about the meeting.

D. The announcement notices should be sent to:

- GDOT Project Manager
- GDOT Communications Staff (General Office and District Office)
- GDOT District Engineer
- Transportation Board members
- State elected officials in the target areas
- Appropriate Metropolitan Planning Organizations
- Appropriate Regional Development Commissions
- All individuals in the Public Involvement database
- All general circulation media outlets in the target areas
- All media outlets serving traditionally underserved (Environmental Justice) populations in the target areas
- County Administrators in the target areas
- Mayors in the target areas
- Any interested person requesting to be included in the meeting notice mailings

IV. Pre-Meeting Preparation (starts at least four weeks prior to the event and extends to the start of the workshop/meeting)

A. Coordinate with project team concerning the type and number of displays that are appropriate for the workshop/meeting.

B. Determine which visual aids are appropriate and make arrangements for the necessary equipment (computer, screen, projector, easels, etc.).

C. Notify the team members who need to work at the meeting.

D. Prepare handout materials, including project fact sheets, copies of slides, maps, etc.

E. Obtain GDOT Project Manager approval of final handout materials (at least 10 days prior to the event).

F. Print final handouts, comment cards, sign-in logs, agendas, and other materials needed for the meeting.

G. Create signs to direct attendees to the meeting room.

H. Prepare and bring a Comment Box to the workshop/meeting.

I. Obtain or reserve equipment needed for the meeting.

J. Practice with audio-visual equipment to assure that it is functioning properly.

K. Compile spare equipment (computer, projector bulbs, extension cords, etc.).

L. Prepare name badges for team members (GDOT and consultant team) who will be participating in the meeting.

M. Hold a team meeting to discuss the logistics of the workshop, review the information to be presented, and plans for addressing questions from attendees.

N. Call/visit the contact person at the meeting site at least two days prior to the workshop to confirm the arrangements (time to access the room, process for locking up, etc.).

O. Confirm who is responsible for setting up the furniture and breaking it down after the meeting.

P. All team members participating in the workshop (i.e., presenting information, addressing questions, etc.) should arrive at the workshop at least 60 minutes before the meeting starts to make sure presentation equipment is properly set up.

Q. Team members responsible for setting up the meeting (arranging seating, display areas, etc.) should arrive at the meeting site at least one to two hours prior to the event, depending on its expected size.

R. Team members should make sure that appropriate directional signs are provided to make it easy for citizens to find the location of the meeting.

S. Team members should be assigned to welcome attendees, direct them to the sign-in table, and distribute information to them. They should focus on being friendly and inviting attendees to view displays and ask questions.

V. Post-Meeting Activities

A. If anything is moved (furniture, displays, etc.) from their original position to accommodate the workshop, they should be returned to their original place.

B. Litter should be collected and the room straightened to leave it as it was found or in better condition.

C. Instructions from the site location coordinator on how to lock up the meeting room should be followed..

D. Equipment and/or displays should be returned to the appropriate location.

VI. Follow-Up Actions

A. A thank-you note to the facility where the meeting was held should be written promptly following the meeting.

B. A thank-you call to local leaders who helped host the meeting should also be made.

C. A meeting summary should be prepared and circulated to the project team for comments. Once comments are received and addressed, the summary should be sent to the GDOT Project Manager. The project summary should be finalized within 10 days of the date of the workshop/meeting.

D. Written comments should be acknowledged in writing within 30 days of the receipt of the comments.

E. If requested by the GDOT Project Manager, the consultant team will prepare a draft written response to special questions or issues arising from the public meeting. Responses will be developed by the consultant team within 10 days of the receipt of the comment. Responses will be coordinated with the GDOT Project Manager prior to being mailed and will include the name and phone number for a contact person.

Appendix J. Initial Concept Team Meeting-Minutes

MEETING NOTES

Date: February 2, 2012

Project: I-85 Express Lanes, P.I. 100600, Gwinnett County

Purpose: Initial Concept Team Meeting

Location: OGC 4th Floor Conference Room

Time: 9:30 AM – 11:30 AM

Attending:

Mike Dover	GDOT IPD	mdover@dot.ga.gov	404.631.1733
Kelvin Mullins	GDOT IPD	kemullins@dot.ga.gov	404.631.1675
John Hancock	GDOT P3	jhancock@dot.ga.gov	404.631.1315
Darrell Richardson	GDOT Design	drichardson@dot.ga.gov	404.631.1705
Jonathan Cox	GDOT OES	jocox@dot.ga.gov	404.631.1197
Karlene Barron	GDOT Communications	kbarron@dot.ga.gov	404.631.1824
Ben Rabun	GDOT	brabun@dot.ga.gov	404.631.1008
Michael Hester	GDOT OES	mhester@dot.ga.gov	404.631.1255
Melanie Hale	GDOT Design/Policy	mhale@dot.ga.gov	404.631.1542
Henry Green	GDOT Planning	hgreen@dot.ga.gov	404.631.1792
Katrina Lawrence	GDOT Planning	klawrence@dot.ga.gov	404.631.1646
Jun Birnkammer	GDOT Utilities	jbirnkammer@dot.ga.gov	404.631.1360
Patrick Vu	SRTA	Patrick.vu@georgiatolls.com	404.893.6130
Kelly Wade	FHWA	Kelly.wade@dot.gov	404.562.3584
Kendra Fly	FHWA	Kendra.fly@dot.gov	404.562.3644
Jennie Agerton	URS	Jennie_agerton@urscorp.com	678.808.8843
Jeff Dailey	HNTB	jedailey@hntb.com	404.423.0568
Tim Heilmeier	HNTB	theilmeier@hntb.com	404.946.5710
Robert Lewis	HNTB	rtlewis@hntb.com	404.556.2981
Keith McCage	HNTB	kmmcage@hntb.com	404.946.5731
Sherl White	HNTB	sawhite@hntb.com	404.309.5413
Tim Hatton	HNTB	thatton@hntb.com	404.946.5755
Claudia Bilotto	HNTB	cbilotto@hntb.com	404.946.5747
Jennifer King	HNTB	jjking@hntb.com	404.946.5727

Teleconference Call in: District 1

Kim Coley	GDOT – District 1	kcoley@dot.ga.gov	770.532.5530
Kenny Whitworth	GDOT – District 1	kwhitworth@dot.ga.gov	706.384.7269
Teri Pope	GDOT – District 1	tpope@dot.ga.gov	770.718.3924
Harold Mull	GDOT – District 1	hmull@dot.ga.gov	770.532.5519

The following items were discussed:

1. GDOT IPD provided brief project background. The purpose of the meeting was to re-engage the various team members who were involved in the initial concept of I-85.
2. Public outreach was discussed:
    a. HNTB stressed the importance of the initial public outreach strategies to engage the general public at an early stage in the project development.
    b. SRTA agreed that early targeted outreach would be helpful, and requested that they be included in initial public outreach planning discussions.
    c. GDOT will schedule meetings within the next few weeks with SRTA and HNTB to discuss the public communication plan.
    d. HNTB will develop a list of communication talking points, as well as a preliminary stakeholders list.
3. Project funding was discussed:
    a. Project is currently in ARC's Long Range (LR) plan. A TIP amendment will be required. GDOT Planning said that TIP amendment would not be performed until late 2012/early 2013.
    b. HNTB provide GDOT IPD a revised schematic showing layout and access points. GDOT IPD to provide to GDOT Planning.
4. HNTB gave a brief overview of the revised scope of work, design exceptions, and project limits.
    a. The existing roadway will be widened one lane in each direction to accommodate the new Express Lanes. The new lanes will be tolled. Lane width is 12 with a 2' buffer.
    b. The project is located from just north of Old Peachtree Road (terminus of P.I. 0009295) to north of Hamilton Mill Road. Project length is approximately 10 miles and is located in Gwinnett County.
    c. Current toll planned for HOT3+ since this is an extension of the current tolling lanes which is HOT3+.
    d. Project is currently approved for Design-Build delivery.
5. The preliminary project schedule was discussed:
    a. HNTB is currently updating calibrating the traffic model to conform to Plan 2040. This is the critical path item.
    b. The **draft** Concept Report could be circulated in mid-summer 2012; however, traffic may not be submitted/approved until August 2012 due to time needed to update traffic model.
    c. PIOH is currently anticipated in late summer 2012
    d. Draft NEPA anticipated in summer of 2013 with anticipated EA/FONSI early spring 2014.
    e. The Design-Build Request for Proposals (RFP) would be advertised for 90 days.
6. URS explained the current status of the special study activities:
    a. The revised footprint removes impacts to some previously identified resources. The AOE will be updated. No adverse impacts are expected.

b. Air Quality will be performed in accordance with MOVES2010a. It is not expected that this will be a problem.

c. GDOT indicated that a project justification statement is required with the revised need and purpose document.

d. Aquatic survey has been completed, but will be updated.

7. Tolling was discussed:

a. HOT3+ will be employed.

b. The project will be Design-Build delivery and prescriptive tolling specifications will be developed. In addition, the gantry design will be coordinated prior to engaging Design-Build teams and its design will be prescriptive.

c. There will be no video tolling.

d. SRTA indicated that the existing I-85 HOV to HOT conversion application from the Section 166 FHWA Tolling and Pricing programs can be used for this portion of I-85.

e. Further discussion between GDOT and SRTA will be required to determine the need to update Level II Traffic and Revenue; and to determine if T&R bonds are required for HOT3+. The draft Concept of Operations will be updated within the next couple of months.

8. Design-Build risks were briefly discussed:

a. Project funding and the TIP Amendment will need to be managed as it relates to the project schedule. In order to achieve the schedule, FHWA would need to perform reviews of various special studies prior to the project being updated in the TIP.

b. Receiving tolling authority from FHWA is a risk.

c. On previous tolling projects, the traffic impacts at adjacent intersections along the corridor had to be evaluated. This has the potential of increasing the scope of NEPA.

d. The MS4 permit and to the degree the design should accommodate is critical. GDOT OES to request/recommend FHWA GA Division review documents prior to TIP being updated.

e. The regional conditions will be updated in March 2012 which could affect the NWP process.

f. NPDES permit will be renewed in August 2013.

g. All of the risks discussed will need to be managed and an appropriate allocation of risks decided as the project gets closer to Design-Build advertisement.

h. NEPA/special studies being prescriptive have in the past caused the need for a NEPA reevaluation as soon as the Design-Build team submitted preliminary plans. If at all possible maybe the impacts could be quantified as a worst case scenario and written such that maximum impacts or less are described. The desire is not to perform a reevaluation if the assumed impacts are slightly less than what was contemplated in the Design-Build Costing Plans. If the impacts were not contemplated then the NEPA reevaluation would be required.

9. Design-Exceptions were discussed:

a. A Design Exception is required for the shoulder widths. At one location, an approved Design-Exception would avoid relocating a costly soil nail wall.

10. Feedback from the various GDOT departments, FHWA and SRTA were recorded as part of the project files and listed below.
    a. FHWA – Questioned the need for an IMR at the existing I-985 interchange. HNTB revisit the I-985/I-85 IMR to ensure that the scope/intent of it is preserved with the I-85 Express Lanes project.
    b. SRTA – reminded the group that SRTA would like to be included in the internal meetings to discuss public outreach strategy.
    c. GDOT Planning – Requested a copy of the latest plan schematics for their review and incorporation into the TIP amendment. HNTB to provide GDOT IPD a revised schematic showing layout and access points. GDOT IPD to provide to GDOT Planning.
    d. GDOT District 1 – Requested that GDOT IPD, GDOT Communications, SRTA, etc… be engaged to support initial public outreach. Access points and the noise barrier analysis, especially near on I-85 near SR 20 at an existing neighborhood, may be sensitive issues for the public traveling or living within the project limits.
    e. GDOT District 1 – Show the Sugarloaf Extension and Sawmill Road projects in concept report and on conceptual layouts.
    f. GDOT District 1 – Carry the I-85 Express Lanes to just beyond Hamilton Road interchange. If not then this could create a bottleneck.
    g. GDOT Roadway Design – Mentioned using concrete barrier throughout the majority of the project may be costly. Barrier alternatives should be considered verse cable barrier.
    h. GDOT Utilities – Verified that the existing SUE QL-B is over 2 years old and will need to be updated for this project. GDOT Utilities may be able to use their on-call SUE TO if needed. GDOT IPD suggested that it may be good timing to discuss how best to handle obtaining updated data at the Concept Team Meeting.
    i. GDOT Design Policy and Support – reminded HNTB that the current concept report format has changed and to use the most current.

Action Items:

1. **SRTA evaluate need to sell Toll Revenue Bonds (even with HOT3+).**
2. **GDOT Bridge provide GDOT IPD with most recent Bridge condition surveys.**
3. **GDOT IPD obtain and review the I-85 HOV to HOT conversion project's (P.I. 0009295) environmental document, FHWA correspondence/responses, etc…**
4. **GDOT IPD submit the tolling Expression of Interest (EOI) to FHWA.**
5. **GDOT OES to request/recommend FHWA GA Division review documents prior to TIP being updated.**
6. **HNTB develop preliminary communication talking points and stakeholders list.**
7. **HNTB facilitate meeting with GDOT Communications and SRTA to begin discussing public outreach strategy.**
8. **HNTB add Sugarloaf Extension and the Sawmill Road project layouts to concept plans and concept report as adjacent projects.**

9. **HNTB evaluate the need for "pull off" areas.**
10. **HNTB prepare and submit to GDOT the logical termini form.**
11. **HNTB revisit the I-985/I-85 IMR to ensure that the scope/intent of it is preserved with the I-85 Express Lanes project.**
12. **HNTB to provide GDOT IPD a revised schematic showing layout and access points. GDOT IPD to provide to GDOT Planning.**
13. **HNTB evaluate impact to neighborhood on I-85 northbound just before SR 20 as part of the noise study.**

This is our understanding of items discussed and decisions reached. Please contact Kelvin Mullins at kemullins@dot.ga.gov if there are changes or additions.

cc: Attendees, Darryl VanMeter (GDOT), General Files

Appendix K. Concept Team Meeting-Minutes

MEETING NOTES

Date: November 27, 2012

Project: I-85 Express Lanes – PI Number 110600; Gwinnett

Purpose: Concept Team Meeting

Location: GDOT 24th Floor Conference Room

Time: 9:30 AM

Attending:

Kelly Wade	FHWA	Kelly.wade@dot.gov	404-562-3584
Kim Conroy	Gwinnett County DOT	Kim.conroy@gwinnettcounty.com	770-822-7417
Vince Edwards	Gwinnett County DOT	Vince.edwards@gwinnettcounty.com	770-822-7452
Karlene Barron	GDOT – Comm.	kbarron@dot.ga.gov	404-631-1824
Terri Pope	GDOT – D1 Comm.	tpope@dot.ga.gov	770-718-3924
Butch Jones	GDOT – D1 Utilities	dbjones@dot.ga.gov	770-718-5007
Jill Goldberg	GDOT – Comm.	jgoldberg@dot.ga.gov	404-631-1828
Sam Pugh	GDOT – OES	spugh@dot.ga.gov	404-631-1167
Jun Birnkammer	GDOT - Utilities	jbirnkammer@dot.ga.gov	404-631-1360
Mark Demidovich	GDOT – Traffic Ops.	mdemidovich@dot.ga.gov	404-635-2838
Ken Werho	GDOT – Traffic Ops.	kwerho@dot.ga.gov	404-635-2829
Michael Turpeau Jr.	GDOT – Traffic Ops.	mturpeau@dot.ga.gov	404-635-2831
James Gordon	GDOT – Traffic Ops.	jgordon@dot.ga.gov	404-635-2852
Michael Roberson	GDOT – Traffic Ops.	mroberson@dot.ga.gov	404-635-2810
Lisa Myers	GDOT – Eng. Services	lmyers@dot.ga.gov	404-631-1770
John Hancock	GDOT – IPD	jhancock@dot.ga.gov	404-631-1315
Loren Bartlett	GDOT - IPD	lbartlett@dot.ga.gov	404-631-1642
Jennie Agerton	URS Corporation	Jennie.agerton@urs.com	678-808-8843
Dom Saulino	HNTB	dsaulino@hntb.com	404-946-5745
Keith Strickland	HNTB	kstrickland@hntb.com	404-946-5744
Dan Hood	HNTB	jhood@hntb.com	404-946-5734
Charlotte Weber	HNTB	chweber@hntb.com	404-946-5712
David Hannon	HNTB	dhannon@hntb.com	404-275-2829

The following items were discussed:

1. Loren Bartlett opened the meeting by leading introductions and providing background on the project.
    a. The scope of the proposed project is to extend the existing HOT 3+ lane from its northern termini to Hamilton Mill Road. The project lies entirely within Gwinnett County. This project will be delivered by Design-Build and will provide commute alternatives and reliable travel times. No right-of-way is anticipated.
    b. The current project schedule is:
        - Concept Team Meeting — November 27, 2012
        - PIOH — February 2013
        - Traffic Approval — March 2013
        - Concept Approval — May 2013
        - Draft EA — Fall 2013
        - PHOH — Winter 2014
        - Final EA — Spring 2014
        - Letting — Summer 2014

c. The project is Full Oversight, within the Atlanta Regional Commission, and Congressional District 7.
d. The project is funded in 2015 and the cost estimate included in the concept report includes tolling related ITS components, final design (to be done by the design build team), CEI, and construction contingencies.

2. Keith Strickland reviewed the traffic analysis:
   a. The traffic volumes show several drop off points:
      - Approximately 6% drop at SR 317 – Lawrenceville Suwannee Hwy
      - Approximately 40% drop at I-985
      - Approximately 13% drop at SR 20
      - Approximately 17% drop at Hamilton Mill
   b. The traffic analysis is indicating that the project improves travel times for all travel lanes until approximately 15 years after the build year when the travel times in the general purpose lanes appear to increase. At that time, the general purpose lanes will have exceeded their capacity and weave movement created by the managed lane will further degrade the travel times.
   c. Traffic Operations questioned this analysis and asked for a follow up meeting to discuss the issue in greater detail.
      - IPD to schedule a meeting with traffic operations to discuss design year build traffic conditions.
   d. Mark Demidovich requested ramp volumes to determine the need to add ramp meters before or as part of this project.
      - HNTB to provide ramp volumes to Mark Demidovich.
   e. FHWA indicated that they may have comments once the full traffic analysis is complete and may request GDOT examine alternatives that relieve traffic congestion.
3. David Hannon reviewed the project layout:
   a. From the southern project termini to I-985, I-85 will be widened to the outside to allow the existing inside lanes to be converted to the new managed lanes while maintaining the existing number of general purpose travel lanes.
   b. From I-985 to the northern project termini, I-85 will be widened into the grass median for the new managed lanes.
   c. As part of this project, the I-85 southbound bridge over the I-985 northbound on ramp will be widened and replaced.
   d. No right of way is required for the construction of the project. The Municipal Separate Storm Sewer System (MS4) Permit will not impact the need for project right of way. GDOT has established policy that if right of way is needed for this project to comply with MS4, then MS4 would be determined to be infeasible for that drainage basin.
4. Two Design Exceptions are currently being reviewed by GDOT.
   a. A design exception for the existing sag curves along the project corridor for seven sag curves that do not meet the speed design for the current posted speed on I-85.
   b. A design exception for a narrow shoulder along the auxiliary lane just south of the McGinnis Ferry overpass that is being shifted closer to the existing retaining wall in this area.
      - Gwinnett County noted that they may pursue adding ramps to McGinnis Ferry. The ramp installation would likely require removing the retaining wall.
   c. FWHA noted that they must review and approve all design exceptions for the project.
5. Utilities:
   a. SUE for the project was accepted in 2009. Jun Birnkammer noted that there was a revision to the SUE plans that does not appear to be shown on the utility plans provided.
      - HNTB to revise the utility plans to reflect the SUE revision.

b. The group discussed the need to update the SUE information. IPD will coordinate with the District Utility Engineer to determine if additional utilities have been permitted since 2009 and if a SUE update is needed.

6. ITS
   a. This corridor has little to no ITS currently installed. Based on the scope of the project as a tolled managed lane, Traffic Operations would like to incorporate a Level 1 ITS installation as part of the project. This will include Type 2 Duct Bank along both sides of I-85 with cameras, changeable message boards, and vehicle detection installation.
   b. SRTA will also need camera coverage and ITS for their tolling equipment.
      - IPD to begin coordinating with SRTA on their ITS needs for the corridor.
7. NEPA
   a. The NEPA document is currently anticipated to be an Environmental Assessment.
   b. Air Quality is waiting on traffic and guidance from FHWA on the new Moves2010a modeling software.
   c. Ecology: The field work has been completed and the report will be finalized once the aquatic surveys are complete.
   d. History: Will be resurveyed in January and the Assessment of Effects (AOE) will be completed after the Public Information Open House (PIOH).
   e. Archeology: Has been approved for the corridor.
   f. Noise Studies will begin next Spring.
   g. Aquatics surveys will begin in April.
   h. The project need and purpose will be a standalone document and will be submitted once the traffic analysis is complete. The need and purpose will not rule out ETL or HOT 3+.
   i. Public Involvement:
      - The PIOH is tentatively scheduled for February 2013.
      - Email blasts to legislators will go out in the next few weeks.
      - Gwinnett County asked that for all public involvement and outreach include the message that this project is adding new capacity to I-85.
      - It was noted that businesses should be better targeted as part of the outreach. This group has sometimes been neglected on other projects.
      - Charlotte Weber to update the Public Involvement Plan and resubmit to GDOT Communications.
      - IPD to provide Gwinnett County a copy of the public involvement materials.
      - Additional State Patrol will be needed along the corridor to help enforce the occupancy requirements of the toll lane if the HOT 3+ alternative is selected.
8. General Comments from Department Offices and Stakeholders:
   a. Gwinnett County
      - Need a follow up meeting.
      - Saw Mill Road and the Sugarloaf Extension are not likely to impact this project as they are not funded or anticipated to be funded at this time.
   b. FHWA
      - Inquired if any of the VE Study implementation recommendations needed a reversal based on the new project layout.
        1. HNTB to review VE Study and determine if a reversal letter has been processed or needs to be processed.
      - Ensure consistency throughout all documents on how the project is discussed. It should be a managed lane.
      - The ETL alternative should be carried through the Draft EA.
      - Trip times should be referred to as “reliable” and not “guaranteed”.
   c. SRTA – not in attendance, need a follow up meeting.
   d. Planning – not present
   e. Utilities – no comments

f. Right of Way – not present
g. Construction – not present
h. Road Design – not present
i. Maintenance – not present
j. Engineer Services – Coordinate with Lisa Myers if VE Reversal letter is needed.
k. Design Policy and Support - not present
l. Environmental Services – no comments
m. Office of Materials – not present
n. District 1 – no comments.
o. Traffic Operations – recommends that the new pavement be carried past the Hamilton Mill interchange for drainage purposes.
    - HNTB to evaluate the need to extend the pavement widening past Hamilton Mill Road.

Action Items:

1. **IPD to schedule a meeting with traffic operations to discuss design year build traffic conditions.**
2. **HNTB to provide ramp volumes to Mark Demidovich.**
3. **HNTB to revise the utility plans to reflect the SUE revision.**
4. **IPD will coordinate with the District Utility Engineer to determine if additional utilities have been permitted since 2009 and if a SUE update is needed.**
5. **IPD to begin coordinating with SRTA on their ITS needs for the corridor.**
6. **Charlotte Weber to update the Public Involvement Plan and resubmit to GDOT Communications.**
7. **IPD to provide Gwinnett County a copy of the public involvement materials.**
8. **IPD to schedule follow up meeting with Gwinnett County.**
9. **HNTB to review VE Study and determine if a reversal letter has been processed or needs to be processed.**
10. **HNTB to evaluate the need to extend the pavement widening past Hamilton Mill Road.**

This is represents our understanding of items discussed and decisions reached. Please contact Loren Bartlett (404-631-1642 or lbartlett@dot.ga.gov) if there are changes or additions no later than seven days after receipt.

cc: Attendees, Darryl VanMeter (GDOT), Karlene Barron (GDOT), Malika Wilkins (SRTA), Tim Heilmeier (HNTB), Tom Hutchinson (HNTB), Keith McCage (HNTB)

Appendix L. Preliminary Pavement Type Selection Report

DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

INTERDEPARTMENTAL CORRESPONDENCE

FILE NH-IM-85-2(164)
Gwinnett
PI No. 110600-

OFFICE Materials and Research

DATE May 31, 2012

FROM Georgene M. Geary, P. E., State Materials and Research Engineer

TO Darryl Van Meter, P.E., Innovative Program Delivery Engineer
Attention: Loren Bartlett, Project Manager

SUBJECT Pavement Evaluation Review: **Final Acceptance**
HOT Lanes I-85

As requested, the Office of Materials and Research (OMR) has reviewed the revised Pavement Evaluation Summary for the aforementioned project. The report was prepared by ECS Southeast, LLC on May 24, 2012.

This revised Pavement Evaluation Summary incorporates the latest review comments that were transmitted electronically as well as all telephone conversations, correspondence, and meetings relating to this project. The attached report is acceptable for use in design and during construction.

If additional information is needed, please contact A J Jubran of the Pavement Management Branch at 404-608-4771.

GMG: AJJ

Copy: Robert L Goehring
rgoehring@ecslimited.net

REPORT OF
FINAL PAVEMENT EVALUATION REPORT

I-85 HOT LANES
GDOT PROJECT NO.: NH-IM-85-2(164)
GWINNETT COUNTY
P.I. NO: 110600
ECS PROJECT NO.: 10:5834

FOR

HNTB

APRIL 6, 2012

April 6, 2012

Ms. Ashley Chan
HNTB
3715 Northside Parkway, NW
400 Northcreek, Suite 600
Atlanta, GA 30327

Reference: Final Pavement Evaluation Report
I-85 HOT LANES
GDOT PROJECT NO.: NH-IM-85-2(164)
GWINNETT COUNTY
P.I. NO: 110600

ECS Project No. 10:5834

Dear Ms. Chan:

ECS Southeast, LLC (ECS) is pleased to submit this Final Pavement Evaluation Report for the site referenced above. The attached report presents an introduction of the proposed project, results of our exploration, subsurface conditions, and our recommendations. The work was completed in general accordance with ECS Southeast, LLC Task Order #1 as authorized by Mr. Robert Miller with HNTB on April 19, 2010. This report incorporates comments by Georgia Department of Transportation (GDOT) dated June 30, 2011 and March 8, 2012.

We appreciate the opportunity of working with you on this project and look forward to our continued association. Should you have questions regarding our findings or need additional consultations, please do not hesitate to contact our office at (770) 590-1971.

Sincerely,

ECS SOUTHEAST, LLC represented by:

Jay Hornsby, P.G.
Geotechnical Department Manager

Robert L. Goehring, P.E.
Senior Principal Engineer
GA Registration No. 16733

GEORGIA REGISTERED No. 016733 PROFESSIONAL ENGINEER ROBERT L. GOEHRING

Enclosure: Pavement Evaluation Report

FINAL PAVEMENT EVALUATION SUMMARY

For

I-85 HOT Lanes
Gwinnett County
GDOT Project No. : NH-IM-85-2(164)
P.I. No.: 110600
ECS Project No. 10:5834

1. LOCATION / DESCRIPTION

This project is for the construction of new High Occupancy Toll (HOT) lanes along Interstate I-85. The limits of PI 110600 extends from north of Old Peachtree Road to Hamilton Mill Road. This report addresses a portion of the PI 100600 project. Another geotechnical firm has performed a pavement evaluation for the southern portion of this project. This pavement evaluation includes the northbound lanes beginning at Station 2040+00 and continuing northeast to Station 2402+47 and the southbound lanes beginning at Station 3195+00 and continuing northeast to Station 3558+42. At the time of fieldwork, stationing was not available.

ECS received final stationing late December 2010. Outside widening is proposed for this project. The existing inside general purpose lane would be used as a proposed managed lane (ML) and the new outside lane would be used as a general purpose lane (GP). The project lies north of the city limits of Lawrenceville in Gwinnett County.

2. HISTORICAL INFORMATION

HNTB provided ECS with historical plans and drawings for the following previous projects related to this project:

- CSNHS-0008-00(234)01 was a resurfacing project from I-985 to pavement joint south of SR 20 around 2009.
- IM-STP-85-2(128)01 was a resurfacing project from pavement joint south of SR 20 to pavement joint north of SR 20 around 2000.
- NHS-M000-00(459)01 was a resurfacing project from pavement joint north of SR 20 to SR 211 around 2000.

Please refer to the attached documents for more information.

3. PAVEMENT CONDITION SUMMARY

The existing pavement is in good to fair condition based on the latest COPACES ratings in 2009 and on the findings of our field investigation.

4. NEW PAVEMENT SECTIONS/RECONSTRUCTION

From information provided by Ms. Ashley Chan at HNTB (see attached traffic diagrams/data), we understand the following traffic information:

Maximum GP Traffic

ROAD	BASE TRAFFIC* ADT (2014)	DESIGN TRAFFIC* ADT (2034)	24 HR % TRUCK TRAFFIC
Interstate I-85	93,550	115,200	19.9

Maximum ML Traffic

ROAD	BASE TRAFFIC* ADT (2014)	DESIGN TRAFFIC* ADT (2034)	24 HR % TRUCK TRAFFIC
Interstate I-85	8,650	10,500	1

* ADT based on highest volume for each road

Using the above traffic data and GDOT software for flexible pavement design we analyzed each roadway. The Soil Support Value used during design was based on the previously performed soil survey for this project (Final Soil Survey Report dated August 5, 2011). Please note the GDOT flexible pavement design software predicts the minimum pavement sections presented below will result in about 4.5% underdesign over the life of the pavement. From experience, this amount of underdesign is normally acceptable where periodic overlays are anticipated.

For areas of widening and new pavement, we recommend the following minimum pavement section for Interstate I-85.

Minimum Flexible Pavement Section

PAY ITEM NUMBER	MATERIAL	COURSE	THICKNESS	SPREAD RATE
400-3624	12.5 mm PEM	Surface	1.25 inches	135 lbs/yd^2
400-3604	12.5 mm SMA	Surface	2.0 inches	220 lbs/yd^2
402-3190	19 mm Superpave	Binder	4.0 inches	440 lbs/yd^2
402-3121	25 mm Superpave	Asphalt Base	12.0 inches	1,320 lbs/yd^2
310-1101	Graded Aggregate Base	Base	12.0 inches	N/A

5. OVERLAY SECTIONS

The existing pavement should be milled and overlayed a minimum of 3 inches. Using the above GP and ML traffic data, the average encountered existing pavement thicknesses minus the proposed milling, and GDOT software for flexible pavement design we analyzed each roadway. Please note the GDOT flexible pavement design software predicts the overlay section presented below will result in about 3.5% overdesign over the life of the pavement for the GP lanes and 110.4% overdesign over the life of the pavement for the HOT lanes. The following overlay structure is recommended if milling and overlaying:

Overlay Pavement Section

PAY ITEM NUMBER	MATERIAL	COURSE	THICKNESS	SPREAD RATE
OVERLAY				
400-3624	12.5 mm PEM	Surface	1.25 inches	135 lbs/yd^2
400-3604	12.5 mm SMA	Surface	2.0 inches	220 lbs/yd^2
AVERAGE EXISTING PAVEMENT SECTION				
N/A	Asphaltic Concrete		6.8 inches*	
N/A	Portland Cement Concrete (PCC)		8.3 inches	
N/A	Graded Aggregate Base (GAB)		15.2 inches	

*Average thickness after proposed milling.

6. PAVEMENT DISTRESSES

Except for the following, no other significant distresses were observed during the field investigation of this project:

Reflection Cracking On Interstate I-85, reflection cracking was observed on the northbound lanes at stations:

2174+64 to 2175+99
2382+02

On Interstate I-85, reflection cracking was observed on the southbound lanes at stations:

3331+39 to 3330+79

Edge Distress On Interstate I-85, edge distress was observed on the southbound lanes at stations:

3383+93

Raveling On Interstate I-85, raveling was observed on the northbound lanes at station:

2125+17
2174+49 to 2175+99

Patches and Potholes On Interstate I-85, a Patch was observed on the northbound lanes at station:

2174+49

7. PAVEMENT CORES

Cores were recovered from sixteen (16) locations in the travel lanes of this project to check the existing thicknesses and condition of the existing pavement sections. The results of this work are presented in the table below:

Core Number	Station / Offset	Northbound / Southbound Lanes	Approx. Asphalt Thickness (inches)	Approx. Concrete Thickness (inches)	Approx. Base Thickness (inches)	Remarks
C-1	2065+08 6R	Northbound	8.5	9.5	22.5 GAB	Generally Meets Design
C-2	2120+16 18R	Northbound	12.5	0	18.0 GAB	Generally Under Design
C-3	2170+23 6R	Northbound	10.0	9.5	25.5 GAB	Generally Meets Design
C-4	2190+26 18R	Northbound	10.0	10.5	10.0 GAB	Generally Meets Design
C-5	2235+32 6R	Northbound	9.5	9.0	20.0 GAB	Generally Meets Design
C-6	2285+39 18R	Northbound	10.0	9.5	19.5 GAB	Generally Meets Design
C-7	2335+46 6R	Northbound	10.0	10.0	20.0 GAB	Generally Meets Design
C-8	2395+54 18R	Northbound	10.0	9.0	11.0 GAB	Generally Meets Design
C-9	3551+54 18L	Southbound	10.5	9.0	9.5 GAB	Generally Meets Design

Core Number	Station / Offset	Northbound / Southbound Lanes	Approx. Asphalt Thickness (inches)	Approx. Concrete Thickness (inches)	Approx. Base Thickness (inches)	Remarks
C-10	3491+50 6L	Southbound	9.0	9.5	13.5 GAB	Generally Meets Design
C-11	3441+47 18L	Southbound	9.5	10.0	10.5 GAB	Generally Meets Design
C-12	3391+43 6L	Southbound	8.5	9.5	13.5 GAB	Generally Meets Design
C-13	3346+40 18L	Southbound	9.5	9.5	9.0 GAB	Generally Meets Design
C-14	3326+39 6L	Southbound	9.5	9.5	11.0 GAB	Generally Meets Design
C-15	3276+35 18L	Southbound	12.0	0	18.0 GAB	Generally Under Design
C-16	3321+32 6L	Southbound	8.5	9.5	11.0 GAB	Generally Meets Design

The asphalt cores were brought to our laboratory in Marietta, Georgia for further visual examination and laboratory testing. Laboratory testing on selected samples included bulk specific gravity. Please refer to the attached laboratory testing results.

8. COPACES

No COPACES information is included with this evaluation.

9. ADDITIONAL RECOMMENDATIONS

- We recommend that the surface cracks be sealed with Type M crack sealant after milling and immediately prior to inlaying, per Section 407 of the Standard Specifications.

- We recommend the use of high-strength pavement reinforcement fabric over the cracks of the asphalt pavement as per Section 446 of GDOT Standard Specifications.

- We recommend waterproofing the joints and cracks of concrete pavement prior to the overlaying operation as per Section 445 of GDOT Standard Specifications.

- We recommend milling the asphaltic concrete pavement as per Section 432 of GDOT Standard Specifications.

LIMITATIONS

This Pavement Evaluation Report has been prepared in accordance with generally accepted geotechnical engineering practice and GDOT requirements for Pavement Evaluations. No warranty is expressed or implied. This report has been prepared for the exclusive use of HNTB and the Georgia Department of Transportation (GDOT) and its agents. ECS assumes no liability for any third party's usage of this report and its attachments without express written consent.

The evaluations presented in this report are based on the available project information, as well as on the results of the exploration. Should a change in the project criteria be made such as the location of the new construction, ECS should be notified to evaluate the changes and make new recommendations if warranted.

For ECS Southeast, LLC:

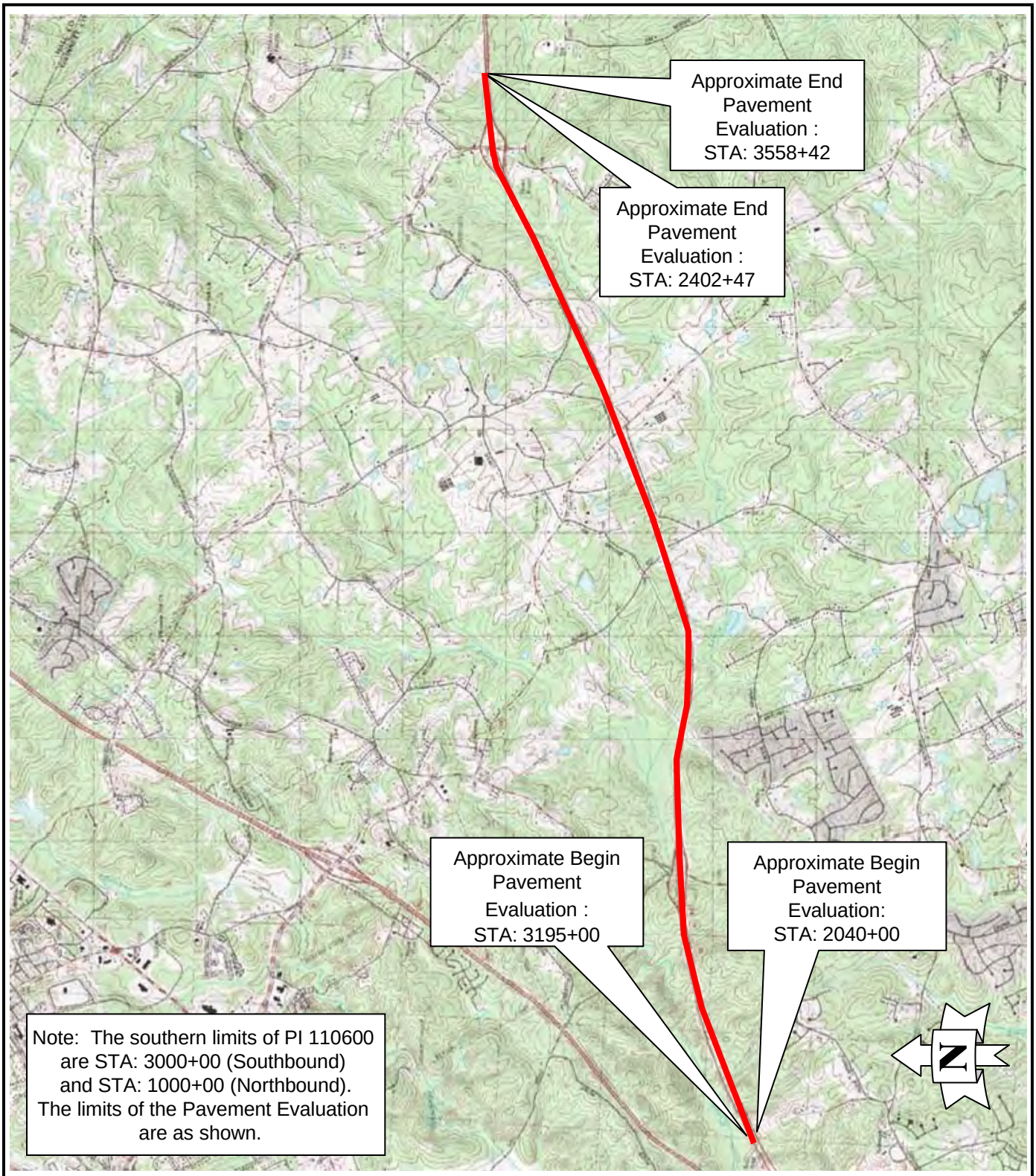
Reported By: Jay Hornsby, P.G.
Geotechnical Department Manager

Reviewed By: _____
Robert L. Goehring, P.E.
Senior Principal Engineer
GA Registration No. 16733

Attachments:

- Figure 1 – Site Vicinity Map
- Photo Log
- Core Log
- Laboratory Testing Summary
- Flexible Pavement Design Analysis (3)
- Historical GDOT Data
- HNTB Traffic Diagrams/Data

Attachments



SITE VICINITY MAP		**Figure No.:**
REPORT OF GEOTECHNICAL EXPLORATION	**Project No.: 10:5834**	1
I-85 HOT Lanes, Gwinnett County, GA **Project No.:NH-IM-85-2(164) P.I. No.: 1100600**	**Not to Scale**	
Reference: USGS Quadrangle: Suwanee; Hog Mountain, Georgia dated 1993	**Date: 02/2012**	

ECS Southeast, LLC
1281 Kennestone Circle
Suite 100
Marietta, GA 30066
Phone: 770-419-0745
Fax: 770-590-1975

PHOTO LOG

Project Name: I-85 HOT Lanes – PI 110600	Project Number: 10:5834
Project Location: Buford, Gwinnett County, Georgia	Date: 08/2010

Photo 1. View of North Bound Lanes
Approximate Station No. 2069+64

Photo 2. View of North Bound Lanes
Approximate Station No. 2122+44

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PHOTO LOG

Project Name: I-85 HOT Lanes – PI 110600	Project Number: 10:5834
Project Location: Buford, Gwinnett County, Georgia	Date: 08/2010

Photo 3. View of North Bound Lanes
Approximate Station No. 2175+24

Photo 4. View of Cracking in Roadway
Approximate Station No. 2175+24

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Fax: 770-590-1975

PHOTO LOG

Project Name: I-85 HOT Lanes – PI 110600	Project Number: 10:5834
Project Location: Buford, Gwinnett County, Georgia	Date: 08/2010

Photo 5. View of North Bound Lanes
Approximate Station No. 2227+81

Photo 6. View of North Bound Lanes
Approximate Station No.2281+13

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PHOTO LOG

Project Name: I-85 HOT Lanes – PI 110600	Project Number: 10:5834
Project Location: Buford, Gwinnett County, Georgia	Date: 08/2010

Photo 7. View of North Bound Lanes
Approximate Station No. 2334+34

Photo 8. View of North Bound Lanes
Approximate Station No. 2382+02

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PHOTO LOG

Project Name: I-85 HOT Lanes – PI 110600	Project Number: 10:5834
Project Location: Buford, Gwinnett County, Georgia	Date: 08/2010

Photo 9. View of South Bound Lanes
Approximate Station No. 3172+99

Photo 10. View of South Bound Lanes
Approximate Station No. 3225+79

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PHOTO LOG

Project Name: I-85 HOT Lanes – PI 110600	Project Number: 10:5834
Project Location: Buford, Gwinnett County, Georgia	Date: 08/2010

Photo 11. View of South Bound Lanes
Approximate Station No. 3278+59

Photo 12. View of Cracking in Roadway
Approximate Station No. 3331+39

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Fax: 770-590-1975

PHOTO LOG

Project Name: I-85 HOT Lanes – PI 110600	Project Number: 10:5834
Project Location: Buford, Gwinnett County, Georgia	Date: 08/2010

Photo 13. View of South Bound Lanes
Approximate Station No. 3331+39

Photo 14. View of Raveling on Shoulder
Approximate Station No. 3383+93

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PHOTO LOG

Project Name: I-85 HOT Lanes – PI 110600	Project Number: 10:5834
Project Location: Buford, Gwinnett County, Georgia	Date: 08/2010

Photo 15. View of South Bound Lanes
Approximate Station No. 3383+93

Photo 16. View of South Bound Lanes
Approximate Station No. 3437+21

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PHOTO LOG

Project Name: I-85 HOT Lanes – PI 110600	Project Number: 10:5834
Project Location: Buford, Gwinnett County, Georgia	Date: 08/2010

Photo 17. View of South Bound Lanes
Approximate Station No. 3490+38

Photo 18. View of South Bound Lanes
Approximate Station No.3538+03

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CORE PHOTO LOG

Project Name: I-85 HOT Lanes – PI 110600	Project Number: 10:5834
Project Location: Buford, Gwinnett County, Georgia	Date: 08/2010

Photo 1. Core C-1: Total Thickness = 18” (Asphalt = 8.5”, Concrete = 9.5”)
Station 2065+08 6R

Photo 2. Core C-2: Total Thickness = 12.5” (Asphalt = 12.5”)
Station No. 2120+16 18R

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CORE PHOTO LOG

Project Name: I-85 HOT Lanes – PI 110600	Project Number: 10:5834
Project Location: Buford, Gwinnett County, Georgia	Date: 08/2010

Photo 3. Core C-3: Total Thickness = 19.5” (Asphalt = 10”, Concrete = 9.5”)
Station No. 2170+23 6R

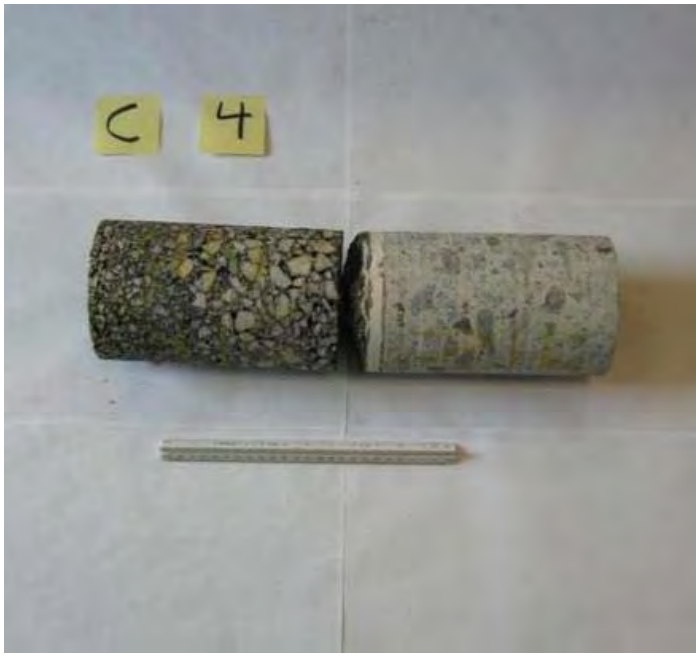

Photo 4. Core C-4: Total Thickness = 20.5” (Asphalt = 10”, Concrete = 10.5”)
Station No. 2190+26 18R

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CORE PHOTO LOG

Project Name: I-85 HOT Lanes – PI 110600	Project Number: 10:5834
Project Location: Buford, Gwinnett County, Georgia	Date: 08/2010

Photo 5. Core C-5: Total Thickness = 18.5” (Asphalt = 9.5”, Concrete = 9”)
Station No. 2235+32 6R

Photo 6. Core C-6: Total Thickness = 19.5” (Asphalt = 10”, Concrete = 9.5”)
Station No. 2285+39 18R

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CORE PHOTO LOG

Project Name: I-85 HOT Lanes – PI 110600	Project Number: 10:5834
Project Location: Buford, Gwinnett County, Georgia	Date: 08/2010

Photo 7. Core C-7: Total Thickness = 20” (Asphalt = 10”, Concrete = 10”)
Station No. 2335+46 6R

Photo 8. Core C-8: Total Thickness = 19” (Asphalt = 10”, Concrete = 9”)
Station No. 2395+54 18R

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CORE PHOTO LOG

Project Name: I-85 HOT Lanes – PI 110600	Project Number: 10:5834
Project Location: Buford, Gwinnett County, Georgia	Date: 08/2010

Photo 9. Core C-9: Total Thickness = 19.5” (Asphalt = 10.5”, Concrete = 9”)
Station No. 3551+54 18L

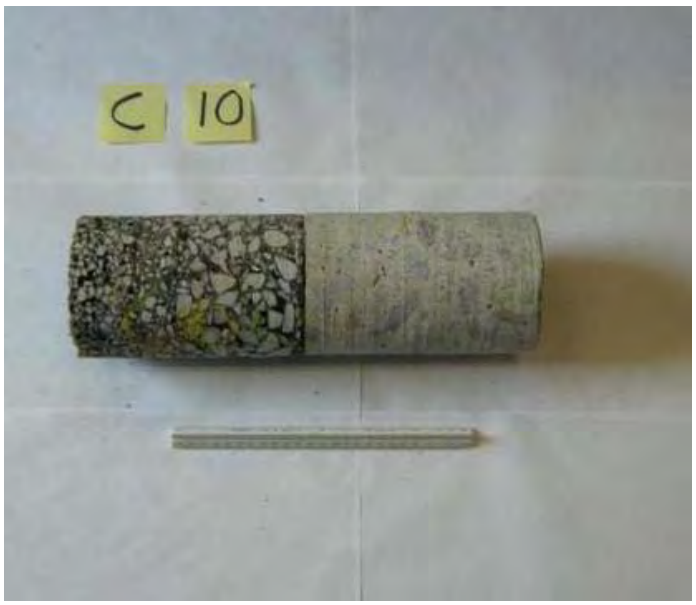

Photo 10. Core C-10: Total Thickness = 18.5” (Asphalt = 9”, Concrete = 9.5”)
Station No. 3491+50 6L

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CORE PHOTO LOG

Project Name: I-85 HOT Lanes – PI 110600	Project Number: 10:5834
Project Location: Buford, Gwinnett County, Georgia	Date: 08/2010

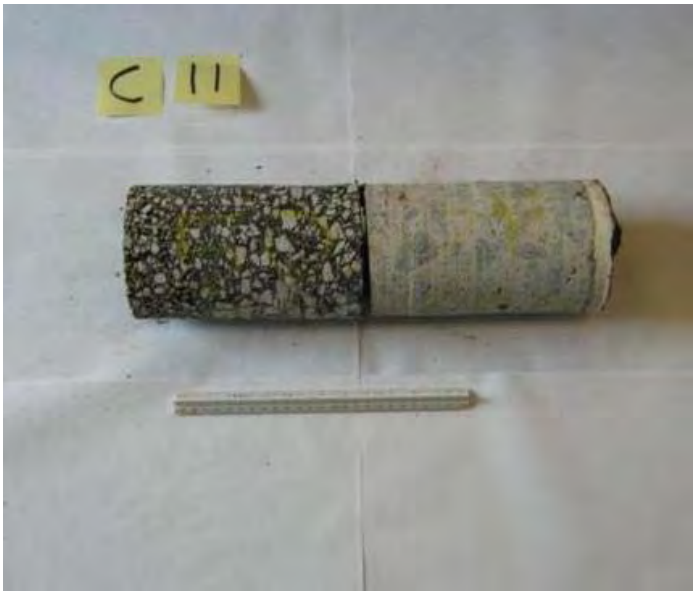

Photo 11. Core C-11: Total Thickness = 19.5” (Asphalt = 9.5”, Concrete = 10”)
Station No. 3441+47 18L

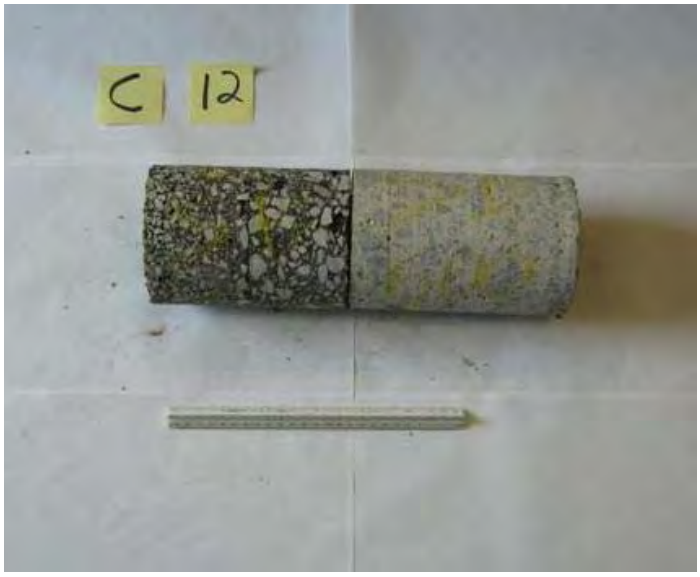

Photo 12. Core C-12: Total Thickness = 18” (Asphalt = 8.5”, Concrete = 9.5”)
Station No.3391+43 6L

ECS Southeast, LLC
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Marietta, GA 30066
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CORE PHOTO LOG

Project Name: I-85 HOT Lanes – PI 110600	Project Number: 10:5834
Project Location: Buford, Gwinnett County, Georgia	Date: 08/2010

Photo 13. Core C-13: Total Thickness = 19” (Asphalt = 9.5”, Concrete = 9.5”)
Station No. 3346+40 18L

Photo 14. Core C-14: Total Thickness = 19” (Asphalt = 9.5”, Concrete = 9.5”)
Station No. 3326+39 6L

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CORE PHOTO LOG

Project Name: I-85 HOT Lanes – PI 110600	Project Number: 10:5834
Project Location: Buford, Gwinnett County, Georgia	Date: 08/2010

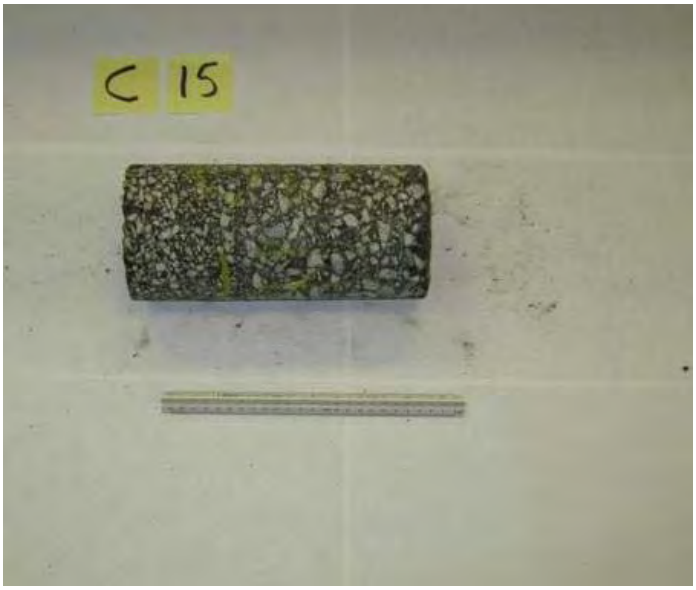


Photo 15. Core C-15: Total Thickness = 12” (Asphalt = 12”)
Station No. 3276+35 18L

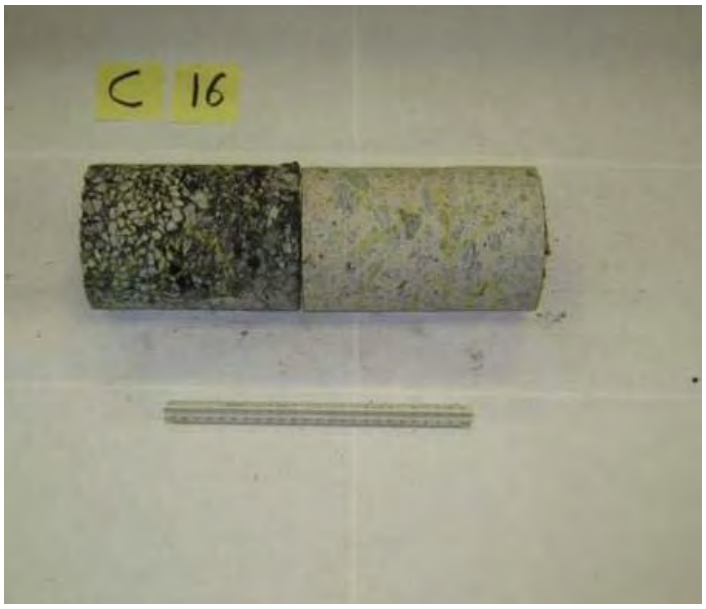


Photo 16. Core C-16: Total Thickness = 18” (Asphalt = 8.5”, Concrete = 9.5”)
Station No.3221+32 6L

ECS Southeast, LLC

Atlanta, Georgia

Laboratory Testing Summary

Date: 02/02/2012

Project Number: **10:5834** **Project Name: I-85 HOT Lanes - PI 110600**

Project Engineer: **KJH** **Principal Engineer: RLG** **Summary By: MNZ**

Boring Number	Sample Number	Depth (feet)	Moisture Content (%)	USCS	Liquid Limit	Plastic Limit	Plasticity Index	Percent Passing No. 200 Sieve	Compaction		CBR Value	Other
									Maximum Density (pcf)	Optimum Moisture (%)		
C-13	1	4'										
C-15	1	3.5'										

Summary Key:

SA = See Attached
S = Standard Proctor
M= Modified Proctor
V = Virginia Test Method
OC = Organic Content

Hyd = Hydrometer
Con = Consolidation
DS = Direct Shear
GS = Specific Gravity
NP = Non-Plastic

UCS = Unconfined Compression Soil
UCR = Unconfined Compression Rock
LS = Lime Stabilization
CS = Cement Staibilization

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: NH-IM-85-2(164) **County:** Gwinnett
P.I. no.: 110600
Description: I-85 HOT Lanes

Traffic Data (NOTE: AADTs are one-way)
24-hour Truck Percentage: 19.90%
AADT initial year of design period: 93,550 vpd (2014)
AADT final year of design period: 115,200 vpd (2034)
Mean AADT (one-way): 104,375 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
104,375	*	0.90	*	0.199	*	1.47	=	27,481

Total predicted design period loading = 27481 * 20 * 365 = 200,611,300

Design Data
Terminal Serviceability Index: 2.50
Soil Support: 3.00
Regional Factor: 1.80

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
9.5 mm Superpave	1.25	(32)	0.44	0.55
12.5 mm SMA	2.00	(51)	0.44	0.88
19 mm Superpave	1.25	(32)	0.44	0.55
	2.75	(70)	0.30	0.83
25 mm Superpave	12.00	(305)	0.30	3.60
Graded Aggregate Base	12.00	(305)	0.16	1.92

Required SN = 8.72 Proposed SN = 8.33

>>> Proposed pavement is 4.5% Underdesign <<<

Remarks:

Prepared by Jay Hornsby, P.G. (ECS) April 5, 2012
Date

Recommended _____
State Consultant Design Engineer Date

Approved _____
State Pavement Engineer Date

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: NH-IM-85-2(164) **County:** Gwinnett
P.I. no.: 110600
Description: I-85 HOT Lanes

Traffic Data (NOTE: AADTs are one-way)
24-hour Truck Percentage: 19.90%
AADT initial year of design period: 93,550 vpd (2014)
AADT final year of design period: 115,200 vpd (2034)
Mean AADT (one-way): 104,375 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
104,375	*	0.90	*	0.199	*	1.47	=	27,481

Total predicted design period loading = 27481 * 20 * 365 = 200,611,300

Design Data
Terminal Serviceability Index: 2.50
Soil Support: 3.00
Regional Factor: 1.80

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
	*** OVERLAY ***			
12.5 mm PEM	135 lb/sy	(75 kg/sm)	0.00	0.00
12.5 mm SMA	2.00	(51)	0.44	0.88
	*** EXISTING PAVEMENT ***			
Asphaltic Concrete	2.50	(64)	0.44	1.10
	4.30	(109)	0.30	1.29
Portland Cement Concrete (good)	8.30	(211)	0.40	3.32
Graded Aggregate Base	15.20	(386)	0.16	2.43

Required SN = 8.72 Proposed SN = 9.02

>>> Proposed pavement is 3.5% Overdesign <<<

Remarks:

Prepared by Jay Hornsby, P.G. (ECS) April 5, 2012
Date

Recommended _____
State Consultant Design Engineer Date

Approved _____
State Pavement Engineer Date

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: NH-IM-85-2(164) **County:** Gwinnett
P.I. no.: 110600
Description: I-85 HOT Lanes

Traffic Data (NOTE: AADTs are one-way)
24-hour Truck Percentage: 1.00%
AADT initial year of design period: 8,650 vpd (2014)
AADT final year of design period: 10,500 vpd (2034)
Mean AADT (one-way): 9,575 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
9,575	*	0.90	*	0.010	*	1.47	=	128

Total predicted design period loading = 128 * 20 * 365 = 934,400

Design Data
Terminal Serviceability Index: 2.50
Soil Support: 3.00
Regional Factor: 1.80

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
	*** OVERLAY ***			
12.5 mm PEM	135 lb/sy	(75 kg/sm)	0.00	0.00
12.5 mm SMA	2.00	(51)	0.44	0.88
	*** EXISTING PAVEMENT ***			
Asphaltic Concrete	2.50	(64)	0.44	1.10
	4.30	(109)	0.30	1.29
Portland Cement Concrete (good)	8.30	(211)	0.40	3.32
Graded Aggregate Base	15.20	(386)	0.16	2.43

Required SN = 4.29 Proposed SN = 9.02

>>> Proposed pavement is 110.4% Overdesign <<<

Remarks:

Prepared by Jay Hornsby, P.G. (ECS) April 5, 2012
Date

Recommended _____
State Consultant Design Engineer Date

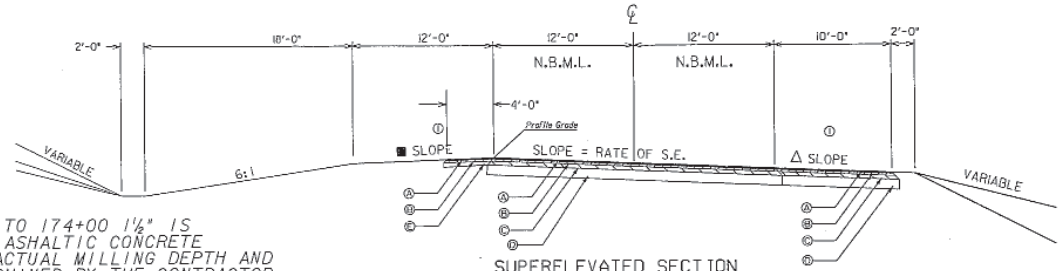
Approved _____
State Pavement Engineer Date

STATE	PROJECT NUMBER	SHT NO.	TOTAL SHT
GA.	IM-85-2(128)	5	509

REV. 5/19/96
REV. 7/12/96

TYPICAL SECTION NO. 1

I-85 MAINLINE



FROM NBL STA. 172+00 TO 174+00 1½" IS TO BE MILLED OFF AND ASHALTIC CONCRETE 12.5 mm SMA PLACED. ACTUAL MILLING DEPTH AND LIMITS SHALL BE DETERMINED BY THE CONTRACTOR TO ACHIEVE A SMOOTH TRANSITION BETWEEN EXISTING AND REQUIRED PAVEMENT. AND SUBMITTED TO THE ENGINEER FOR APPROVAL.

SUPERELEVATED SECTION
APPLIES TO STA. 174+00 TO STA. 191+39.81 N. B. L.
REMOVE EXISTING I-85 PAVEMENT:
ASPHALTIC CONCRETE OVERLAY
9" PCC PAVEMENT

** VARIABLE		
SLOPE CONTROLS		
SLOPE	FILL	CUT
6:1	0-6'	--
4:1	6'-10'	0'-10'
2:1	OVER 10'	OVER 10'

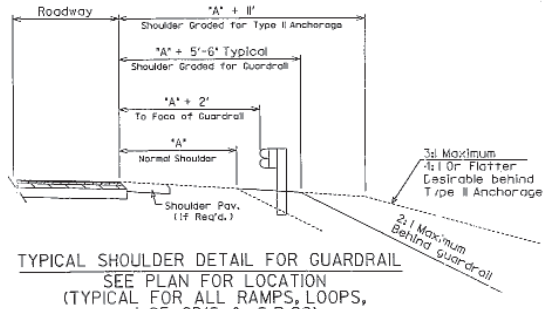
Δ SLOPE ½" / 1'-0" OR RATE OF S.E. WHICHEVER IS GREATER

■ SEE GA. STD. 9028-C FOR SUPERELEVATION RATES

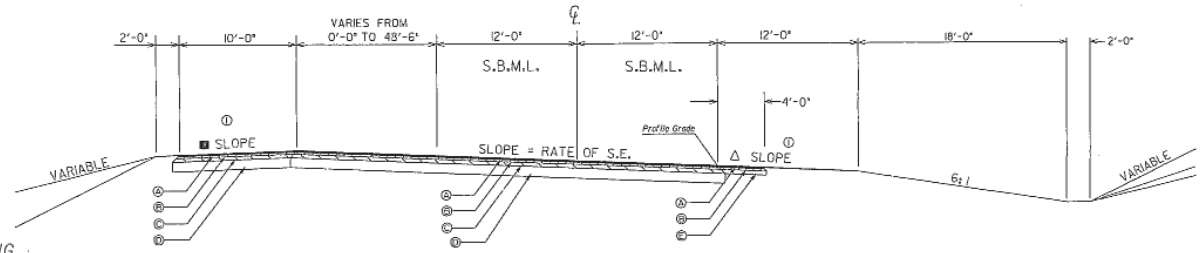
ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 0.07'/FT

REQUIRED PAVEMENT

- Ⓐ ASPHALTIC CONCRETE 12.5 mm SMA (165#/SQ.YD.)
- Ⓑ ASPHALTIC CONCRETE 19 mm SMA (220#/SQ.YD.)
- Ⓒ ASPHALTIC CONCRETE BASE, 8" (880#/SQ.YD.)
- Ⓓ GRADED AGGREGATE BASE, 14"
- Ⓔ GRADED AGGREGATE BASE, 8"
- Ⓕ GRADED AGGREGATE BASE, 10"
- Ⓗ GRADED AGGREGATE BASE, 6"
- ① INDENTATION RUMBLE STRIPS



TYPICAL SHOULDER DETAIL FOR GUARDRAIL
SEE PLAN FOR LOCATION
(TYPICAL FOR ALL RAMPS, LOOPS, I-85, CD'S, & S.R.20)

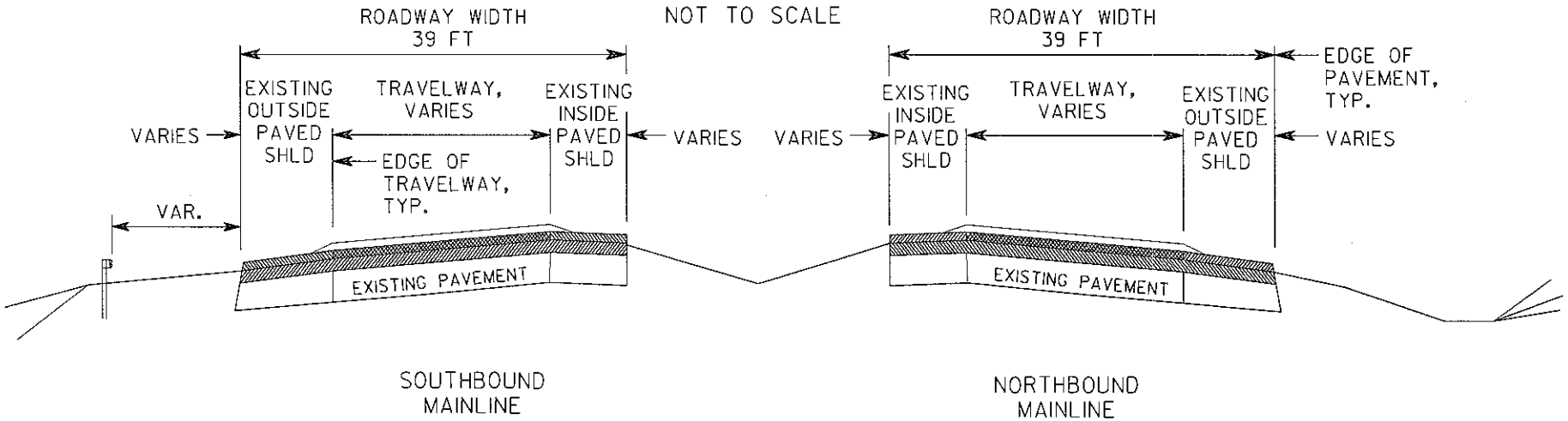


FROM SBL STA. 168+90 TO 170+90.64 1½" IS TO BE MILLED OFF AND ASHALTIC CONCRETE 12.5 mm SMA PLACED. ACTUAL MILLING DEPTH AND LIMITS SHALL BE DETERMINED BY THE CONTRACTOR TO ACHIEVE A SMOOTH TRANSITION BETWEEN EXISTING AND REQUIRED PAVEMENT. AND SUBMITTED TO THE ENGINEER FOR APPROVAL.

SUPERELEVATED SECTION
APPLIES TO STA. 170+90.64 TO STA. 185+40.64 S. B. L.

MAINLINE TYPICAL SECTION

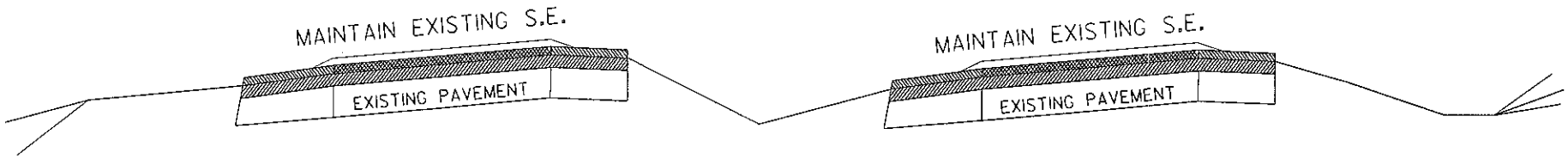
NOT TO SCALE



THIS TYPICAL SECTION APPLIES FROM LOG 0.00 TO LOG 4.47

1. MILL INSIDE AND OUTSIDE SHOULDERS VARIABLE DEPTH (2 INCH DEPTH AT EDGE OF TRAVELWAY TO 3½INCH DEPTH AT EDGE OF PAVEMENT)
2. MILL TRAVELWAY 2 INCH DEPTH
3. RESURFACE ROADWAY WIDTH WITH 220 LBS PER SQUARE YARD RECYCLED ASPHALTIC CONCRETE 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME
4. RESURFACE TRAVELWAY WIDTH WITH 165 LBS PER SQUARE YARD ASPHALTIC CONCRETE 12.5 mm SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
5. RESURFACE INSIDE AND OUTSIDE SHOULDERS WITH 165 LBS PER SQUARE YARD RECYCLED ASPHALTIC CONCRETE 12.5 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME
6. RESURFACE TRAVELWAY (EXTENDING 18 INCHES ONTO OUTSIDE SHOULDER AND 6 INCHES ON INSIDE SHOULDER) WITH 90 LBS PER SQUARE YARD 12.5 mm OGFC, GP 1 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME

NOTE: PLACE INDENTATION RUMBLE STRIPS, 3 FT WIDE, ON PAVED SHOULDERS WITH 4 FT WIDTH OR GREATER



SUPERELEVATED SECTION

NOT TO SCALE

TO BE USED IN ACCORDANCE WITH THE SUPERELEVATION RATES WHEN APPLICABLE FOR POSTED SPEEDS.

PROJECT NO: NHS-M000-00(459)
COUNTY: GWINNETT

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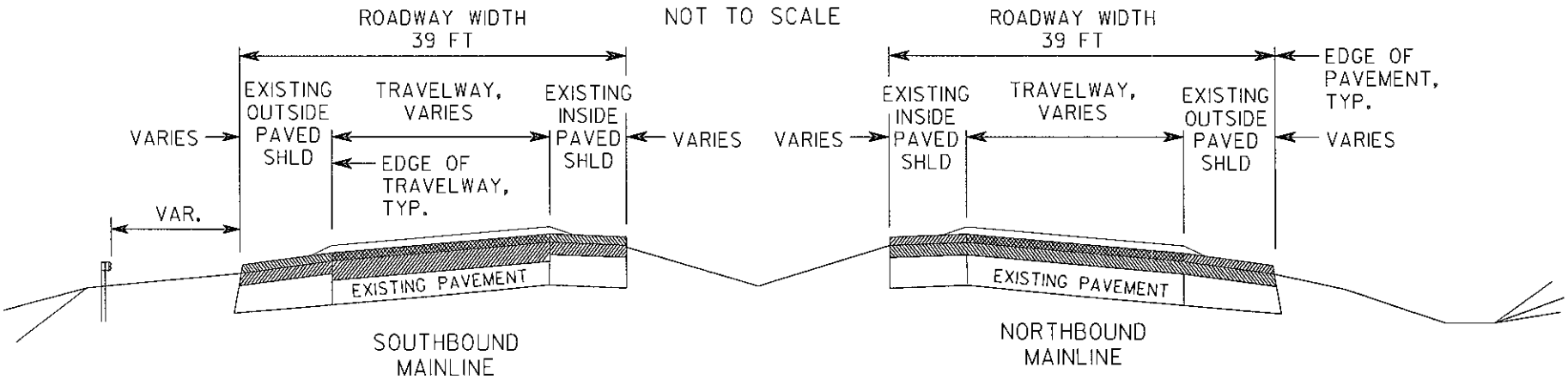
MAINLINE TYPICAL SECTION

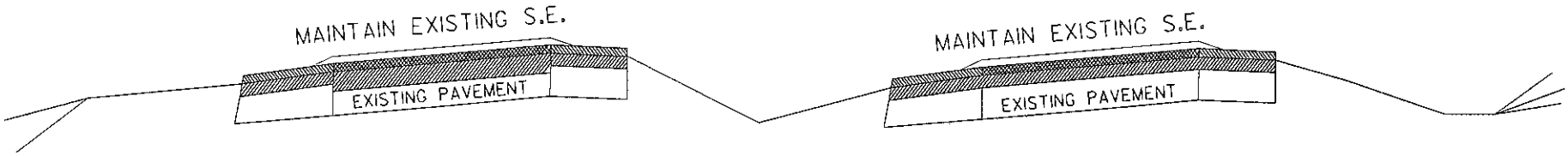
NOT TO SCALE



THIS TYPICAL SECTION APPLIES FROM LOG 4.47 TO LOG 7.81

1. MILL INSIDE AND OUTSIDE SHOULDERS VARIABLE DEPTH (2 INCH DEPTH AT EDGE OF TRAVELWAY TO 3½INCH DEPTH AT EDGE OF PAVEMENT)
2. MILL NORTHBOUND TRAVELWAY 2 INCH DEPTH
3. MILL SOUTHBOUND TRAVELWAY 4 INCH DEPTH
4. RESURFACE NORTHBOUND ROADWAY WIDTH AND SOUTHBOUND SHOULDER WIDTHS ONLY WITH 220 LBS PER SQUARE YARD RECYCLED ASPHALTIC CONCRETE 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME
5. RESURFACE SOUTHBOUND TRAVELWAY WIDTHS WITH 440 LBS PER SQUARE YARD RECYCLED ASPHALTIC CONCRETE, GP 1 OR 2, INCL BITUM MATL & H LIME
6. RESURFACE TRAVELWAY WIDTH BOTH DIRECTIONS WITH 165 LBS PER SQUARE YARD ASPHALTIC CONCRETE 12.5 mm SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
7. RESURFACE INSIDE AND OUTSIDE SHOULDERS WITH 165 LBS PER SQUARE YARD RECYCLED ASPHALTIC CONCRETE 12.5 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME
8. RESURFACE TRAVELWAY BOTH DIRECTIONS (EXTENDING 18 INCHES ONTO OUTSIDE SHOULDER AND 6 INCHES ON INSIDE SHOULDER) WITH 90 LBS PER SQUARE YARD 12.5 mm OGFC, GP 1 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME

NOTE: PLACE INDENTATION RUMBLE STRIPS, 3 FT WIDE, ON PAVED SHOULDERS WITH 4 FT WIDTH OR GREATER



SUPERELEVATED SECTION

NOT TO SCALE

TO BE USED IN ACCORDANCE WITH THE SUPERELEVATION RATES WHEN APPLICABLE FOR POSTED SPEEDS.

PROJECT NO: NHS-M000-00(459)
COUNTY: GWINNETT

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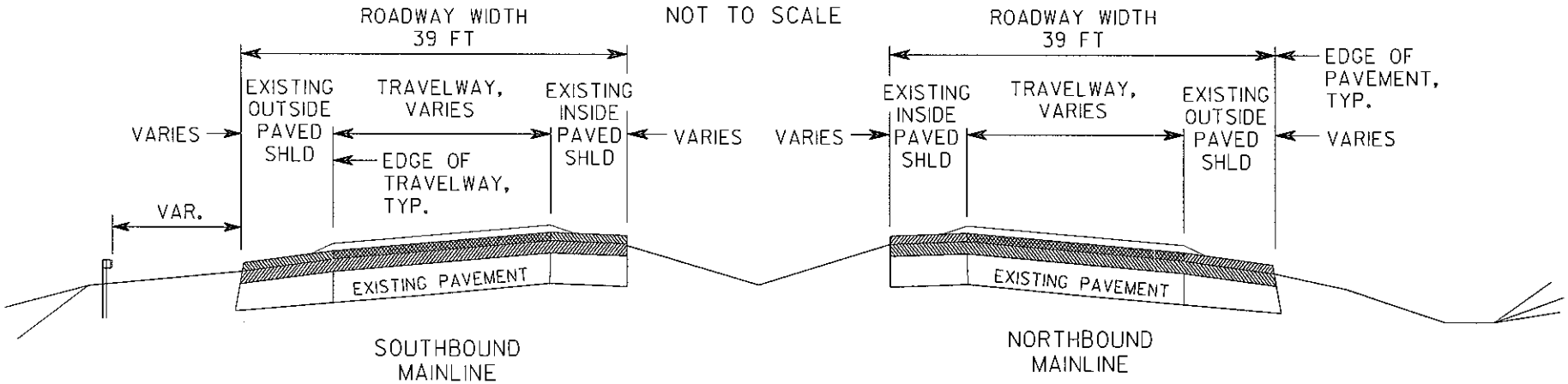
MAINLINE TYPICAL SECTION

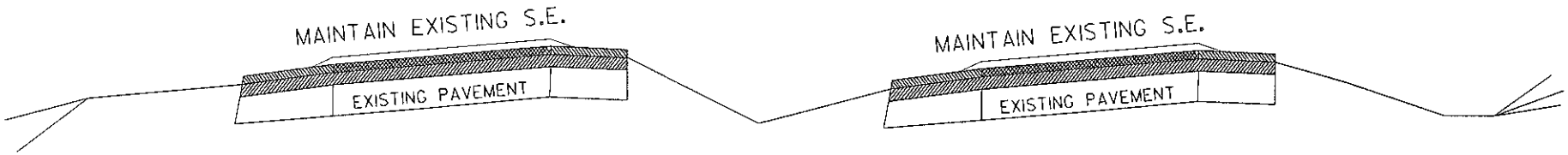
NOT TO SCALE



THIS TYPICAL SECTION APPLIES FROM LOG 7.81 TO LOG 8.81

1. MILL INSIDE AND OUTSIDE SHOULDERS VARIABLE DEPTH (2 INCH DEPTH AT EDGE OF TRAVELWAY TO 3½INCH DEPTH AT EDGE OF PAVEMENT)
2. MILL TRAVELWAY 2 INCH DEPTH
3. PLACE HIGH STRENGTH PAVEMENT REINFORCING FABRIC AT THE ENGINEER'S DISCRETION
4. RESURFACE ROADWAY WIDTH WITH 220 LBS PER SQUARE YARD RECYCLED ASPHALTIC CONCRETE 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME
5. RESURFACE TRAVELWAY WIDTH WITH 165 LBS PER SQUARE YARD ASPHALTIC CONCRETE 12.5 mm SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME
6. RESURFACE INSIDE AND OUTSIDE SHOULDERS WITH 165 LBS PER SQUARE YARD RECYCLED ASPHALTIC CONCRETE 12.5 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME
7. RESURFACE TRAVELWAY (EXTENDING 18 INCHES ONTO OUTSIDE SHOULDER AND 6 INCHES ON INSIDE SHOULDER) WITH 90 LBS PER SQUARE YARD 12.5 mm OGFC, GP 1 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME

NOTE: PLACE INDENTATION RUMBLE STRIPS, 3 FT WIDE, ON PAVED SHOULDERS WITH 4 FT WIDTH OR GREATER



SUPERELEVATED SECTION

NOT TO SCALE

TO BE USED IN ACCORDANCE WITH THE SUPERELEVATION RATES WHEN APPLICABLE FOR POSTED SPEEDS.

PROJECT NO: NHS-M000-00(459)
COUNTY: GWINNETT

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PAVING APPROVAL CHECKLIST

PROJECT: CSNHS-0008-00(234) DATE: October 18, 2006
P.I. NO.: 0008234 LET DATE: March 2007
COUNTY: Gwinnett
SUBMITTED BY: HNTB
☒ CONSULTANT PROJECT SCHEDULED COMPLETION DATE: ____

PLEASE CHECK ALL ITEMS BEFORE SUBMITTING YOUR DESIGN. UNDERSTANDABLY, SOME ITEMS ARE NOT APPLICABLE. **ENCLOSE THIS COMPLETED CHECKLIST WHEN SUBMISSION IS MADE.**

1) **GENERAL**
- ☒ COMPLETE COVER, TYPICAL SECTION, PAVING ANALYSIS, TRAFFIC DIAGRAM, EXISTING PAVING EVALUATION, SOIL SURVEY
- ☒ BRIEF DESCRIPTION OF PROJECT(I.E., PASSING LANE, BRIDGE REPL., ETC.) Lane Extension (ALSO ATTACH DETAILED PROJECT DESCRIPTION)

2) **COVER**

- ☒ PROJECT NUMBER
- ☒ COUNTY
- ☒ FEDERAL ROUTE
- ☒ STATE ROUTE
- ☒ P.I. NO.
- ☒ LENGTH
- ☒ % WITHIN COUNTY
- ☒ % WITHIN CONGRESSIONAL DISTRICT
- ☒ HORIZONTAL DATUM
- ☒ VERTICAL DATUM
- ☒ EAST OR WEST ZONE COORDINATES
- ☒ ENGLISH OR METRIC

DESIGN DATA
- ☒ TRAFFIC TWO WAY
- ☒ TRUCK % and 24 HOUR TRUCK %
- ☒ SPEED DESIGN
- ☒ FUNCTIONAL CLASSIFICATION
- ☒ FOS/EXEMPT/STATE FUNDED
- ☒ NORTH ARROW
- ☒ LOCATION SKETCH - FLAG PROJECT
- ☒ CHIEF ENGINEER
- ☒ OTHER
- ☒ PROJECT MIDPOINT
- ☒ PROJECT COOR. APPROX. MIDPOINT

3) **PAVEMENT DESIGN FORM**
- ☒ PROJECT NUMBER
- ☒ COUNTY
- ☒ P.I. NO.
- ☒ DESCRIPTION
- ☒ 24 HOUR TRUCK %
- ☒ AADT, ONE WAY
- ☒ LDF, LANE DISTRIBUTION FACTOR
- ☒ 18-K EQUIVALENT, ESAL
- ☒ TERMINAL SERVICEABILITY
- ☒ SOIL SUPPORT
- ☒ REGIONAL FACTOR
- ☒ PROPOSED PAVEMENT STRUCTURE
- ☒ % OVER/ UNDER DESIGN
- ☒ PRECONSTRUCTION ENGINEER'S REVIEW AND SIGNATURE
- ☒ DOES PLAN TYPICAL MATCH PAVING DESIGN ANALYSIS

⟹ I-85 NB ADD LANE FROM I-985 TO SR 20

4) **TYPICAL**
- ☒ MATERIAL LAYERS LABELED
- ☒ ALLOWABLE RANGE TABLE
- ☒ GUARDRAIL DETAIL
- ☐ SLOPE CONTROLS
- ☒ CROSS-SLOPE INDICATED
- ☒ INDENTATION RUMBLE STRIPS
- ☒ SPREAD RATES
- ☐ ALTERNATE SECTIONS IF REQUIRED
- ☐ CLASS "B" CONCRETE DETAIL
- ☐ SUPERPAVE MIX DESIGN LEVEL NOTE
- ☒ PAVEMENT REINFORCING FABRIC DETAIL

REMEMBER

- ☐ DESIGN FOR CLEAR ZONE
- ☐ IF DESIGN VARIANCES ARE USED, PLEASE PROVIDE ADEQUATE JUSTIFICATION
- ☐ NEW PAVEMENT – UNDER DESIGN - 10-15% RURAL, 0-5% URBAN AND BRIDGE APPROACHES
- ☐ SUBMIT DESIGN AROUND 6 TO 9 MONTHS PRIOR TO LET DATE OR CONSULTANT COMPLETION DATE

REVISED: 2-27-03

Project Description – I-85 NB Lane Extension from I-985 to SR 20

The proposed project would extend a third mainline lane along I-85 northbound approximately 1.46 miles, from where the 3rd lane currently drops 1,700 feet north of the I-85/I-985 interchange, to the I-85/SR 20 interchange. The project would add one 12-foot outside lane and one 14-foot outside shoulder (12' paved, 2' unpaved) from approximately 0.3 miles north of the I-85/I-985 interchange to the northbound exit to SR 20. The proposed project will also add one 14-foot inside shoulder (12' paved, 2' unpaved) from the I-85/I-985 interchange to approximately 0.3 miles north of the northbound exit to SR 20. The extension of this I-85 northbound lane would be an exit-only lane for SR 20. In addition, the proposed project would mill and overlay the existing outside lane from 0.2 miles south of the I-85/I-985 interchange to approximately 0.3 miles north of the interchange.

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: CSHNS-0008-00(234) **County:** Gwinnett
P.I. no.: 0008234
Description: I-85 NB Lane Extension from I-985 to SR 20

Traffic Data (NOTE: AADTs are one-way)
24-hour Truck Percentage: 22.00%
AADT initial year of design period: 41,600 vpd (2008)
AADT final year of design period: 61,750 vpd (2028)
Mean AADT (one-way): 51,675 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
51,675	*	0.80	*	0.220	*	1.43	=	13,007

Total predicted design period loading = 13007 * 20 * 365 = 94,951,100

Design Data
Terminal Serviceability Index: 2.50
Soil Support: 3.00
Regional Factor: 1.60

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
12.5 mm PEM	135 lb/sy	(75 kg/sm)	0.00	0.00
12.5 mm SMA	2.00	(51)	0.44	0.88
19 mm Superpave	2.50	(64)	0.44	1.10
	1.50	(38)	0.30	0.45
25 mm Superpave	11.00	(279)	0.30	3.30
Graded Aggregate Base	12.00	(305)	0.16	1.92

Required SN = 7.84 Proposed SN = 7.65

>>> Proposed pavement is 2.4% Underdesigned <<<

Remarks: Design for I-85 with 2 lifts of 19mm SP

Prepared by Steve V Pahno — State Pavement Design Engineer — January 02, 2007 Date

Recommended _____ Office Head — Date

Approved _____ State Pavement Engineer — 1/2/2007 Date

Inside Shoulder Pavement Evaluations

SR 20 Interchange Reconstruction Plans
- 12.5 mm SMA (165#/sy) – 1.5"
- 19 mm SMA (220#/sy) – 2"
- GAB – 8"

Old Plans
- Asphaltic Concrete "F" – 1"
- Premixed Portland Cement Stabilized Graded Aggregate Base – 6" (Used Soil Cement in Pavement Design Program)
- Class I-B Material – 12" (Used Sand-Clay Base in Pavement Design Program)

Maintenance Plans
- Mill 3.5"
- 12.5 mm SMA – 2.75"
- 12.5 mm PEM – 1.25"

Traffic – Based on 2% Increase

Year	Traffic
2008	64000
2009	65280
2010	66586

- 25% Trucks

Summary (With Trucks)
- 2009 Traffic
  - SR 20 Reconstruction Plans – 46.3% Underdesign
  - Old Plans & Maintenance Project – 54.1% Underdesign
- 2010 Traffic
  - SR 20 Reconstruction Plans – 51.2% Underdesign
  - Old Plans & Maintenance Project - 58.3 % Underdesign

Summary (With No Trucks)
- 2009 Traffic
  - SR 20 Reconstruction Plans – 133.6% Overdesign
  - Old Plans & Maintenance Project – 99.7% Overdesign
- 2010 Traffic
  - SR 20 Reconstruction Plans – 105.0% Overdesign
  - Old Plans & Maintenance Project – 75.2% Overdesign

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: CSNHS-0008-00(234) **County:** Gwinnett
P.I. no.: 008234
Description: I-85 North Additional Lane from I-985 to SR 20

Traffic Data (NOTE: AADTs are one-way)
24-hour Truck Percentage: 25.00%
AADT initial year of design period: 32,000 vpd (2008)
AADT final year of design period: 32,640 vpd (2009)
Mean AADT (one-way): 32,320 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
32,320	*	0.80	*	0.250	*	1.06	=	6,853

Total predicted design period loading = 6853 * 1 * 365 = 2,501,345

Design Data
Terminal Serviceability Index: 2.50
Soil Support: 2.50
Regional Factor: 1.80

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
12.5 mm SMA	1.50	(38)	0.44	0.66
19 mm SMA	2.00	(51)	0.44	0.88
Graded Aggregate Base	8.00	(203)	0.16	1.28

Required SN = 5.25 Proposed SN = 2.82

>>> Proposed pavement is 46.3% Underdesign <<<

Remarks: SR 20 Reconstruction Plans w/Trucks

Prepared by _____ July 10, 2006
Date

Recommended _____
State Urban Design Engineer Date

Approved _____
State Pavement Engineer Date

VARIOUS PAVEMENT STUDIES
(NOT EMPLOYED.)

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: CSNHS-0008-00(234) **County:** Gwinnett
P.I. no.: 008234
Description: I-85 North Additional Lane from I-985 to SR 20

Traffic Data (NOTE: AADTs are one-way)
24-hour Truck Percentage: 0.00%
AADT initial year of design period: 32,000 vpd (2008)
AADT final year of design period: 32,640 vpd (2009)
Mean AADT (one-way): 32,320 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
32,320	*	0.80	*	0.000	*	1.06	=	1

Total predicted design period loading = 1 * 1 * 365 = 365

Design Data
Terminal Serviceability Index: 2.50
Soil Support: 2.50
Regional Factor: 1.80

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
	*** OVERLAY ***			
12.5 mm PEM	135 lb/sy	(75 kg/sm)	0.00	0.00
12.5 mm SMA	2.75	(70)	0.44	1.21
	*** EXISTING PAVEMENT ***			
Soil-Cement Base	3.50	(89)		
Sand-Clay Base	12.00	(305)	0.10	1.20

Required SN = 1.21 Proposed SN = 2.41

>>> Proposed pavement is 99.7% Overdesign <<<

Remarks: Old Plans & Maintenance Project w/No Trucks

Prepared by _____ July 10, 2006
Date

Recommended _____
State Urban Design Engineer Date

Approved _____
State Pavement Engineer Date

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: CSNHS-0008-00(234) **County:** Gwinnett
P.I. no.: 008234
Description: I-85 North Additional Lane from I-985 to SR 20

Traffic Data (NOTE: AADTs are one-way)
24-hour Truck Percentage: 25.00%
AADT initial year of design period: 32,000 vpd (2008)
AADT final year of design period: 32,640 vpd (2009)
Mean AADT (one-way): 32,320 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
32,320	*	0.80	*	0.250	*	1.06	=	6,853

Total predicted design period loading = 6853 * 1 * 365 = 2,501,345

Design Data
Terminal Serviceability Index: 2.50
Soil Support: 2.50
Regional Factor: 1.80

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
	*** OVERLAY ***			
12.5 mm PEM	135 lb/sy	(75 kg/sm)	0.00	0.00
12.5 mm SMA	2.75	(70)	0.44	1.21
	*** EXISTING PAVEMENT ***			
Soil-Cement Base	3.50	(89)		
Sand-Clay Base	12.00	(305)	0.10	1.20

Required SN = 5.25 Proposed SN = 2.41

>>> Proposed pavement is 54.1% Underdesign <<<

Remarks: Old Plans & Maintenance Project w/Trucks

Prepared by _____ July 10, 2006
Date

Recommended _____
State Urban Design Engineer Date

Approved _____
State Pavement Engineer Date

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: CSNHS-0008-00(234) **County:** Gwinnett
P.I. no.: 008234
Description: I-85 North Additional Lane from I-985 to SR 20

Traffic Data (NOTE: AADTs are one-way)
24-hour Truck Percentage: 0.00%
AADT initial year of design period: 32,000 vpd (2008)
AADT final year of design period: 32,640 vpd (2009)
Mean AADT (one-way): 32,320 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
32,320	*	0.80	*	0.000	*	1.06	=	1

Total predicted design period loading = 1 * 1 * 365 = 365

Design Data
Terminal Serviceability Index: 2.50
Soil Support: 2.50
Regional Factor: 1.80

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
12.5 mm SMA	1.50	(38)	0.44	0.66
19 mm SMA	2.00	(51)	0.44	0.88
Graded Aggregate Base	8.00	(203)	0.16	1.28

Required SN = 1.21 Proposed SN = 2.82

>>> Proposed pavement is 133.6% Overdesign <<<

Remarks: SR 20 Reconstruction Plans w/No Trucks

Prepared by _____ July 10, 2006
Date

Recommended _____
State Urban Design Engineer Date

Approved _____
State Pavement Engineer Date

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: CSNHS-0008-00(234) **County:** Gwinnett
P.I. no.: 008234
Description: I-85 North Additional Lane from I-985 to SR 20

Traffic Data (NOTE: AADTs are one-way)
24-hour Truck Percentage: 25.00%
AADT initial year of design period: 32,000 vpd (2008)
AADT final year of design period: 33,293 vpd (2010)
Mean AADT (one-way): 32,646 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
32,646	*	0.80	*	0.250	*	1.06	=	6,922

Total predicted design period loading = 6922 * 2 * 365 = 5,053,060

Design Data
Terminal Serviceability Index: 2.50
Soil Support: 2.50
Regional Factor: 1.80

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
12.5 mm SMA	1.50	(38)	0.44	0.66
19 mm SMA	2.00	(51)	0.44	0.88
Graded Aggregate Base	8.00	(203)	0.16	1.28

Required SN = 5.78 Proposed SN = 2.82

>>> Proposed pavement is 51.2% Underdesign <<<

Remarks: SR 20 Reconstruction Plans w/Trucks

Prepared by _____ July 10, 2006
Date

Recommended _____
State Urban Design Engineer **Date**

Approved _____
State Pavement Engineer **Date**

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: CSNHS-0008-00(234) **County:** Gwinnett
P.I. no.: 008234
Description: I-85 North Additional Lane from I-985 to SR 20

Traffic Data (NOTE: AADTs are one-way)
24-hour Truck Percentage: 0.00%
AADT initial year of design period: 32,000 vpd (2008)
AADT final year of design period: 33,293 vpd (2010)
Mean AADT (one-way): 32,646 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
32,646	*	0.80	*	0.000	*	1.06	=	1

Total predicted design period loading = 1 * 2 * 365 = 730

Design Data
Terminal Serviceability Index: 2.50
Soil Support: 2.50
Regional Factor: 1.80

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
	*** OVERLAY ***			
12.5 mm PEM	135 lb/sy	(75 kg/sm)	0.00	0.00
12.5 mm SMA	2.75	(70)	0.44	1.21
	*** EXISTING PAVEMENT ***			
Soil-Cement Base	3.50	(89)		
Sand-Clay Base	12.00	(305)	0.10	1.20

Required SN = 1.38 Proposed SN = 2.41

>>> Proposed pavement is 75.2% Overdesign <<<

Remarks: Old Plans & Maintenance Project w/No Trucks

Prepared by _____ July 10, 2006
Date

Recommended _____
State Urban Design Engineer **Date**

Approved _____
State Pavement Engineer **Date**

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: CSNHS-0008-00(234) **County:** Gwinnett
P.I. no.: 008234
Description: I-85 North Additional Lane from I-985 to SR 20

Traffic Data (NOTE: AADTs are one-way)
24-hour Truck Percentage: 25.00%
AADT initial year of design period: 32,000 vpd (2008)
AADT final year of design period: 33,293 vpd (2010)
Mean AADT (one-way): 32,646 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
32,646	*	0.80	*	0.250	*	1.06	=	6,922

Total predicted design period loading = 6922 * 2 * 365 = 5,053,060

Design Data
Terminal Serviceability Index: 2.50
Soil Support: 2.50
Regional Factor: 1.80

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
	*** OVERLAY ***			
12.5 mm PEM	135 lb/sy	(75 kg/sm)	0.00	0.00
12.5 mm SMA	2.75	(70)	0.44	1.21
	*** EXISTING PAVEMENT ***			
Soil-Cement Base	3.50	(89)		
Sand-Clay Base	12.00	(305)	0.10	1.20

Required SN = 5.78 Proposed SN = 2.41

>>> Proposed pavement is 58.3% Underdesign <<<

Remarks: Old Plans & Maintenance Project w/Trucks

Prepared by _____ July 10, 2006
Date

Recommended _____
State Urban Design Engineer **Date**

Approved _____
State Pavement Engineer **Date**

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: CSNHS-0008-00(234) **County:** Gwinnett
P.I. no.: 008234
Description: I-85 North Additional Lane from I-985 to SR 20

Traffic Data (NOTE: AADTs are one-way)
24-hour Truck Percentage: 0.00%
AADT initial year of design period: 32,000 vpd (2008)
AADT final year of design period: 33,293 vpd (2010)
Mean AADT (one-way): 32,646 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
32,646	*	0.80	*	0.000	*	1.06	=	1

Total predicted design period loading = 1 * 2 * 365 = 730

Design Data
Terminal Serviceability Index: 2.50
Soil Support: 2.50
Regional Factor: 1.80

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
12.5 mm SMA	1.50	(38)	0.44	0.66
19 mm SMA	2.00	(51)	0.44	0.88
Graded Aggregate Base	8.00	(203)	0.16	1.28

Required SN = 1.38 Proposed SN = 2.82

>>> Proposed pavement is 105.0% Overdesign <<<

Remarks: SR 20 Reconstruction Plans w/No Trucks

Prepared by _____ July 10, 2006
Date

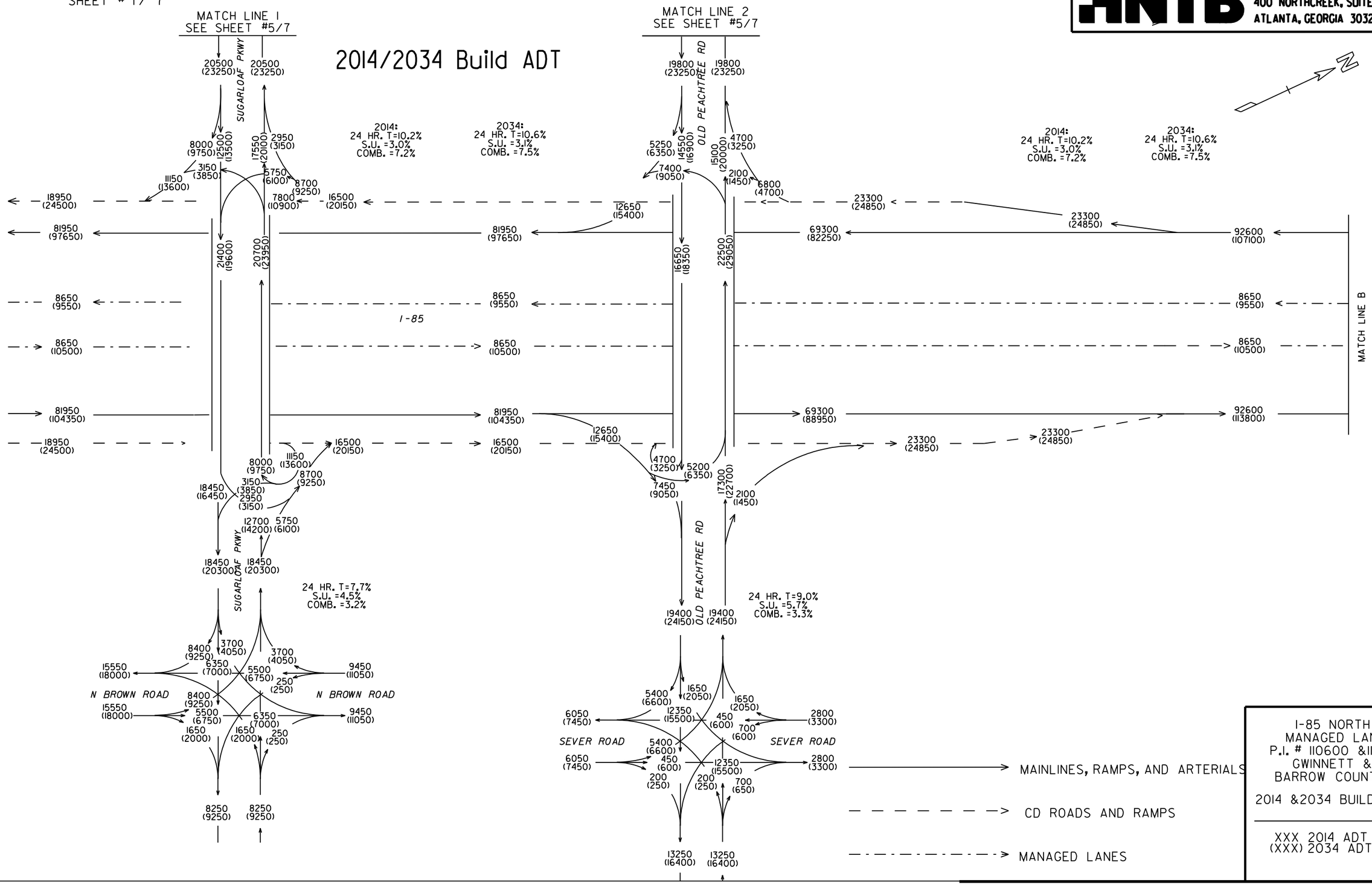
Recommended _____
State Urban Design Engineer **Date**

Approved _____
State Pavement Engineer **Date**

SHEET # 1/ 7

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

2014/2034 Build ADT



I-85 NORTH
MANAGED LANE
P.I. # 110600 &110610
GWINNETT &
BARROW COUNTIES

2014 &2034 BUILD ADT

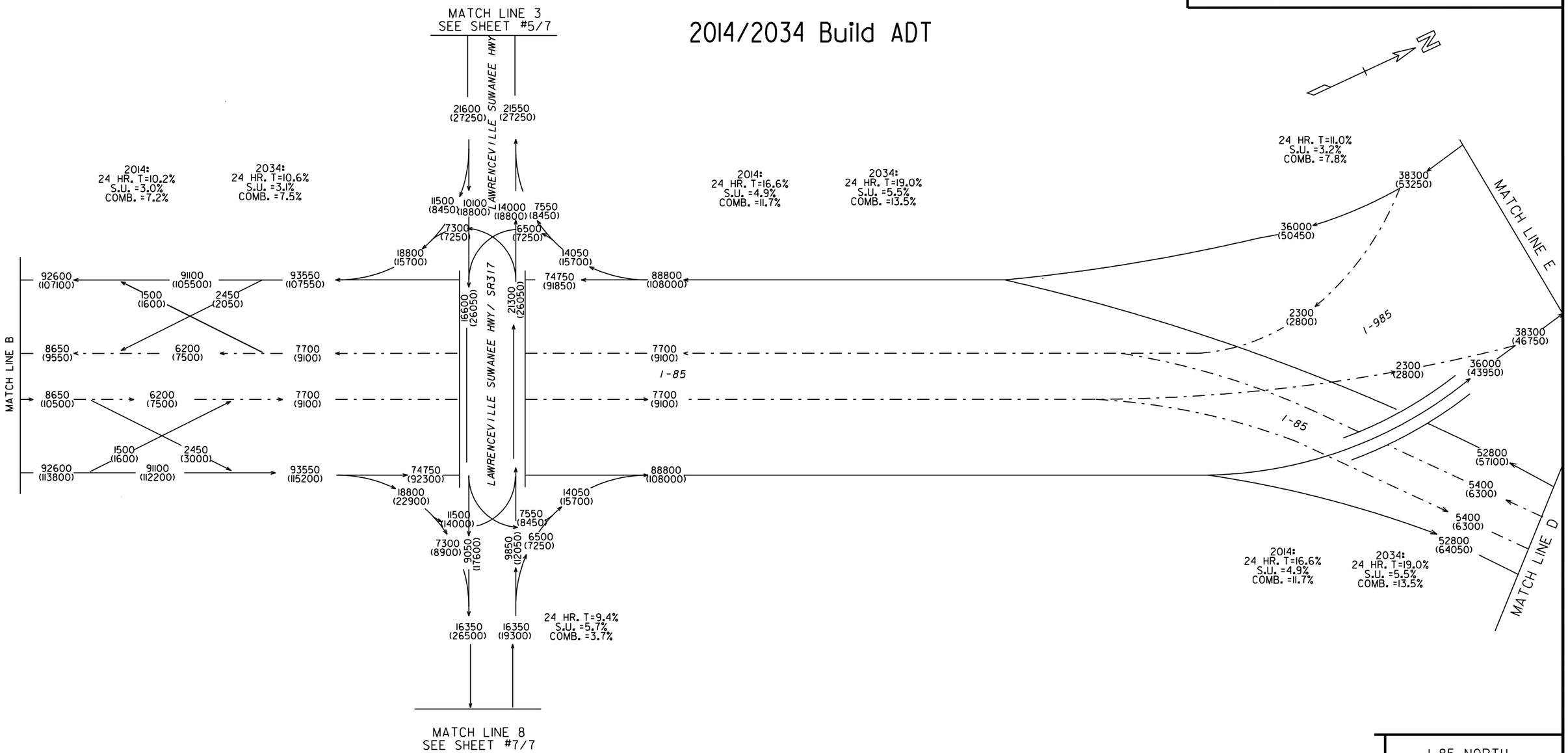
XXX 2014 ADT
(XXX) 2034 ADT

10/2009

SHEET #2 / 7

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

2014/2034 Build ADT



MAINLINES, RAMPS, AND ARTERIALS

MANAGED LANES

I-85 NORTH
MANAGED LANE
P.I. # 110600 &110610
GWINNETT &
BARROW COUNTIES

2014 &2034 BUILD ADT

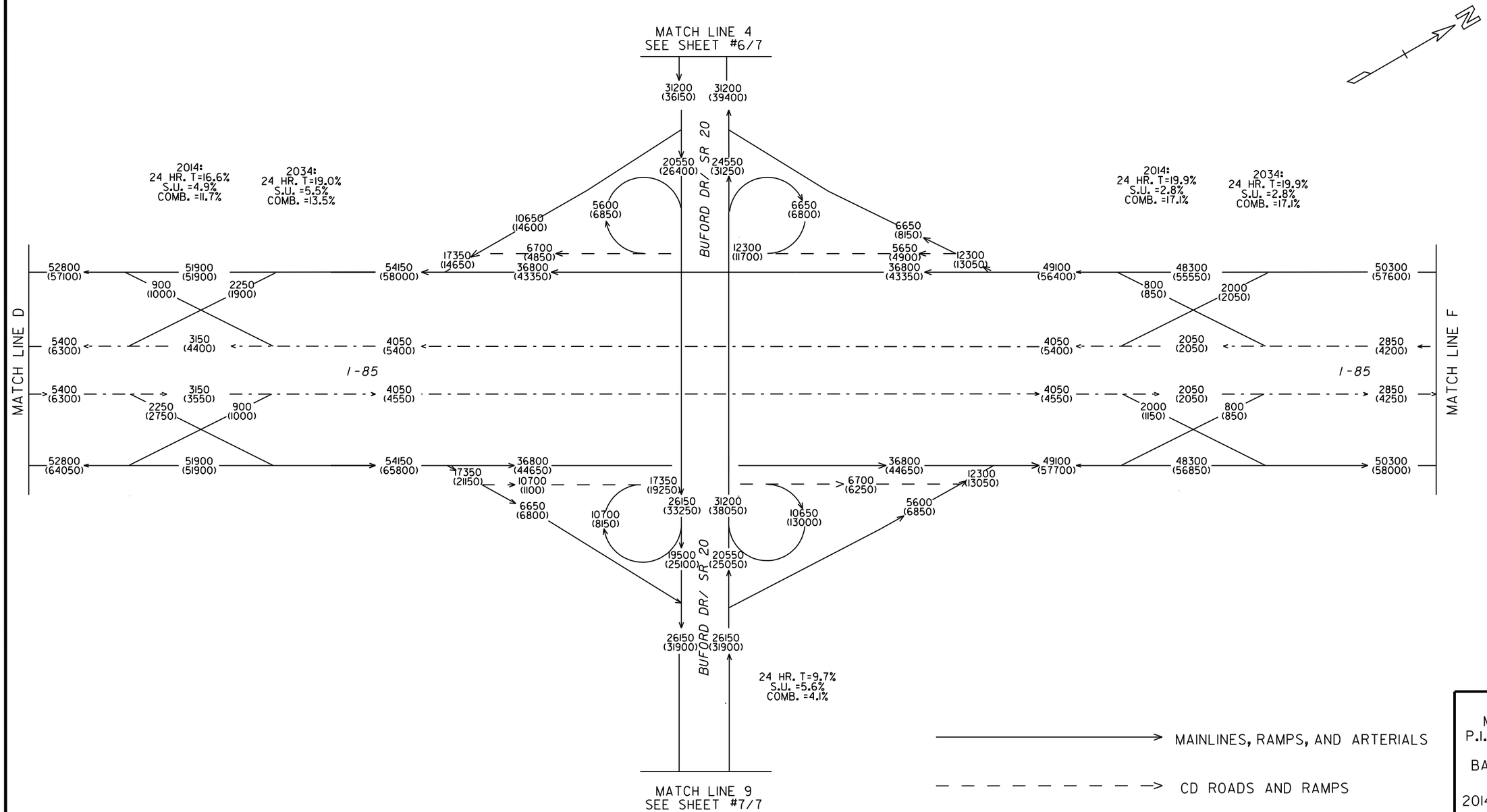
XXX 2014 ADT
(XXX) 2034 ADT

10/2009

SHEET # 3 / 7

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

2014/2034 Build ADT



I-85 NORTH
MANAGED LANE
P.I. # 110600 &110610
GWINNETT &
BARROW COUNTIES

2014 &2034 BUILD ADT

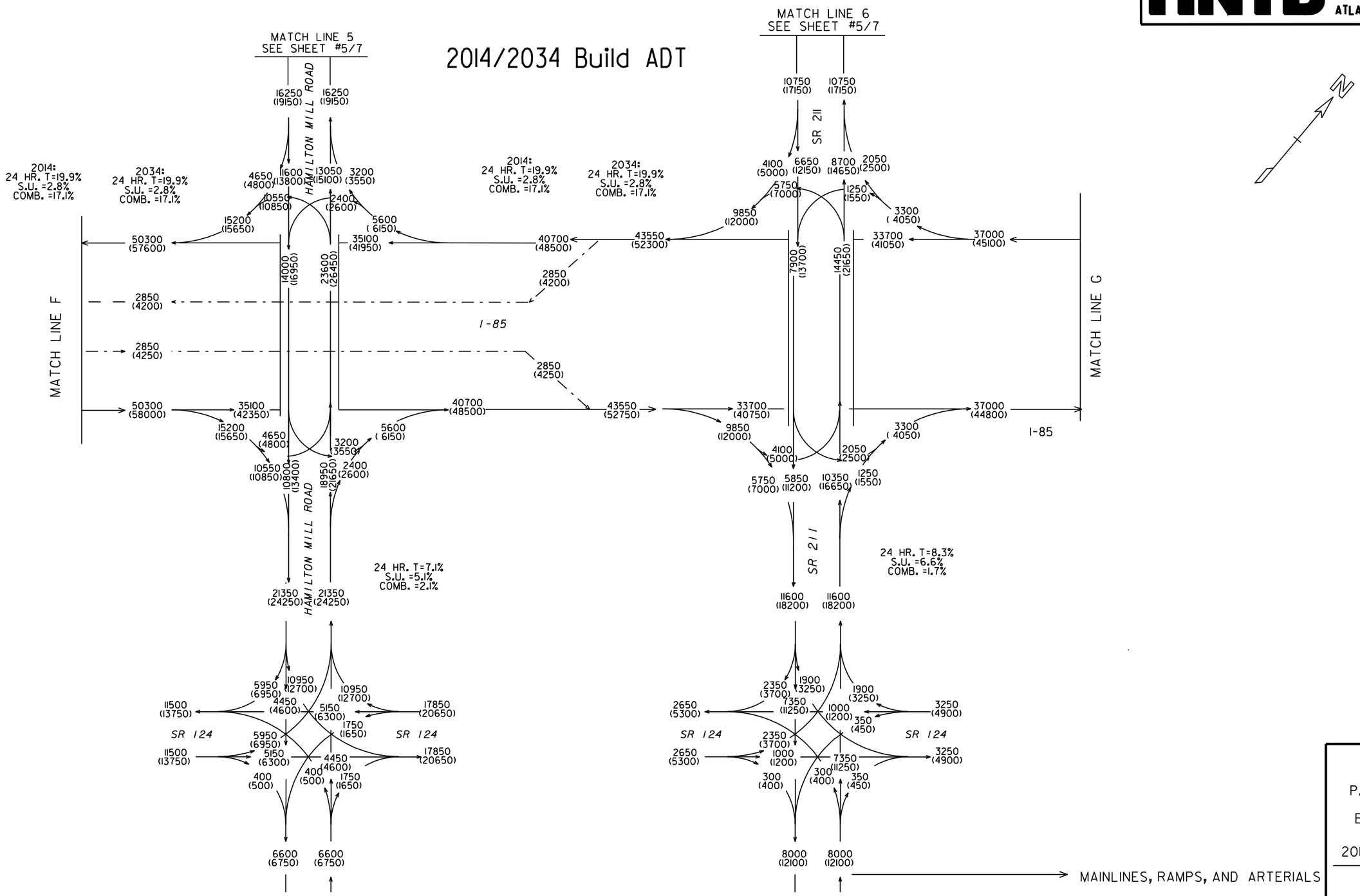
XXX 2014 ADT
(XXX) 2034 ADT

10/2009

SHEET # 4 / 7

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

2014/2034 Build ADT



I-85 NORTH
MANAGED LANE
P.I. # 110600 &110610
GWINNETT &
BARROW COUNTIES

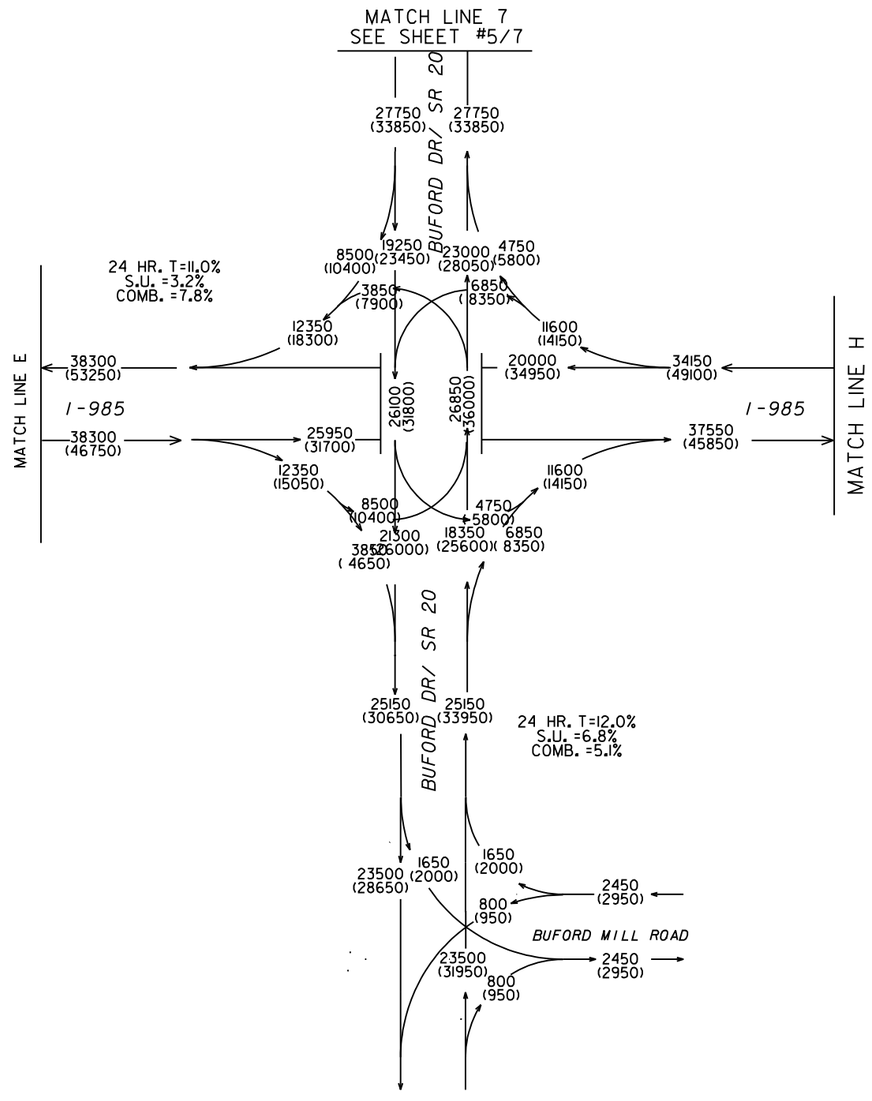
2014 &2034 BUILD ADT

XXX 2014 ADT
(XXX) 2034 ADT

10/2009

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

2014/2034 Build ADT



I-85 NORTH
MANAGED LANE
P.I. # 110600 &110610
GWINNETT &
BARROW COUNTIES

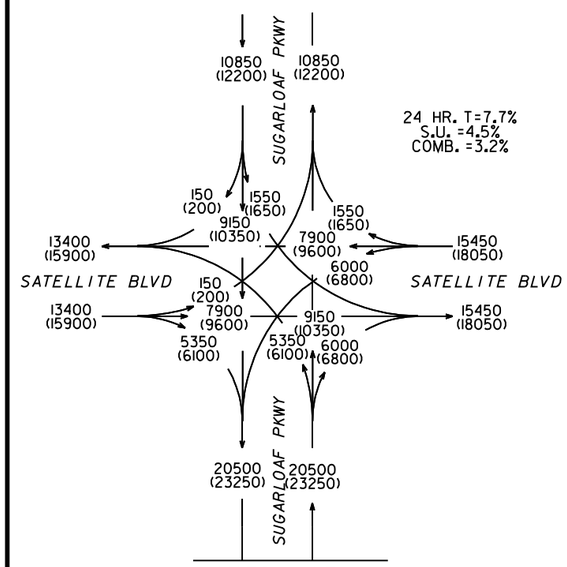
2014 &2034 BUILD ADT

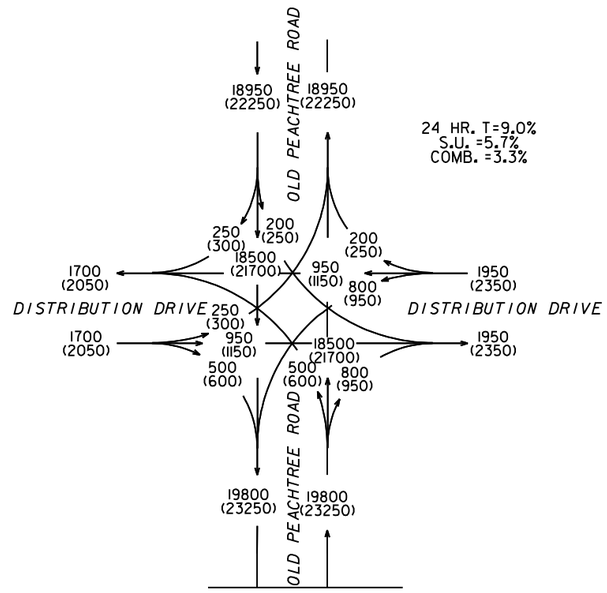
XXX 2014 ADT
(XXX) 2034 ADT

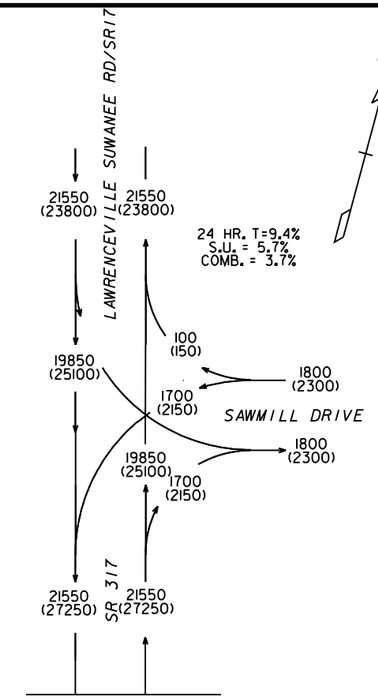
10/2009

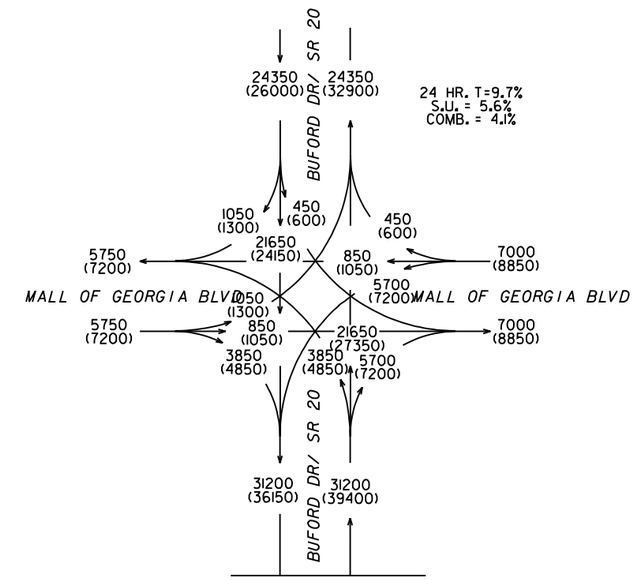
SHEET # 6 / 7

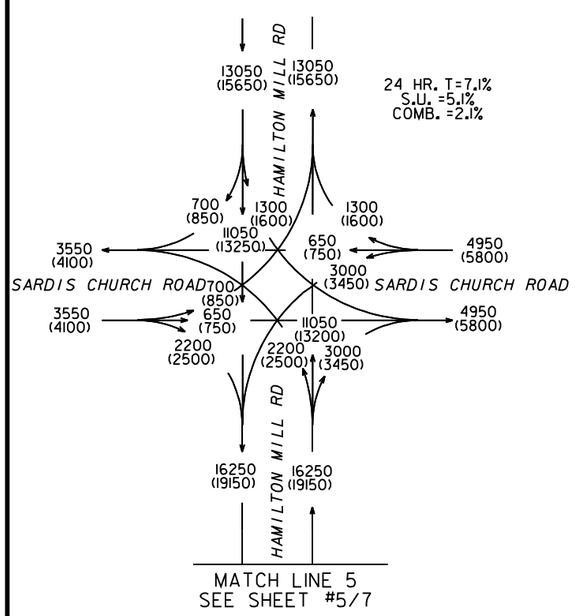
HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

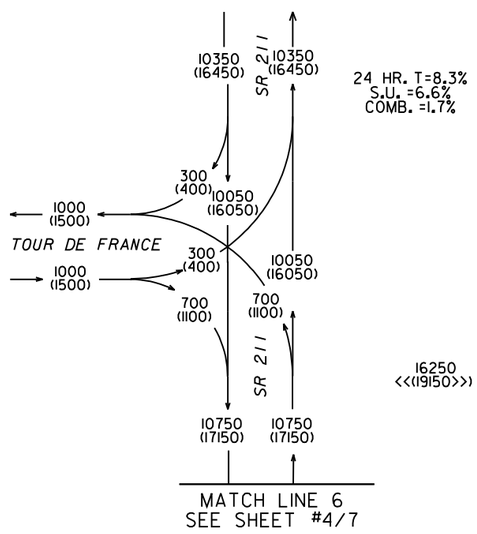


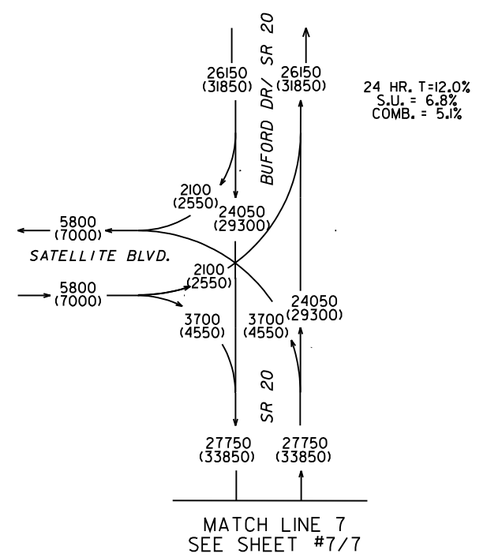












2014/2034 Build ADT

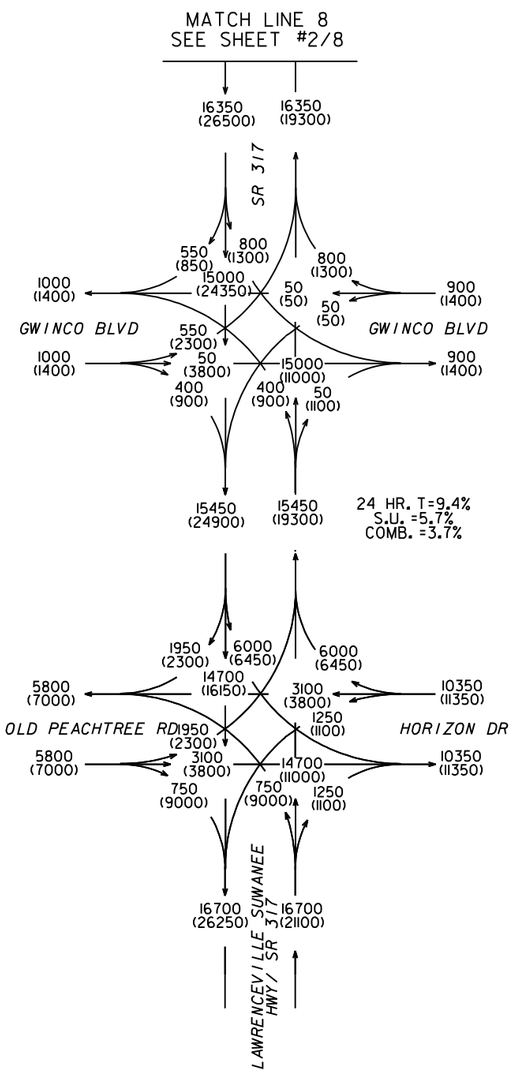
I-85 NORTH
MANAGED LANE
P.I. # 110600 &110610
GWINNETT &
BARROW COUNTIES

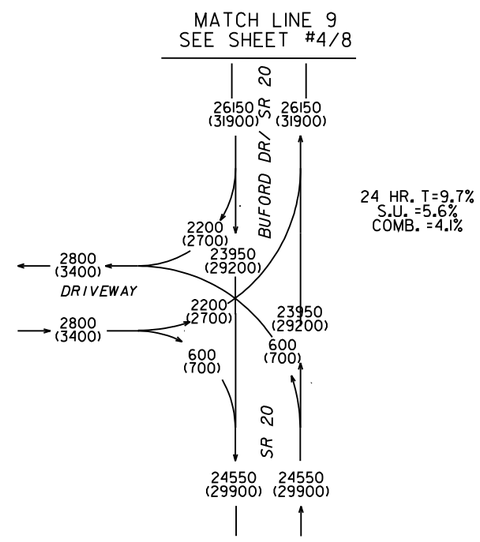
2014 &2034 BUILD ADT

XXX 2014 ADT
(XXX) 2034 ADT

10/2009

HNTB





2014/2034 Build ADT

I-85 NORTH
MANAGED LANE
P.I. # 110600 &110610
GWINNETT &
BARROW COUNTIES

2014 &2034 BUILD ADT

XXX 2014 ADT
(XXX) 2034 ADT

10/2009

Flexible Pavement Design Analysis

PI Number	110600-	**County(s)**	Gwinnett
Project Number	NHIMO-0085-02(164)	**Design Name**	I-85 Managed Lane
Project Description	Widening of I-85 for new managed lanes and auxiliary lanes		

Traffic Data (AADTs are one-way)						**Miscellaneous Data**	
Initial Design Year	2018	**Initial AADT, VPD**	3,200	**24 Hour Truck %**	2.00	**Lanes in one direction**	1
Final Design Year	2038	**Final AADT, VPD**	6,150	**SU Truck %**	1.00	**Curb & Gutter/Barrier**	No
		Mean AADT, VPD	4,675	**MU Truck %**	1.00		

Design Data					
Lane Distribution Factor (%)	100.00	**Soil Support Value**	3.00	**Single Unit ESAL**	0.40
Terminal Serviceability Index	2.50	**Regional Factor**	1.80	**Multiple Unit ESAL**	1.50
		User Defined 18-KIP ESAL	1.06	**Calculated 18-KIP ESAL**	0.95
Non-Standard Value Comment	Soil support value has been revised based on the approved soil survey.				

Design Loading (Calculated 18-KIP ESAL)					
Mean AADT, VPD	**LDF (%)**	**Vehicle Type**	**Volume (%)**	**ESAL Factor**	**Daily ESAL**
4,675	100.00	Single Unit Truck	1.00	0.40	19
		Multi Unit Truck	1.00	1.50	71
				Total Daily ESALs	90
				Total Design Period ESALs	657,000

Proposed Flexible Full Depth Pavement Structure				
Course	**Material**	**Thickness (inches)**	**Structural Coefficient**	**Structural Value**
Course 1	12.5 mm OGFC	90 lbs/sy	0.0000	0.00
Course 2	12.5 mm Superpave, Polymer Modified	2.00	0.4400	0.88
Course 3	19 mm Superpave	2.00	0.4400	0.88
Course 4	25 mm Superpave	0.50	0.4400	0.22
		3.50	0.3000	1.05
Course 5	Graded Aggregate Base	12.00	0.1600	1.92

Required SN 4.06 **Proposed pavement is 22.00% Overdesigned** **Proposed SN** 4.95

Design Remarks	Use of 12.5 mm OGFC and 12.5 mm Superpave Polymer Modified was previously discussed and approved by the GDOT State Pavement Engineer. No trucks are allowed in managed lane.

Prepared By 9/24/2014 1:43 PM
David Hannon - Project Manager **Date**

Recommended By 10/27/14
Consultant Design Phase Leader - Andrew Huenig **Date**

Approved By 10/27/14
State Pavement Engineer **Date**

Filename: C:\Users\dhannon\Documents\110600\110600 GDOT Pavement Design Tool v2.0.xlsm
GDOT Pavement Design Tool - Version 2.0

Flexible Pavement Design Analysis

PI Number	110600-	**County(s)**	Gwinnett
Project Number	NHIMO-0085-02(164)	**Design Name**	I-85 Outside Widening
Project Description	Widening of I-85 for new managed lanes and auxiliary lanes		

Traffic Data (AADTs are one-way)						**Miscellaneous Data**	
Initial Design Year	2018	**Initial AADT, VPD**	79,300	**24 Hour Truck %**	13.70	**Lanes in one direction**	5
Final Design Year	2038	**Final AADT, VPD**	104,750	**SU Truck %**	3.40	**Curb & Gutter/Barrier**	No
		Mean AADT, VPD	92,025	**MU Truck %**	10.30		

Design Data					
Lane Distribution Factor (%)	60.00	**Soil Support Value**	3.00	**Single Unit ESAL**	0.40
Terminal Serviceability Index	2.50	**Regional Factor**	1.80	**Multiple Unit ESAL**	1.50
		User Defined 18-KIP ESAL	1.06	**Calculated 18-KIP ESAL**	1.23
Non-Standard Value Comment	Soil support value has been revised based on the approved soil survey.				

Design Loading (Calculated 18-KIP ESAL)					
Mean AADT, VPD	**LDF (%)**	**Vehicle Type**	**Volume (%)**	**ESAL Factor**	**Daily ESAL**
92,025	60.00	Single Unit Truck	3.40	0.40	751
		Multi Unit Truck	10.30	1.50	8,531
				Total Daily ESALs	9,282
				Total Design Period ESALs	67,758,600

Proposed Flexible Full Depth Pavement Structure				
Course	**Material**	**Thickness (inches)**	**Structural Coefficient**	**Structural Value**
Course 1	12.5 mm OGFC	90 lbs/sy	0.0000	0.00
Course 2	12.5 mm SMA	2.00	0.4400	0.88
Course 3	19 mm Superpave	2.00	0.4400	0.88
Course 4	25 mm Superpave	0.50	0.4400	0.22
		11.50	0.3000	3.45
Course 5	Graded Aggregate Base	12.00	0.1600	1.92
Required SN	7.66	**Proposed pavement is 4.06% Underdesigned**	**Proposed SN**	7.35

Design Remarks	Use of 12.5 mm OGFC was previously discussed and approved by the GDOT State Pavement Engineer. Design is used for outside GP widening.

Prepared By — 10/27/2014 8:57 AM

David Hannon - Project Manager — **Date**

Recommended By — 10/27/14

Consultant Design Phase Leader - Andrew Hoenig — **Date**

Approved By — 10/27/14

State Pavement Engineer — **Date**

Filename: C:\Users\dhannon\Documents\110600\110600 GDOT Pavement Design Tool v2.0.xlsm

GDOT Pavement Design Tool - Version 2.0

Flexible Pavement Design Analysis

PI Number	110600-	**County(s)**	Gwinnett
Project Number	NHIMO-0085-02(164)	**Design Name**	I-85 Mainline Inside Widening (N I-985)
Project Description	Widening of I-85 for new managed lanes and auxiliary lanes		

Traffic Data (AADTs are one-way)						**Miscellaneous Data**	
Initial Design Year	2018	**Initial AADT, VPD**	43,050	**24 Hour Truck %**	13.90	**Lanes in one direction**	3
Final Design Year	2038	**Final AADT, VPD**	56,350	**SU Truck %**	2.20	**Curb & Gutter/Barrier**	No
		Mean AADT, VPD	49,700	**MU Truck %**	11.70		

Design Data					
Lane Distribution Factor (%)	60.00	**Soil Support Value**	3.00	**Single Unit ESAL**	0.40
Terminal Serviceability Index	2.50	**Regional Factor**	1.80	**Multiple Unit ESAL**	1.50
		User Defined 18-KIP ESAL	1.39	**Calculated 18-KIP ESAL**	1.33
Non-Standard Value Comment	Soil support value has been revised based on the approved soil survey.				

Design Loading (Calculated 18-KIP ESAL)					
Mean AADT, VPD	**LDF (%)**	**Vehicle Type**	**Volume (%)**	**ESAL Factor**	**Daily ESAL**
49,700	60.00	Single Unit Truck	2.20	0.40	263
		Multi Unit Truck	11.70	1.50	5,234
				Total Daily ESALs	5,497
				Total Design Period ESALs	40,128,100

Proposed Flexible Full Depth Pavement Structure				
Course	**Material**	**Thickness (inches)**	**Structural Coefficient**	**Structural Value**
Course 1	12.5 mm OGFC	90 lbs/sy	0.0000	0.00
Course 2	12.5 mm SMA	2.00	0.4400	0.88
Course 3	19 mm Superpave	2.00	0.4400	0.88
Course 4	25 mm Superpave	0.50	0.4400	0.22
		9.50	0.3000	2.85
Course 5	Graded Aggregate Base	12.00	0.1600	1.92

Required SN	7.17	**Proposed pavement is 5.90% Underdesigned**	**Proposed SN**	6.75

Design Remarks	Use of 12.5 mm OGFC and was previously discussed and approved by the GDOT State Pavement Engineer. Design is used for inside GP and buffer.

Prepared By — 10/27/2014 8:46 AM

David Hannon - Project Manager — **Date**

Recommended By — 10/27/14

Consultant Design Phase Leader - Andrew Hoering — **Date**

Approved By — 10/27/14

State Pavement Engineer — **Date**

Filename: C:\Users\dhannon\Documents\110600\110600 GDOT Pavement Design Tool v2.0.xlsm

GDOT Pavement Design Tool - Version 2.0

Flexible Pavement Design Analysis

PI Number	110600-	**County(s)**	Gwinnett
Project Number	NHIMO-0085-02(164)	**Design Name**	I-85 Mill and Overlay
Project Description	Widening of I-85 for new managed lanes and auxiliary lanes		

Traffic Data (AADTs are one-way)						**Miscellaneous Data**	
Initial Design Year	2018	**Initial AADT, VPD**	79,300	**24 Hour Truck %**	13.70	**Lanes in one direction**	5
Final Design Year	2038	**Final AADT, VPD**	104,750	**SU Truck %**	3.40	**Curb & Gutter/Barrier**	Yes
		Mean AADT, VPD	92,025	**MU Truck %**	10.30	**Milling Depth (inches)**	3.00

Design Data					
Lane Distribution Factor (%)	60.00	**Soil Support Value**	3.00	**Single Unit ESAL**	0.40
Terminal Serviceability Index	2.50	**Regional Factor**	1.80	**Multiple Unit ESAL**	1.50
		User Defined 18-KIP ESAL	1.06	**Calculated 18-KIP ESAL**	1.23
Non-Standard Value Comment	Soil support value has been revised based on the approved soil survey.				

Design Loading (Calculated 18-KIP ESAL)					
Mean AADT, VPD	**LDF (%)**	**Vehicle Type**	**Volume (%)**	**ESAL Factor**	**Daily ESAL**
92,025	60.00	Single Unit Truck	3.40	0.40	751
		Multi Unit Truck	10.30	1.50	8,531
				Total Daily ESALs	9,282
				Total Design Period ESALs	67,758,600

Proposed Flexible Overlay Pavement Structure				
Course	**Material**	**Thickness (inches)**	**Structural Coefficient**	**Structural Value**
Overlay 1	12.5 mm OGFC	90 lbs/sy	0.0000	0.00
Overlay 2	12.5 mm SMA	2.00	0.4400	0.88
Existing 1	Asphaltic Concrete	6.75	0.3000	2.03
Existing 2	Portland Cement Concrete (fair)	8.25	0.3000	2.48
Existing 3	Graded Aggregate Base	15.25	0.1600	2.44

Required SN 7.66 **Proposed pavement is 2.08% Overdesigned** **Proposed SN** 7.82

Design Remarks	Use of 12.5 mm OGFC was previously discussed and approved by the GDOT State Pavement Engineer. Existing AC thickness is after milling.

Prepared By 10/27/2014 8:50 AM

David Hannon - Project Manager **Date**

Recommended By 10/27/14

Consultant Design Phase Leader - Andrew Hoenig **Date**

Approved By 10/27/14

State Pavement Engineer **Date**

Filename: C:\Users\dhannon\Documents\110600\110600 GDOT Pavement Design Tool v2.0.xlsm

GDOT Pavement Design Tool - Version 2.0

Appendix M. Bridge Inventory/Inspection Reports

Processed Date:9/4/2014

Parameters: Bridge Serial Num

Bridge Inventory Data Listing

Structure ID:135-5198-0 S **Gwinnett** **SUFF. RATING:** 93.82

Location & Geography

Structure ID:	135-5198-0
200 Brdge Information:	06
*6A Feature Int:	I-85 (SR 403)
*6B Critical Bridge:	0
*7A Route No Carried:	CR03761
*7B Facility Carried:	OLD PEACHTREE ROAD
9 Location:	3.3 MI S OF SUWANEE
2 Dot District:	1
207 Year Photo:	2013
*91 Inspection Frequency:	24 Date: 11/08/2013
92A Fract Crit Insp Freq:	0 Date: 02/01/1901
92B Underwater Insp Freq:	0 Date: 02/01/1901
92C Other Spc. Insp Freq:	0 Date: 02/01/1901
* 4 Place Code:	00000
*5 Inventory Route(O/U):	1
Type:	4
Designation:	1
Number:	03761
Direction:	0
*16 Latitude:	34 - 00.0084 HMMS Prefix:00
*17 Longtitude:	84 - 04.4385 HMMS Suffix:000
	MP: 0.00
98 Border Bridge:	000 % Shared:00
99 ID Number:	000000000000000
*100 STRAHNET:	1
12 Base Highway Network:	1
13A LRS Inventory Route:	1352376100
13B Sub Inventory Route:	1
*101 Parallel Structure:	N
*102 Direction of Traffic:	2
*264 Road Inventory Mile Post:	004.40
*208 Inspection Area:	07 Initials: JPD
Engineer's Initials:	jpd
* Location ID No:	135-03761X-003.80W

*104 Highway System:	1
*26 Functional Classification:	17
*204 Federal Route Type:	0 No: 00000
105 Federal Lands Highway:	0
*110 Truck Route:	0
206 School Bus Route:	1
217 Benchmark Elevation:	0000.00
218 Datum:	0
*19 Bypass Length:	05
*20 Toll:	3
*21 Maintanance:	01
*22 Owner:	01
*31 Design Load:	6
37 Historical Significance:	5
205 Congressional District:	7
27 Year Constructed:	2003
106 Year Reconsrtucted:	0000
33 Bridge Median	2
34 Skew:	10
35 Structure Flared:	0
38 Navigation Control:	0
213 Special Steel Design:	0
267 Type of Paint:	0
*42 Type of Service On:	5
Type of Service Under:	1
214 Movable Bridge:	0
203 Type Bridge:	J - O - O - O
259 Pile Encasement	3
*43 Structure Type Main:	5 02
45 No.Spans Main:	004
44 Structure Type Appr:	0 00
46 No Spans Appr:	0000
226 Bridge Curve Horz	0 Vert: 0.00
111 Pier Protection	0
107 Deck Structure Type:	1
108 Wearing Structure Type:	1
Membrane Type:	8
Deck Protection:	8

Signs & Attachments

225 Expansion Joint Type:	02
242 Deck Drains:	0
243 Parapet Location:	0
Height:	0.00
Width:	0.00
238 Curb Height:	1
Curb Material:	1
239 Handrail	1 1
*240 Median Barrier Rail:	0
241 Bridge Median Height:	1
* Bridge Median Width:	10
230 Guardrail Loc. Dir. Rear:	5
Fwrd:	5
Oppo. Dir. Rear:	5
Oppo. Fwrd:	5
244 Aproach Slab	3
224 Retaining Wall:	7
233Posted Speed Limit:	45
236 Warning Sign:	0.00
234 Delineator:	1.00
235 Hazard Boards:	0
237 Utilities Gas:	22
Water:	00
Electric:	00
Telephone:	00
Sewer:	00
247 Lighting Street:	0
Navigation:	0
Aerial:	0
*248 County Continuity No.:	0

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Processed Date:9/4/2014

Parameters: Bridge Serial Num

Bridge Inventory Data Listing

Structure ID:135-5198-0

Programming Data

201 Project No:	NH-IM-85-2(148)
202 Plans Available:	3
249 Prop Proj No:	00000000000000000000000000
250 Approval Status:	0000
251 PI Number:	0000000
252 Contract Date:	02/01/1901
260 Seismic No:	00000
75 Type Work:	00 0
94 Bridge Imp: Cost:	$3,749
95 Roadway Imp. Cost:	$375
96 Total Imp Cost:	$5624
76 Imp Length:	000000
97 Imp Year:	2013
114 Furure ADT:	011835 Year:2032

Hydralic Data

215Waterway Data:	
High Water Elev:	0000.0 Year:0000
Flood Elev:	0000.0 Freq:00
Avg Streambed Elev:	0000.0
Drainage Area:	0
Area of Opening:	0
113 Scour Critical	N
216 Water Depth:	00.0 Br.Height:00.0
222 Slope Protection:	0
221Spur Dikes Rear	0 Fwd:0
219 Fender System	0
220 Dolphin:	0
223 Culvert Cover:	000
Type:	0
No. Barrels:	0
Width:	0.00 Height:0.00
Length:	0 Apron:0
*265 U/W Insp. Area	0 Diver:ZZZ
*Location ID No:	135-03761X-003.80W

Measurements:

*29 ADT	007890 Year:2012
109 %Trucks:	1
* 28 Lanes On:	07 Under:14
210 No. Tracks On:	00 Under:00
* 48 Max. Span Length	0109
* 49 Structure Length:	406
51 Br. Rwdy. Width	120.20
52 Deck Width:	134.50
* 47 Tot. Horiz. Cl:	100
50 Curb / Sidewalk Width	6.00 / 6.00
32 Approach Rdwy. Width	111
*229 Shoulder Width:	
Rear Lt:	2.00 Type:1 Rt:2.00
Fwd. Lt:	7.00 Type:3 Rt:2.00
Pavement Width:	
Rear:	64.00 Type: 2
	34.00 Type: 2
Intersaction Rear:	1 Fwd: 1
36Safety Features Br. Rail:	1
Transition:	1
App. G. Rail:	1
App. Rail End:	1
53 Minimum Cl. Over:	99' 99 "
Under: H	18' 07"
*228 Minimum Vertical Cl	
Act. Odm Dir::	99' 99"
Oppo. Dir:	99' 99"
Posted Odm. Dir:	00' 00"
Oppo. Dir:	00' 00"
55 Lateral Undercl. Rt:	H 24.00
56 Lateral Undercl. Lt:	11.00
*10 Max Min Vert Cl:	99' 99" Dir:0
39 Nav Vert Cl:	000 Horiz:0000
116 Nav Vert Cl Closed:	000
245 Deck Thickness Main	7.80
Deck Thick Approach:	0.00
246 Overlay Thickness:	0.00
212 Year Last Painted:	Sup:0000 Sub:0000

65 Inventory Rating Mathod:	1
63 Operating Rating Method:	1
66 Inventory Type:	2 Rating: 31
64 Operating Type:	2 Rating: 55
231Calculated Loads:	
H-Modified:	21 0
HS-Modified:	30 0
Type 3:	29 0
Type 3s2:	38 0
Timber:	34 0
Piggyback:	00 0
261 H Inventory Rating:	20
262 H Operating Rating	28
67 Structural Evaluation:	7
58 Deck Condition:	7
59 Superstructure Condition:	8
* 227 Collision Damage:	0
60A Substructure Condition:	7
60B Scour Condition:	N
60C Underwater Condition	N
71 Waterway Adequacy:	N
61 Channel Protection Cond.:	N
68 Deck Geometry:	9
69 UnderClr. Horz/Vert:	6
72 Appr. Alignment:	7
62 Culvert:	N

Posting Data

70 Bridge Posting Required	5
41 Struct Open, Posted, CL:	A
* 103 Temporary Structure:	0
232 Posted Loads	
H-Modified:	00
HS-Modified:	00
Type 3:	00
Type 3s2:	00
Timber:	00
Piggyback	00
253 Notification Date:	02/01/1901
258 Fed Notify Date:	02/01/1901

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Processed Date:9/4/2014

Parameters: Bridge Serial Num

Bridge Inventory Data Listing

Structure ID:135-5239-0 S **Gwinnett** **SUFF. RATING:** 99.86

Location & Geography

Structure ID:	135-5239-0
200 Brdge Information:	01
*6A Feature Int:	I-85
*6B Critical Bridge:	0
*7A Route No Carried:	CR02564
*7B Facility Carried:	MCGINNIS FERRY ROAD
9 Location:	IN SUWANEE
2 Dot District:	1
207 Year Photo:	2014
*91 Inspection Frequency:	24 Date: 02/10/2014
92A Fract Crit Insp Freq:	0 Date: 02/01/1901
92B Underwater Insp Freq:	0 Date: 02/01/1901
92C Other Spc. Insp Freq:	0 Date: 02/01/1901
* 4 Place Code:	74936
*5 Inventory Route(O/U):	1
Type:	4
Designation:	1
Number:	02564
Direction:	0
*16 Latitude:	34 - 01.5240 HMMS Prefix:00
*17 Longtitude:	84 - 03.3030 HMMS Suffix:000
	MP: 0.00
98 Border Bridge:	000 % Shared:00
99 ID Number:	000000000000000
*100 STRAHNET:	1
12 Base Highway Network:	1
13A LRS Inventory Route:	1352002500
13B Sub Inventory Route:	1
*101 Parallel Structure:	N
*102 Direction of Traffic:	2
*264 Road Inventory Mile Post:	000.01
*208 Inspection Area:	07 Initials: JPD
Engineer's Initials:	jpd
* Location ID No:	135-02564F-000.01E

*104 Highway System:	1
*26 Functional Classification:	19
*204 Federal Route Type:	S No: 02564
105 Federal Lands Highway:	0
*110 Truck Route:	0
206 School Bus Route:	1
217 Benchmark Elevation:	0000.00
218 Datum:	0
*19 Bypass Length:	01
*20 Toll:	3
*21 Maintanance:	01
*22 Owner:	01
*31 Design Load:	6
37 Historical Significance:	5
205 Congressional District:	7
27 Year Constructed:	2011
106 Year Reconsrtucted:	0000
33 Bridge Median	2
34 Skew:	00
35 Structure Flared:	0
38 Navigation Control:	N
213 Special Steel Design:	0
267 Type of Paint:	0
*42 Type of Service On:	5
Type of Service Under:	1
214 Movable Bridge:	0
203 Type Bridge:	J - O - O - O
259 Pile Encasement	3
*43 Structure Type Main:	5 02
45 No.Spans Main:	004
44 Structure Type Appr:	0 00
46 No Spans Appr:	0000
226 Bridge Curve Horz	0 Vert: 0.00
111 Pier Protection	0
107 Deck Structure Type:	1
108 Wearing Structure Type:	1
Membrane Type:	8
Deck Protection:	8

Signs & Attachments

225 Expansion Joint Type:	02
242 Deck Drains:	2
243 Parapet Location:	0
Height:	0.00
Width:	0.00
238 Curb Height:	0
Curb Material:	0
239 Handrail	9 9
*240 Median Barrier Rail:	0
241 Bridge Median Height:	1
* Bridge Median Width:	15
230 Guardrail Loc. Dir. Rear:	6
Fwrd:	6
Oppo. Dir. Rear:	0
Oppo. Fwrd:	0
244 Aproach Slab	3
224 Retaining Wall:	0
233Posted Speed Limit:	40
236 Warning Sign:	0.00
234 Delineator:	0.00
235 Hazard Boards:	0
237 Utilities Gas:	00
Water:	00
Electric:	00
Telephone:	24
Sewer:	22
247 Lighting Street:	0
Navigation:	0
Aerial:	0
*248 County Continuity No.:	00

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Bridge Inventory Data Listing

Structure ID:135-5239-0

Programming Data

201 Project No:	STP00-0004-00(456)
202 Plans Available:	1
249 Prop Proj No:	000000000000000000000000
250 Approval Status:	0000
251 PI Number:	0004456
252 Contract Date:	02/01/1901
260 Seismic No:	00000
75 Type Work:	00 0
94 Bridge Imp: Cost:	$2,301
95 Roadway Imp. Cost:	$230
96 Total Imp Cost:	$3451
76 Imp Length:	000000
97 Imp Year:	2013
114 Furure ADT:	002895 Year:2032

Hydralic Data

215Waterway Data:	
High Water Elev:	0000.0 Year:0000
Flood Elev:	0000.0 Freq:000
Avg Streambed Elev:	0000.0
Drainage Area:	00000
Area of Opening:	000000
113 Scour Critical	N
216 Water Depth:	00.0 Br.Height:00.0
222 Slope Protection:	0
221Spur Dikes Rear	0 Fwd:0
219 Fender System	0
220 Dolphin:	0
223 Culvert Cover:	000
Type:	0
No. Barrels:	00
Width:	0.00 Height:0.00
Length:	0 Apron:0
*265 U/W Insp. Area	0 Diver:ZZZ
*Location ID No:	135-02564F-000.01E

Measurements:

*29 ADT	001930 Year:2012
109 %Trucks:	1
* 28 Lanes On:	04 Under:09
210 No. Tracks On:	00 Under:00
* 48 Max. Span Length	0136
* 49 Structure Length:	381
51 Br. Rwdy. Width	84.00
52 Deck Width:	118.50
* 47 Tot. Horiz. Cl:	84
50 Curb / Sidewalk Width	10.0/ 6.00
32 Approach Rdwy. Width	028
*229 Shoulder Width:	
Rear Lt:	2.00 Type:1 Rt:2.00
Fwd. Lt:	2.00 Type:1 Rt:2.00
Pavement Width:	
Rear:	24.00 Type: 2
	36.00 Type: 2
Intersaction Rear:	0 Fwd: 1
36Safety Features Br. Rail:	1
Transition:	1
App. G. Rail:	1
App. Rail End:	1
53 Minimum Cl. Over:	99' 99 "
Under: H	17' 06"
*228 Minimum Vertical Cl	
Act. Odm Dir::	99' 99"
Oppo. Dir:	99' 99"
Posted Odm. Dir:	00' 00"
Oppo. Dir:	00' 00"
55 Lateral Undercl. Rt:	H 17.10
56 Lateral Undercl. Lt:	14.00
*10 Max Min Vert Cl:	99' 99" Dir:0
39 Nav Vert Cl:	000 Horiz:0000
116 Nav Vert Cl Closed:	000
245 Deck Thickness Main	8.10
Deck Thick Approach:	0.00
246 Overlay Thickness:	0.00
212 Year Last Painted:	Sup:0000 Sub:0000

65 Inventory Rating Mathod:	1
63 Operating Rating Method:	1
66 Inventory Type:	2 Rating: 36
64 Operating Type:	2 Rating: 75
231Calculated Loads:	
H-Modified:	21 0
HS-Modified:	30 0
Type 3:	33 0
Type 3s2:	40 0
Timber:	37 0
Piggyback:	00 0
261 H Inventory Rating:	27
262 H Operating Rating	60
67 Structural Evaluation:	8
58 Deck Condition:	8
59 Superstructure Condition:	8
* 227 Collision Damage:	0
60A Substructure Condition:	8
60B Scour Condition:	N
60C Underwater Condition	N
71 Waterway Adequacy:	N
61 Channel Protection Cond.:	N
68 Deck Geometry:	9
69 UnderClr. Horz/Vert:	9
72 Appr. Alignment:	8
62 Culvert:	N

Posting Data

70 Bridge Posting Required	5
41 Struct Open, Posted, CL:	A
* 103 Temporary Structure:	0
232 Posted Loads	
H-Modified:	00
HS-Modified:	00
Type 3:	00
Type 3s2:	00
Timber:	00
Piggyback	00
253 Notification Date:	02/01/1901
258 Fed Notify Date:	02/01/1901

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Processed Date:9/4/2014

Parameters: Bridge Serial Num

Bridge Inventory Data Listing

Structure ID:135-0133-0 S **Gwinnett** **SUFF. RATING:** 66.00

Location & Geography

Structure ID:	135-0133-0
200 Brdge Information:	06
*6A Feature Int:	I-85 (SR 403)
*6B Critical Bridge:	0
*7A Route No Carried:	SR00317
*7B Facility Carried:	SR 317
9 Location:	2 MI SE OF SUWANEE
2 Dot District:	1
207 Year Photo:	2014
*91 Inspection Frequency:	24 Date: 01/15/2014
92A Fract Crit Insp Freq:	0 Date: 02/01/1901
92B Underwater Insp Freq:	0 Date: 02/01/1901
92C Other Spc. Insp Freq:	0 Date: 02/01/1901
* 4 Place Code:	00000
*5 Inventory Route(O/U):	1
Type:	3
Designation:	1
Number:	00317
Direction:	0
*16 Latitude:	34 - 01.7977 HMMS Prefix:SR
*17 Longtitude:	84 - 02.8950 HMMS Suffix:317
	MP: 0.00
98 Border Bridge:	000 % Shared:00
99 ID Number:	000000000000000
*100 STRAHNET:	1
12 Base Highway Network:	1
13A LRS Inventory Route:	1351031700
13B Sub Inventory Route:	1
*101 Parallel Structure:	N
*102 Direction of Traffic:	2
*264 Road Inventory Mile Post:	000.00
*208 Inspection Area:	07 Initials: JPD
Engineer's Initials:	jpd
* Location ID No:	135-00317D-000.00N

*104 Highway System:	1
*26 Functional Classification:	16
*204 Federal Route Type:	S No: 01347
105 Federal Lands Highway:	0
*110 Truck Route:	0
206 School Bus Route:	1
217 Benchmark Elevation:	0000.00
218 Datum:	0
*19 Bypass Length:	06
*20 Toll:	3
*21 Maintanance:	01
*22 Owner:	01
*31 Design Load:	6
37 Historical Significance:	5
205 Congressional District:	7
27 Year Constructed:	1994
106 Year Reconsrtucted:	0000
33 Bridge Median	0
34 Skew:	00
35 Structure Flared:	0
38 Navigation Control:	N
213 Special Steel Design:	0
267 Type of Paint:	0
*42 Type of Service On:	5
Type of Service Under:	1
214 Movable Bridge:	0
203 Type Bridge:	Z - O - O - O
259 Pile Encasement	3
*43 Structure Type Main:	5 02
45 No.Spans Main:	002
44 Structure Type Appr:	0 00
46 No Spans Appr:	0000
226 Bridge Curve Horz	0 Vert: 0.00
111 Pier Protection	0
107 Deck Structure Type:	1
108 Wearing Structure Type:	1
Membrane Type:	8
Deck Protection:	8

Signs & Attachments

225 Expansion Joint Type:	02
242 Deck Drains:	0
243 Parapet Location:	3
Height:	2.70
Width:	1.10
238 Curb Height:	1
Curb Material:	1
239 Handrail	5 5
*240 Median Barrier Rail:	0
241 Bridge Median Height:	0
* Bridge Median Width:	0
230 Guardrail Loc. Dir. Rear:	6
Fwrd:	6
Oppo. Dir. Rear:	0
Oppo. Fwrd:	0
244 Aproach Slab	3
224 Retaining Wall:	7
233Posted Speed Limit:	45
236 Warning Sign:	0.00
234 Delineator:	0.00
235 Hazard Boards:	0
237 Utilities Gas:	00
Water:	00
Electric:	00
Telephone:	00
Sewer:	00
247 Lighting Street:	0
Navigation:	0
Aerial:	0
*248 County Continuity No.:	00

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Bridge Inventory Data Listing

Structure ID:135-0133-0

Programming Data

201 Project No:	IM-85-2 (126)
202 Plans Available:	4
249 Prop Proj No:	00000000000000000000000000
250 Approval Status:	0000
251 PI Number:	0000000
252 Contract Date:	02/01/1901
260 Seismic No:	00000
75 Type Work:	00 0
94 Bridge Imp: Cost:	$1,949
95 Roadway Imp. Cost:	$195
96 Total Imp Cost:	$2923
76 Imp Length:	000000
97 Imp Year:	2013
114 Furure ADT:	061005 Year:2032

Hydralic Data

215Waterway Data:	
High Water Elev:	0000.0 Year:1900
Flood Elev:	0000.0 Freq:00
Avg Streambed Elev:	0000.0
Drainage Area:	00000
Area of Opening:	000000
113 Scour Critical	N
216 Water Depth:	00.0 Br.Height:00.0
222 Slope Protection:	0
221Spur Dikes Rear	0 Fwd:0
219 Fender System	0
220 Dolphin:	0
223 Culvert Cover:	000
Type:	0
No. Barrels:	0
Width:	0.00 Height:0.00
Length:	0 Apron:0
*265 U/W Insp. Area	0 Diver:ZZZ
*Location ID No:	135-00317D-000.00N

Measurements:

*29 ADT	040670 Year:2012
109 %Trucks:	1
* 28 Lanes On:	07 Under:08
210 No. Tracks On:	00 Under:00
* 48 Max. Span Length	0106
* 49 Structure Length:	211
51 Br. Rwdy. Width	76.00
52 Deck Width:	90.50
* 47 Tot. Horiz. Cl:	76
50 Curb / Sidewalk Width	6.00 / 6.00
32 Approach Rdwy. Width	076
*229 Shoulder Width:	
Rear Lt:	2.00 Type:1 Rt:2.00
Fwd. Lt:	2.00 Type:1 Rt:2.00
Pavement Width:	
Rear:	72.00 Type: 2
	72.00 Type: 2
Intersaction Rear:	1 Fwd: 1
36Safety Features Br. Rail:	1
Transition:	1
App. G. Rail:	1
App. Rail End:	1
53 Minimum Cl. Over:	99' 99 "
Under: H	17' 08"
*228 Minimum Vertical Cl	
Act. Odm Dir::	99' 99"
Oppo. Dir:	99' 99"
Posted Odm. Dir:	00' 00"
Oppo. Dir:	00' 00"
55 Lateral Undercl. Rt:	H 41.00
56 Lateral Undercl. Lt:	9.30
*10 Max Min Vert Cl:	99' 99" Dir:0
39 Nav Vert Cl:	000 Horiz:0000
116 Nav Vert Cl Closed:	000
245 Deck Thickness Main	8.70
Deck Thick Approach:	0.00
246 Overlay Thickness:	0.00
212 Year Last Painted:	Sup:0000 Sub:0000

65 Inventory Rating Mathod:	1
63 Operating Rating Method:	1
66 Inventory Type:	2 Rating: 42
64 Operating Type:	2 Rating: 70
231Calculated Loads:	
H-Modified:	21 0
HS-Modified:	30 0
Type 3:	33 0
Type 3s2:	40 0
Timber:	37 0
Piggyback:	40 0
261 H Inventory Rating:	32
262 H Operating Rating	54
67 Structural Evaluation:	7
58 Deck Condition:	7
59 Superstructure Condition:	8
* 227 Collision Damage:	0
60A Substructure Condition:	7
60B Scour Condition:	N
60C Underwater Condition	N
71 Waterway Adequacy:	N
61 Channel Protection Cond.:	N
68 Deck Geometry:	2
69 UnderClr. Horz/Vert:	9
72 Appr. Alignment:	8
62 Culvert:	N

Posting Data

70 Bridge Posting Required	5
41 Struct Open, Posted, CL:	A
* 103 Temporary Structure:	0
232 Posted Loads	
H-Modified:	00
HS-Modified:	00
Type 3:	00
Type 3s2:	00
Timber:	00
Piggyback	00
253 Notification Date:	02/01/1901
258 Fed Notify Date:	02/01/1901

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Processed Date:9/4/2014

Parameters: Bridge Serial Num

Bridge Inventory Data Listing

Structure ID:135-0054-0 S **Gwinnett** **SUFF. RATING:** 68.98

Location & Geography

Structure ID:	135-0054-0
200 Brdge Information:	06
*6A Feature Int:	SR 419 NBL (I-985)
*6B Critical Bridge:	0
*7A Route No Carried:	SR00403
*7B Facility Carried:	I-85 (SBL)
9 Location:	2.4 MI E OF SUWANEE
2 Dot District:	1
207 Year Photo:	2013
*91 Inspection Frequency:	24 Date: 10/31/2013
92A Fract Crit Insp Freq:	0 Date: 02/01/1901
92B Underwater Insp Freq:	0 Date: 02/01/1901
92C Other Spc. Insp Freq:	0 Date: 02/01/1901
* 4 Place Code:	00000
*5 Inventory Route(O/U):	1
Type:	1
Designation:	1
Number:	00085
Direction:	0
*16 Latitude:	34 - 02.7551 HMMS Prefix:SR
*17 Longtitude:	84 - 01.7454 HMMS Suffix:403
	MP: 112.87
98 Border Bridge:	000 % Shared:00
99 ID Number:	000000000000000
*100 STRAHNET:	1
12 Base Highway Network:	1
13A LRS Inventory Route:	1351040300
13B Sub Inventory Route:	1
*101 Parallel Structure:	N
*102 Direction of Traffic:	1
*264 Road Inventory Mile Post:	016.02
*208 Inspection Area:	07 Initials: JPD
Engineer's Initials:	jpd
* Location ID No:	135-00403D-112.88N

*104 Highway System:	1
*26 Functional Classification:	11
*204 Federal Route Type:	I No: 00852
105 Federal Lands Highway:	0
*110 Truck Route:	0
206 School Bus Route:	0
217 Benchmark Elevation:	0000.00
218 Datum:	0
*19 Bypass Length:	10
*20 Toll:	3
*21 Maintanance:	01
*22 Owner:	01
*31 Design Load:	6
37 Historical Significance:	5
205 Congressional District:	7
27 Year Constructed:	1964
106 Year Reconsrtucted:	1985
33 Bridge Median	0
34 Skew:	50
35 Structure Flared:	0
38 Navigation Control:	N
213 Special Steel Design:	0
267 Type of Paint:	5
*42 Type of Service On:	1
Type of Service Under:	1
214 Movable Bridge:	0
203 Type Bridge:	O - O - M - O
259 Pile Encasement	3
*43 Structure Type Main:	4 02
45 No.Spans Main:	003
44 Structure Type Appr:	0 00
46 No Spans Appr:	0000
226 Bridge Curve Horz	1 Vert: 0.00
111 Pier Protection	0
107 Deck Structure Type:	1
108 Wearing Structure Type:	1
Membrane Type:	0
Deck Protection:	8

Signs & Attachments

225 Expansion Joint Type:	15
242 Deck Drains:	0
243 Parapet Location:	0
Height:	0.00
Width:	0.00
238 Curb Height:	0
Curb Material:	0
239 Handrail	9 9
*240 Median Barrier Rail:	0
241 Bridge Median Height:	0
* Bridge Median Width:	0
230 Guardrail Loc. Dir. Rear:	6
Fwrd:	6
Oppo. Dir. Rear:	0
Oppo. Fwrd:	0
244 Aproach Slab	3
224 Retaining Wall:	0
233Posted Speed Limit:	70
236 Warning Sign:	1.00
234 Delineator:	1.00
235 Hazard Boards:	0
237 Utilities Gas:	00
Water:	00
Electric:	00
Telephone:	00
Sewer:	00
247 Lighting Street:	0
Navigation:	0
Aerial:	0
*248 County Continuity No.:	00

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Bridge Inventory Data Listing

Structure ID:135-0054-0

Programming Data

201 Project No:	ID-ACI-85-2 (73)
202 Plans Available:	4
249 Prop Proj No:	00000000000000000000000000
250 Approval Status:	0000
251 PI Number:	0000000
252 Contract Date:	02/01/1901
260 Seismic No:	00000
75 Type Work:	00 0
94 Bridge Imp: Cost:	$821
95 Roadway Imp. Cost:	$82
96 Total Imp Cost:	$1231
76 Imp Length:	000000
97 Imp Year:	2013
114 Furure ADT:	138465 Year:2032

Hydralic Data

215Waterway Data:	
High Water Elev:	0000.0 Year:1900
Flood Elev:	0000.0 Freq:00
Avg Streambed Elev:	0000.0
Drainage Area:	00000
Area of Opening:	000000
113 Scour Critical	N
216 Water Depth:	00.0 Br.Height:00.0
222 Slope Protection:	4
221Spur Dikes Rear	0 Fwd:0
219 Fender System	0
220 Dolphin:	0
223 Culvert Cover:	000
Type:	0
No. Barrels:	0
Width:	0.00 Height:0.00
Length:	0 Apron:0
*265 U/W Insp. Area	0 Diver:ZZZ
*Location ID No:	135-00403D-112.88N

Measurements:

*29 ADT	092310 Year:2012
109 %Trucks:	14
* 28 Lanes On:	02 Under:02
210 No. Tracks On:	00 Under:00
* 48 Max. Span Length	0086
* 49 Structure Length:	210
51 Br. Rwdy. Width	54.10
52 Deck Width:	57.10
* 47 Tot. Horiz. Cl:	54
50 Curb / Sidewalk Width	0.00 / 0.00
32 Approach Rdwy. Width	038
*229 Shoulder Width:	
Rear Lt:	4.00 Type:2 Rt:10.00
Fwd. Lt:	19.00Type:2 Rt:12.00
Pavement Width:	
Rear:	24.00 Type: 2
	24.00 Type: 2
Intersaction Rear:	1 Fwd: 0
36Safety Features Br. Rail:	1
Transition:	2
App. G. Rail:	2
App. Rail End:	2
53 Minimum Cl. Over:	99' 99 "
Under: H	17' 00"
*228 Minimum Vertical Cl	
Act. Odm Dir::	99' 99"
Oppo. Dir:	99' 99"
Posted Odm. Dir:	00' 00"
Oppo. Dir:	00' 00"
55 Lateral Undercl. Rt:	H 11.50
56 Lateral Undercl. Lt:	11.70
*10 Max Min Vert Cl:	99' 99" Dir:0
39 Nav Vert Cl:	000 Horiz:0000
116 Nav Vert Cl Closed:	000
245 Deck Thickness Main	7.00
Deck Thick Approach:	0.00
246 Overlay Thickness:	0.00
212 Year Last Painted:	Sup:1985 Sub:0000

65 Inventory Rating Mathod:	1
63 Operating Rating Method:	1
66 Inventory Type:	2 Rating: 23
64 Operating Type:	2 Rating: 38
231Calculated Loads:	
H-Modified:	21 0
HS-Modified:	26 0
Type 3:	26 0
Type 3s2:	30 0
Timber:	28 0
Piggyback:	31 0
261 H Inventory Rating:	25
262 H Operating Rating	43
67 Structural Evaluation:	5
58 Deck Condition:	6
59 Superstructure Condition:	6
* 227 Collision Damage:	0
60A Substructure Condition:	7
60B Scour Condition:	N
60C Underwater Condition	N
71 Waterway Adequacy:	N
61 Channel Protection Cond.:	N
68 Deck Geometry:	9
69 UnderClr. Horz/Vert:	7
72 Appr. Alignment:	7
62 Culvert:	N

Posting Data

70 Bridge Posting Required	5
41 Struct Open, Posted, CL:	A
* 103 Temporary Structure:	0
232 Posted Loads	
H-Modified:	00
HS-Modified:	00
Type 3:	00
Type 3s2:	00
Timber:	00
Piggyback	00
253 Notification Date:	02/01/1901
258 Fed Notify Date:	02/01/1901

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Processed Date:9/4/2014

Parameters: Bridge Serial Num

Bridge Inventory Data Listing

Structure ID:135-5179-0 **Gwinnett** **SUFF. RATING:** 98.00

Location & Geography

Structure ID:	135-5179-0
200 Brdge Information:	06
*6A Feature Int:	SR20 - LAWRENCEVILLE HWY
*6B Critical Bridge:	0
*7A Route No Carried:	SR00403
*7B Facility Carried:	I-85 (NBL)
9 Location:	5.5 MI S OF BUFORD
2 Dot District:	1
207 Year Photo:	2013
*91 Inspection Frequency:	24 Date: 10/23/2013
92A Fract Crit Insp Freq:	0 Date: 02/01/1901
92B Underwater Insp Freq:	0 Date: 02/01/1901
92C Other Spc. Insp Freq:	0 Date: 02/01/1901
* 4 Place Code:	00000
*5 Inventory Route(O/U):	1
Type:	1
Designation:	1
Number:	00085
Direction:	0
*16 Latitude:	34 - 03.4114 HMMS Prefix:SR
*17 Longtitude:	83 - 59.5966 HMMS Suffix:403
	MP: 115.26
98 Border Bridge:	000 % Shared:00
99 ID Number:	000000000000000
*100 STRAHNET:	1
12 Base Highway Network:	1
13A LRS Inventory Route:	1351040300
13B Sub Inventory Route:	1
*101 Parallel Structure:	R
*102 Direction of Traffic:	1
*264 Road Inventory Mile Post:	018.29
*208 Inspection Area:	07 Initials: JPD
Engineer's Initials:	jpd
* Location ID No:	135-00403D-115.28N

*104 Highway System:	1
*26 Functional Classification:	11
*204 Federal Route Type:	I No: 00852
105 Federal Lands Highway:	0
*110 Truck Route:	0
206 School Bus Route:	0
217 Benchmark Elevation:	0000.00
218 Datum:	0
*19 Bypass Length:	00
*20 Toll:	3
*21 Maintanance:	01
*22 Owner:	01
*31 Design Load:	6
37 Historical Significance:	5
205 Congressional District:	7
27 Year Constructed:	1999
106 Year Reconsrtucted:	0000
33 Bridge Median	3
34 Skew:	25
35 Structure Flared:	1
38 Navigation Control:	N
213 Special Steel Design:	0
267 Type of Paint:	0
*42 Type of Service On:	1
Type of Service Under:	1
214 Movable Bridge:	0
203 Type Bridge:	O - O - O - O
259 Pile Encasement	3
*43 Structure Type Main:	5 02
45 No.Spans Main:	004
44 Structure Type Appr:	0 00
46 No Spans Appr:	0000
226 Bridge Curve Horz	0 Vert: 0.00
111 Pier Protection	0
107 Deck Structure Type:	1
108 Wearing Structure Type:	1
Membrane Type:	0
Deck Protection:	8

Signs & Attachments

225 Expansion Joint Type:	02
242 Deck Drains:	0
243 Parapet Location:	0
Height:	0.00
Width:	0.00
238 Curb Height:	0
Curb Material:	0
239 Handrail	9 9
*240 Median Barrier Rail:	1
241 Bridge Median Height:	4
* Bridge Median Width:	2
230 Guardrail Loc. Dir. Rear:	6
Fwrd:	5
Oppo. Dir. Rear:	0
Oppo. Fwrd:	0
244 Aproach Slab	3
224 Retaining Wall:	0
233Posted Speed Limit:	70
236 Warning Sign:	0.00
234 Delineator:	0.00
235 Hazard Boards:	0
237 Utilities Gas:	00
Water:	00
Electric:	00
Telephone:	00
Sewer:	00
247 Lighting Street:	0
Navigation:	0
Aerial:	0
*248 County Continuity No.:	00

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Bridge Inventory Data Listing

Structure ID:135-5179-0

Programming Data

201 Project No:	IM-85-2(128)
202 Plans Available:	4
249 Prop Proj No:	00000000000000000000000000
250 Approval Status:	0000
251 PI Number:	110360-
252 Contract Date:	02/01/1901
260 Seismic No:	00000
75 Type Work:	00 0
94 Bridge Imp: Cost:	$1,836
95 Roadway Imp. Cost:	$184
96 Total Imp Cost:	$2754
76 Imp Length:	000000
97 Imp Year:	2013
114 Furure ADT:	138465 Year:2032

Hydralic Data

215Waterway Data:	
High Water Elev:	0000.0 Year:0000
Flood Elev:	0000.0 Freq:00
Avg Streambed Elev:	0000.0
Drainage Area:	00000
Area of Opening:	000000
113 Scour Critical	N
216 Water Depth:	00.0 Br.Height:00.0
222 Slope Protection:	4
221Spur Dikes Rear	0 Fwd:0
219 Fender System	0
220 Dolphin:	0
223 Culvert Cover:	000
Type:	0
No. Barrels:	0
Width:	0.00 Height:0.00
Length:	0 Apron:0
*265 U/W Insp. Area	0 Diver:ZZZ
*Location ID No:	135-00403D-115.28N

Measurements:

*29 ADT	092310 Year:2012
109 %Trucks:	14
* 28 Lanes On:	04 Under:06
210 No. Tracks On:	00 Under:00
* 48 Max. Span Length	0096
* 49 Structure Length:	304
51 Br. Rwdy. Width	106.20
52 Deck Width:	111.70
* 47 Tot. Horiz. Cl:	60
50 Curb / Sidewalk Width	0.00 / 0.00
32 Approach Rdwy. Width	037
*229 Shoulder Width:	
Rear Lt:	3.00 Type:2 Rt:9.80
Fwd. Lt:	3.00 Type:2 Rt:9.80
Pavement Width:	
Rear:	24.00 Type: 2
	24.00 Type: 2
Intersaction Rear:	0 Fwd: 0
36Safety Features Br. Rail:	1
Transition:	1
App. G. Rail:	1
App. Rail End:	1
53 Minimum Cl. Over:	99' 99 "
Under: H	22' 09"
*228 Minimum Vertical Cl	
Act. Odm Dir::	99' 99"
Oppo. Dir:	99' 99"
Posted Odm. Dir:	00' 00"
Oppo. Dir:	00' 00"
55 Lateral Undercl. Rt:	H 26.00
56 Lateral Undercl. Lt:	19.80
*10 Max Min Vert Cl:	99' 99" Dir:0
39 Nav Vert Cl:	000 Horiz:0000
116 Nav Vert Cl Closed:	000
245 Deck Thickness Main	7.90
Deck Thick Approach:	0.00
246 Overlay Thickness:	0.00
212 Year Last Painted:	Sup:0000 Sub:0000

65 Inventory Rating Mathod:	1
63 Operating Rating Method:	1
66 Inventory Type:	2 Rating: 40
64 Operating Type:	2 Rating: 70
231Calculated Loads:	
H-Modified:	21 0
HS-Modified:	30 0
Type 3:	33 0
Type 3s2:	40 0
Timber:	37 0
Piggyback:	40 0
261 H Inventory Rating:	32
262 H Operating Rating	56
67 Structural Evaluation:	8
58 Deck Condition:	8
59 Superstructure Condition:	8
* 227 Collision Damage:	0
60A Substructure Condition:	8
60B Scour Condition:	N
60C Underwater Condition	N
71 Waterway Adequacy:	N
61 Channel Protection Cond.:	N
68 Deck Geometry:	9
69 UnderClr. Horz/Vert:	7
72 Appr. Alignment:	7
62 Culvert:	N

Posting Data

70 Bridge Posting Required	5
41 Struct Open, Posted, CL:	A
* 103 Temporary Structure:	0
232 Posted Loads	
H-Modified:	00
HS-Modified:	00
Type 3:	00
Type 3s2:	00
Timber:	00
Piggyback	00
253 Notification Date:	02/01/1901
258 Fed Notify Date:	02/01/1901

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Processed Date:9/4/2014

Parameters: Bridge Serial Num

Bridge Inventory Data Listing

Structure ID:135-5180-0 S **Gwinnett** **SUFF. RATING:** 98.00

Location & Geography

Structure ID:	135-5180-0
200 Brdge Information:	06
*6A Feature Int:	SR20 - LAWRENCEVILLE HWY
*6B Critical Bridge:	0
*7A Route No Carried:	SR00403
*7B Facility Carried:	I-85 (SBL)
9 Location:	5.5 MI S OF BUFORD
2 Dot District:	1
207 Year Photo:	2013
*91 Inspection Frequency:	24 Date: 10/23/2013
92A Fract Crit Insp Freq:	0 Date: 02/01/1901
92B Underwater Insp Freq:	0 Date: 02/01/1901
92C Other Spc. Insp Freq:	0 Date: 02/01/1901
* 4 Place Code:	00000
*5 Inventory Route(O/U):	1
Type:	1
Designation:	1
Number:	00085
Direction:	0
*16 Latitude:	34 - 03.4288 HMMS Prefix:SR
*17 Longtitude:	83 - 59.5813 HMMS Suffix:403
	MP: 115.29
98 Border Bridge:	000 % Shared:00
99 ID Number:	000000000000000
*100 STRAHNET:	1
12 Base Highway Network:	1
13A LRS Inventory Route:	1351040300
13B Sub Inventory Route:	1
*101 Parallel Structure:	L
*102 Direction of Traffic:	1
*264 Road Inventory Mile Post:	018.30
*208 Inspection Area:	07 Initials: JPD
Engineer's Initials:	jpd
* Location ID No:	135-00403D-115.29N

*104 Highway System:	1
*26 Functional Classification:	11
*204 Federal Route Type:	I No: 00852
105 Federal Lands Highway:	0
*110 Truck Route:	0
206 School Bus Route:	0
217 Benchmark Elevation:	0000.00
218 Datum:	0
*19 Bypass Length:	00
*20 Toll:	3
*21 Maintanance:	01
*22 Owner:	01
*31 Design Load:	6
37 Historical Significance:	5
205 Congressional District:	7
27 Year Constructed:	1999
106 Year Reconsrtucted:	0000
33 Bridge Median	3
34 Skew:	25
35 Structure Flared:	0
38 Navigation Control:	N
213 Special Steel Design:	0
267 Type of Paint:	0
*42 Type of Service On:	1
Type of Service Under:	1
214 Movable Bridge:	0
203 Type Bridge:	O - O - O - O
259 Pile Encasement	3
*43 Structure Type Main:	5 02
45 No.Spans Main:	004
44 Structure Type Appr:	0 00
46 No Spans Appr:	0000
226 Bridge Curve Horz	0 Vert: 0.00
111 Pier Protection	0
107 Deck Structure Type:	1
108 Wearing Structure Type:	1
Membrane Type:	0
Deck Protection:	8

Signs & Attachments

225 Expansion Joint Type:	02
242 Deck Drains:	0
243 Parapet Location:	0
Height:	0.00
Width:	0.00
238 Curb Height:	0
Curb Material:	0
239 Handrail	9 9
*240 Median Barrier Rail:	1
241 Bridge Median Height:	4
* Bridge Median Width:	2
230 Guardrail Loc. Dir. Rear:	6
Fwrd:	6
Oppo. Dir. Rear:	0
Oppo. Fwrd:	0
244 Aproach Slab	3
224 Retaining Wall:	0
233Posted Speed Limit:	70
236 Warning Sign:	0.00
234 Delineator:	0.00
235 Hazard Boards:	0
237 Utilities Gas:	00
Water:	00
Electric:	00
Telephone:	00
Sewer:	00
247 Lighting Street:	0
Navigation:	0
Aerial:	0
*248 County Continuity No.:	00

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Bridge Inventory Data Listing

Structure ID:135-5180-0

Programming Data

201 Project No:	IM-85-2(128)
202 Plans Available:	4
249 Prop Proj No:	000000000000000000000000
250 Approval Status:	0000
251 PI Number:	110360-
252 Contract Date:	02/01/1901
260 Seismic No:	00000
75 Type Work:	00 0
94 Bridge Imp: Cost:	$1,836
95 Roadway Imp. Cost:	$184
96 Total Imp Cost:	$2754
76 Imp Length:	000000
97 Imp Year:	2013
114 Furure ADT:	138465 Year:2032

Hydralic Data

215Waterway Data:	
High Water Elev:	0000.0 Year:0000
Flood Elev:	0000.0 Freq:00
Avg Streambed Elev:	0000.0
Drainage Area:	00000
Area of Opening:	000000
113 Scour Critical	N
216 Water Depth:	00.0 Br.Height:00.0
222 Slope Protection:	4
221Spur Dikes Rear	0 Fwd:0
219 Fender System	0
220 Dolphin:	0
223 Culvert Cover:	000
Type:	0
No. Barrels:	0
Width:	0.00 Height:0.00
Length:	0 Apron:0
*265 U/W Insp. Area	0 Diver:ZZZ
*Location ID No:	135-00403D-115.29N

Measurements:

*29 ADT	092310 Year:2012
109 %Trucks:	14
* 28 Lanes On:	04 Under:06
210 No. Tracks On:	00 Under:00
* 48 Max. Span Length	0096
* 49 Structure Length:	304
51 Br. Rwdy. Width	106.20
52 Deck Width:	111.70
* 47 Tot. Horiz. Cl:	60
50 Curb / Sidewalk Width	0.00 / 0.00
32 Approach Rdwy. Width	037
*229 Shoulder Width:	
Rear Lt:	3.00 Type:2 Rt:9.80
Fwd. Lt:	3.00 Type:2 Rt:9.80
Pavement Width:	
Rear:	24.00 Type: 2
	24.00 Type: 2
Intersaction Rear:	0 Fwd: 0
36Safety Features Br. Rail:	1
Transition:	1
App. G. Rail:	1
App. Rail End:	1
53 Minimum Cl. Over:	99' 99 "
Under: H	20' 00"
*228 Minimum Vertical Cl	
Act. Odm Dir::	99' 99"
Oppo. Dir:	99' 99"
Posted Odm. Dir:	00' 00"
Oppo. Dir:	00' 00"
55 Lateral Undercl. Rt:	H 25.70
56 Lateral Undercl. Lt:	19.80
*10 Max Min Vert Cl:	99' 99" Dir:0
39 Nav Vert Cl:	000 Horiz:0000
116 Nav Vert Cl Closed:	000
245 Deck Thickness Main	7.90
Deck Thick Approach:	0.00
246 Overlay Thickness:	0.00
212 Year Last Painted:	Sup:0000 Sub:0000

65 Inventory Rating Mathod:	1
63 Operating Rating Method:	1
66 Inventory Type:	2 Rating: 40
64 Operating Type:	2 Rating: 70
231Calculated Loads:	
H-Modified:	21 0
HS-Modified:	30 0
Type 3:	33 0
Type 3s2:	40 0
Timber:	37 0
Piggyback:	40 0
261 H Inventory Rating:	31
262 H Operating Rating	56
67 Structural Evaluation:	8
58 Deck Condition:	8
59 Superstructure Condition:	8
* 227 Collision Damage:	0
60A Substructure Condition:	8
60B Scour Condition:	N
60C Underwater Condition	N
71 Waterway Adequacy:	N
61 Channel Protection Cond.:	N
68 Deck Geometry:	9
69 UnderClr. Horz/Vert:	7
72 Appr. Alignment:	7
62 Culvert:	N

Posting Data

70 Bridge Posting Required	5
41 Struct Open, Posted, CL:	A
* 103 Temporary Structure:	0
232 Posted Loads	
H-Modified:	00
HS-Modified:	00
Type 3:	00
Type 3s2:	00
Timber:	00
Piggyback	00
253 Notification Date:	02/01/1901
258 Fed Notify Date:	02/01/1901

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Processed Date:9/4/2014

Parameters: Bridge Serial Num

Bridge Inventory Data Listing

Structure ID:135-0058-0 S **Gwinnett** **SUFF. RATING:** 98.00

Location & Geography

Structure ID:	135-0058-0
200 Brdge Information:	07
*6A Feature Int:	LITTLE IVY CREEK
*6B Critical Bridge:	0
*7A Route No Carried:	SR00403
*7B Facility Carried:	I-85
9 Location:	4.3 MI SE OF BUFORD
2 Dot District:	1
207 Year Photo:	2013
*91 Inspection Frequency:	24 Date: 11/14/2013
92A Fract Crit Insp Freq:	0 Date: 02/01/1901
92B Underwater Insp Freq:	0 Date: 02/01/1901
92C Other Spc. Insp Freq:	0 Date: 02/01/1901
* 4 Place Code:	00000
*5 Inventory Route(O/U):	1
Type:	1
Designation:	1
Number:	00085
Direction:	0
*16 Latitude:	34 - 03.9690 HMMS Prefix:SR
*17 Longtitude:	83 - 56.3250 HMMS Suffix:403
	MP: 118.44
98 Border Bridge:	000 % Shared:00
99 ID Number:	000000000000000
*100 STRAHNET:	1
12 Base Highway Network:	1
13A LRS Inventory Route:	1351040300
13B Sub Inventory Route:	1
*101 Parallel Structure:	N
*102 Direction of Traffic:	2
*264 Road Inventory Mile Post:	000.00
*208 Inspection Area:	07 Initials: JPD
Engineer's Initials:	jpd
* Location ID No:	135-00403D-118.44N

*104 Highway System:	1
*26 Functional Classification:	11
*204 Federal Route Type:	I No: 00852
105 Federal Lands Highway:	0
*110 Truck Route:	0
206 School Bus Route:	1
217 Benchmark Elevation:	0000.00
218 Datum:	0
*19 Bypass Length:	00
*20 Toll:	3
*21 Maintanance:	01
*22 Owner:	01
*31 Design Load:	6
37 Historical Significance:	5
205 Congressional District:	7
27 Year Constructed:	1962
106 Year Reconsrtucted:	0000
33 Bridge Median	1
34 Skew:	00
35 Structure Flared:	0
38 Navigation Control:	0
213 Special Steel Design:	0
267 Type of Paint:	0
*42 Type of Service On:	1
Type of Service Under:	5
214 Movable Bridge:	0
203 Type Bridge:	Q - - -
259 Pile Encasement	3
*43 Structure Type Main:	1 19
45 No.Spans Main:	003
44 Structure Type Appr:	0 00
46 No Spans Appr:	0000
226 Bridge Curve Horz	0 Vert: 0.00
111 Pier Protection	0
107 Deck Structure Type:	N
108 Wearing Structure Type:	N
Membrane Type:	N
Deck Protection:	N

Signs & Attachments

225 Expansion Joint Type:	00
242 Deck Drains:	0
243 Parapet Location:	0
Height:	0.00
Width:	0.00
238 Curb Height:	0
Curb Material:	0
239 Handrail	0 0
*240 Median Barrier Rail:	0
241 Bridge Median Height:	0
* Bridge Median Width:	0
230 Guardrail Loc. Dir. Rear:	5
Fwrd:	5
Oppo. Dir. Rear:	5
Oppo. Fwrd:	5
244 Aproach Slab	0
224 Retaining Wall:	0
233Posted Speed Limit:	70
236 Warning Sign:	0.00
234 Delineator:	1.00
235 Hazard Boards:	0
237 Utilities Gas:	00
Water:	00
Electric:	00
Telephone:	00
Sewer:	00
247 Lighting Street:	0
Navigation:	0
Aerial:	0
*248 County Continuity No.:	00

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Bridge Inventory Data Listing

Structure ID:135-0058-0

Programming Data

201 Project No:	I-85-2 (13) 111 CT.1
202 Plans Available:	0
249 Prop Proj No:	00000000000000000000000000
250 Approval Status:	0000
251 PI Number:	0000000
252 Contract Date:	02/01/1901
260 Seismic No:	00000
75 Type Work:	00 0
94 Bridge Imp: Cost:	$139
95 Roadway Imp. Cost:	$14
96 Total Imp Cost:	$208
76 Imp Length:	000000
97 Imp Year:	2013
114 Furure ADT:	114435 Year:2032

Hydralic Data

215Waterway Data:	
High Water Elev:	0000.0 Year:1900
Flood Elev:	0000.0 Freq:00
Avg Streambed Elev:	0000.0
Drainage Area:	00000
Area of Opening:	000084
113 Scour Critical	8
216 Water Depth:	02.0 Br.Height:07.0
222 Slope Protection:	0
221Spur Dikes Rear	0 Fwd:0
219 Fender System	0
220 Dolphin:	0
223 Culvert Cover:	11
Type:	1
No. Barrels:	3
Width:	7.00 Height:4.00
Length:	188 Apron:0
*265 U/W Insp. Area	0 Diver:ZZZ
*Location ID No:	135-00403D-118.44N

Measurements:

*29 ADT	076290 Year:2012
109 %Trucks:	1
* 28 Lanes On:	04 Under:00
210 No. Tracks On:	00 Under:00
* 48 Max. Span Length	0007
* 49 Structure Length:	23
51 Br. Rwdy. Width	0.00
52 Deck Width:	0.00
* 47 Tot. Horiz. Cl:	45
50 Curb / Sidewalk Width	0.00 / 0.00
32 Approach Rdwy. Width	076
*229 Shoulder Width:	
Rear Lt:	4.00 Type:2 Rt:10.00
Fwd. Lt:	4.00 Type:2 Rt:10.00
Pavement Width:	
Rear:	24.00 Type: 2
	24.00 Type: 2
Intersaction Rear:	0 Fwd: 0
36Safety Features Br. Rail:	1
Transition:	1
App. G. Rail:	1
App. Rail End:	1
53 Minimum Cl. Over:	99' 99 "
Under: N	00' 00"
*228 Minimum Vertical Cl	
Act. Odm Dir::	99' 99"
Oppo. Dir:	99' 99"
Posted Odm. Dir:	00' 00"
Oppo. Dir:	00' 00"
55 Lateral Undercl. Rt:	N 0.00
56 Lateral Undercl. Lt:	0.00
*10 Max Min Vert Cl:	99' 99" Dir:0
39 Nav Vert Cl:	000 Horiz:0000
116 Nav Vert Cl Closed:	000
245 Deck Thickness Main	0.00
Deck Thick Approach:	0.00
246 Overlay Thickness:	0.00
212 Year Last Painted:	Sup:0000 Sub:0000

65 Inventory Rating Mathod:	0
63 Operating Rating Method:	0
66 Inventory Type:	2 Rating: 99
64 Operating Type:	2 Rating: 99
231Calculated Loads:	
H-Modified:	00 0
HS-Modified:	00 0
Type 3:	00 0
Type 3s2:	00 0
Timber:	00 0
Piggyback:	00 0
261 H Inventory Rating:	20
262 H Operating Rating	34
67 Structural Evaluation:	6
58 Deck Condition:	N
59 Superstructure Condition:	N
* 227 Collision Damage:	0
60A Substructure Condition:	N
60B Scour Condition:	5
60C Underwater Condition	N
71 Waterway Adequacy:	8
61 Channel Protection Cond.:	5
68 Deck Geometry:	N
69 UnderClr. Horz/Vert:	N
72 Appr. Alignment:	7
62 Culvert:	6

Posting Data

70 Bridge Posting Required	5
41 Struct Open, Posted, CL:	A
* 103 Temporary Structure:	0
232 Posted Loads	
H-Modified:	00
HS-Modified:	00
Type 3:	00
Type 3s2:	00
Timber:	00
Piggyback	00
253 Notification Date:	02/01/1901
258 Fed Notify Date:	02/01/1901

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Processed Date:9/4/2014

Parameters: Bridge Serial Num

Bridge Inventory Data Listing

Structure ID:135-0057-0 S **Gwinnett** **SUFF. RATING:** 85.00

Location & Geography

Structure ID:	135-0057-0
200 Brdge Information:	07
*6A Feature Int:	LITTLE IVY CREEK
*6B Critical Bridge:	0
*7A Route No Carried:	SR00403
*7B Facility Carried:	I-85
9 Location:	4 MI SE OF BUFORD
2 Dot District:	1
207 Year Photo:	2013
*91 Inspection Frequency:	24 Date: 11/14/2013
92A Fract Crit Insp Freq:	0 Date: 02/01/1901
92B Underwater Insp Freq:	0 Date: 02/01/1901
92C Other Spc. Insp Freq:	0 Date: 02/01/1901
* 4 Place Code:	00000
*5 Inventory Route(O/U):	1
Type:	1
Designation:	1
Number:	00085
Direction:	0
*16 Latitude:	34 - 03.4010 HMMS Prefix:SR
*17 Longtitude:	83 - 58.5659 HMMS Suffix:403
	MP: 116.16
98 Border Bridge:	000 % Shared:00
99 ID Number:	000000000000000
*100 STRAHNET:	1
12 Base Highway Network:	1
13A LRS Inventory Route:	1351040300
13B Sub Inventory Route:	1
*101 Parallel Structure:	N
*102 Direction of Traffic:	2
*264 Road Inventory Mile Post:	000.00
*208 Inspection Area:	07 Initials: JPD
Engineer's Initials:	jpd
* Location ID No:	135-00403D-116.17N

*104 Highway System:	1
*26 Functional Classification:	11
*204 Federal Route Type:	I No: 00852
105 Federal Lands Highway:	0
*110 Truck Route:	0
206 School Bus Route:	1
217 Benchmark Elevation:	0000.00
218 Datum:	0
*19 Bypass Length:	04
*20 Toll:	3
*21 Maintanance:	01
*22 Owner:	01
*31 Design Load:	6
37 Historical Significance:	5
205 Congressional District:	7
27 Year Constructed:	1962
106 Year Reconsrtucted:	0000
33 Bridge Median	1
34 Skew:	27
35 Structure Flared:	0
38 Navigation Control:	0
213 Special Steel Design:	0
267 Type of Paint:	0
*42 Type of Service On:	1
Type of Service Under:	5
214 Movable Bridge:	0
203 Type Bridge:	Q - - -
259 Pile Encasement	3
*43 Structure Type Main:	1 19
45 No.Spans Main:	003
44 Structure Type Appr:	0 00
46 No Spans Appr:	0000
226 Bridge Curve Horz	0 Vert: 0.00
111 Pier Protection	0
107 Deck Structure Type:	N
108 Wearing Structure Type:	N
Membrane Type:	N
Deck Protection:	N

Signs & Attachments

225 Expansion Joint Type:	00
242 Deck Drains:	0
243 Parapet Location:	0
Height:	0.00
Width:	0.00
238 Curb Height:	0
Curb Material:	0
239 Handrail	0 0
*240 Median Barrier Rail:	0
241 Bridge Median Height:	0
* Bridge Median Width:	0
230 Guardrail Loc. Dir. Rear:	5
Fwrd:	5
Oppo. Dir. Rear:	5
Oppo. Fwrd:	5
244 Aproach Slab	0
224 Retaining Wall:	0
233Posted Speed Limit:	70
236 Warning Sign:	0.00
234 Delineator:	1.00
235 Hazard Boards:	0
237 Utilities Gas:	00
Water:	00
Electric:	00
Telephone:	00
Sewer:	00
247 Lighting Street:	0
Navigation:	0
Aerial:	0
*248 County Continuity No.:	00

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Bridge Inventory Data Listing

Structure ID:135-0057-0

Programming Data

201 Project No:	I-85-2 (13) 111 CT.1
202 Plans Available:	0
249 Prop Proj No:	00000000000000000000000000
250 Approval Status:	0000
251 PI Number:	0000000
252 Contract Date:	02/01/1901
260 Seismic No:	00000
75 Type Work:	00 0
94 Bridge Imp: Cost:	$175
95 Roadway Imp. Cost:	$18
96 Total Imp Cost:	$263
76 Imp Length:	000000
97 Imp Year:	2013
114 Furure ADT:	114435 Year:2032

Hydralic Data

215Waterway Data:	
High Water Elev:	0000.0 Year:1900
Flood Elev:	0000.0 Freq:00
Avg Streambed Elev:	0000.0
Drainage Area:	00000
Area of Opening:	000192
113 Scour Critical	8
216 Water Depth:	02.4 Br.Height:06.6
222 Slope Protection:	0
221Spur Dikes Rear	0 Fwd:0
219 Fender System	0
220 Dolphin:	0
223 Culvert Cover:	6
Type:	1
No. Barrels:	3
Width:	8.00 Height:8.00
Length:	172 Apron:0
*265 U/W Insp. Area	0 Diver:ZZZ
*Location ID No:	135-00403D-116.17N

Measurements:

*29 ADT	076290 Year:2012
109 %Trucks:	1
* 28 Lanes On:	04 Under:00
210 No. Tracks On:	00 Under:00
* 48 Max. Span Length	0009
* 49 Structure Length:	29
51 Br. Rwdy. Width	0.00
52 Deck Width:	0.00
* 47 Tot. Horiz. Cl:	46
50 Curb / Sidewalk Width	0.00 / 0.00
32 Approach Rdwy. Width	076
*229 Shoulder Width:	
Rear Lt:	4.00 Type:2 Rt:10.00
Fwd. Lt:	4.00 Type:2 Rt:10.00
Pavement Width:	
Rear:	24.00 Type: 2
	24.00 Type: 2
Intersaction Rear:	0 Fwd: 0
36Safety Features Br. Rail:	1
Transition:	1
App. G. Rail:	1
App. Rail End:	1
53 Minimum Cl. Over:	99' 99 "
Under: N	00' 00"
*228 Minimum Vertical Cl	
Act. Odm Dir::	99' 99"
Oppo. Dir:	99' 99"
Posted Odm. Dir:	00' 00"
Oppo. Dir:	00' 00"
55 Lateral Undercl. Rt:	N 0.00
56 Lateral Undercl. Lt:	0.00
*10 Max Min Vert Cl:	99' 99" Dir:0
39 Nav Vert Cl:	000 Horiz:0000
116 Nav Vert Cl Closed:	000
245 Deck Thickness Main	0.00
Deck Thick Approach:	0.00
246 Overlay Thickness:	0.00
212 Year Last Painted:	Sup:0000 Sub:0000

65 Inventory Rating Mathod:	0
63 Operating Rating Method:	0
66 Inventory Type:	2 Rating: 36
64 Operating Type:	2 Rating: 61
231Calculated Loads:	
H-Modified:	00 0
HS-Modified:	00 0
Type 3:	00 0
Type 3s2:	00 0
Timber:	00 0
Piggyback:	00 0
261 H Inventory Rating:	20
262 H Operating Rating	34
67 Structural Evaluation:	7
58 Deck Condition:	N
59 Superstructure Condition:	N
* 227 Collision Damage:	0
60A Substructure Condition:	N
60B Scour Condition:	7
60C Underwater Condition	N
71 Waterway Adequacy:	8
61 Channel Protection Cond.:	8
68 Deck Geometry:	N
69 UnderClr. Horz/Vert:	N
72 Appr. Alignment:	7
62 Culvert:	7

Posting Data

70 Bridge Posting Required	5
41 Struct Open, Posted, CL:	A
* 103 Temporary Structure:	0
232 Posted Loads	
H-Modified:	00
HS-Modified:	00
Type 3:	00
Type 3s2:	00
Timber:	00
Piggyback	00
253 Notification Date:	02/01/1901
258 Fed Notify Date:	02/01/1901

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Processed Date:9/4/2014

Parameters: Bridge Serial Num

Bridge Inventory Data Listing

Structure ID:135-5244-0 S **Gwinnett** **SUFF. RATING:** 85.00

Location & Geography

Structure ID:	135-5244-0
200 Brdge Information:	02
*6A Feature Int:	I-85
*6B Critical Bridge:	0
*7A Route No Carried:	SR00324
*7B Facility Carried:	MT Gravel Springs Rd
9 Location:	4.5 Miles SE of Buford
2 Dot District:	1
207 Year Photo:	2013
*91 Inspection Frequency:	24 Date: 11/14/2013
92A Fract Crit Insp Freq:	0 Date: 02/01/1901
92B Underwater Insp Freq:	0 Date: 02/01/1901
92C Other Spc. Insp Freq:	0 Date: 02/01/1901
* 4 Place Code:	00000
*5 Inventory Route(O/U):	1
Type:	3
Designation:	1
Number:	00324
Direction:	0
*16 Latitude:	34 - 03.7998 HMMS Prefix:SR
*17 Longtitude:	83 - 56.8175 HMMS Suffix:324
	MP: 2.45
98 Border Bridge:	000 % Shared:00
99 ID Number:	000000000000000
*100 STRAHNET:	0
12 Base Highway Network:	1
13A LRS Inventory Route:	13510
13B Sub Inventory Route:	0
*101 Parallel Structure:	N
*102 Direction of Traffic:	2
*264 Road Inventory Mile Post:	002.42
*208 Inspection Area:	07 Initials: JMC
Engineer's Initials:	jpd
* Location ID No:	135-00324D.002.45E

*104 Highway System:	0
*26 Functional Classification:	12
*204 Federal Route Type:	S No: 00998
105 Federal Lands Highway:	0
*110 Truck Route:	0
206 School Bus Route:	1
217 Benchmark Elevation:	0000.00
218 Datum:	0
*19 Bypass Length:	04
*20 Toll:	3
*21 Maintanance:	01
*22 Owner:	01
*31 Design Load:	6
37 Historical Significance:	5
205 Congressional District:	07
27 Year Constructed:	1964
106 Year Reconsrtucted:	2012
33 Bridge Median	2
34 Skew:	23
35 Structure Flared:	0
38 Navigation Control:	N
213 Special Steel Design:	0
267 Type of Paint:	5
*42 Type of Service On:	5
Type of Service Under:	1
214 Movable Bridge:	0
203 Type Bridge:	E - O - M - O
259 Pile Encasement	0
*43 Structure Type Main:	4 02
45 No.Spans Main:	003
44 Structure Type Appr:	0 00
46 No Spans Appr:	000
226 Bridge Curve Horz	0 Vert: 1.00
111 Pier Protection	0
107 Deck Structure Type:	1
108 Wearing Structure Type:	1
Membrane Type:	0
Deck Protection:	0

Signs & Attachments

225 Expansion Joint Type:	15
242 Deck Drains:	0
243 Parapet Location:	0
Height:	0.00
Width:	0.00
238 Curb Height:	1
Curb Material:	1
239 Handrail	1 1
*240 Median Barrier Rail:	0
241 Bridge Median Height:	1
* Bridge Median Width:	32
230 Guardrail Loc. Dir. Rear:	5
Fwrd:	2
Oppo. Dir. Rear:	5
Oppo. Fwrd:	2
244 Aproach Slab	3
224 Retaining Wall:	7
233Posted Speed Limit:	45
236 Warning Sign:	0.00
234 Delineator:	1.00
235 Hazard Boards:	0
237 Utilities Gas:	00
Water:	00
Electric:	00
Telephone:	22
Sewer:	00
247 Lighting Street:	0
Navigation:	0
Aerial:	0
*248 County Continuity No.:	00

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Bridge Inventory Data Listing

Structure ID:135-5244-0

Programming Data

201 Project No:	BRST0-0998-00(001)/142285
202 Plans Available:	3
249 Prop Proj No:	000000000000000000000000
250 Approval Status:	7100
251 PI Number:	0000000
252 Contract Date:	04/02/2009
260 Seismic No:	00000
75 Type Work:	00 0
94 Bridge Imp: Cost:	$1,078
95 Roadway Imp. Cost:	$108
96 Total Imp Cost:	$1618
76 Imp Length:	001598
97 Imp Year:	2013
114 Furure ADT:	116925 Year:2030

Hydralic Data

215Waterway Data:	
High Water Elev:	0000.0 Year:1900
Flood Elev:	0000.0 Freq:00
Avg Streambed Elev:	0000.0
Drainage Area:	00000
Area of Opening:	000000
113 Scour Critical	N
216 Water Depth:	00.0 Br.Height:00.0
222 Slope Protection:	0
221Spur Dikes Rear	0 Fwd:0
219 Fender System	0
220 Dolphin:	0
223 Culvert Cover:	000
Type:	0
No. Barrels:	0
Width:	0.00 Height:0.00
Length:	0 Apron:0
*265 U/W Insp. Area	0 Diver:ZZZ
*Location ID No:	135-00324D.002.45E

Measurements:

*29 ADT	077950 Year:2010
109 %Trucks:	8
* 28 Lanes On:	04 Under:04
210 No. Tracks On:	0 Under:0
* 48 Max. Span Length	0173
* 49 Structure Length:	466
51 Br. Rwdy. Width	56.00
52 Deck Width:	102.40
* 47 Tot. Horiz. Cl:	88
50 Curb / Sidewalk Width	6.00 / 6.00
32 Approach Rdwy. Width	056
*229 Shoulder Width:	
Rear Lt:	2.00 Type:1 Rt:2.00
Fwd. Lt:	2.00 Type:1 Rt:2.00
Pavement Width:	
Rear:	24.00 Type: 2
	24.00 Type: 2
Intersaction Rear:	1 Fwd: 1
36Safety Features Br. Rail:	1
Transition:	1
App. G. Rail:	1
App. Rail End:	1
53 Minimum Cl. Over:	99' 99 "
Under: H	18' 07"
*228 Minimum Vertical Cl	
Act. Odm Dir::	99' 99"
Oppo. Dir:	99' 99"
Posted Odm. Dir:	00' 00"
Oppo. Dir:	00' 00"
55 Lateral Undercl. Rt:	H 22.40
56 Lateral Undercl. Lt:	22.50
*10 Max Min Vert Cl:	99' 99" Dir:3
39 Nav Vert Cl:	000 Horiz:0000
116 Nav Vert Cl Closed:	000
245 Deck Thickness Main	8.40
Deck Thick Approach:	8.40
246 Overlay Thickness:	0.00
212 Year Last Painted:	Sup:2012 Sub:0000

65 Inventory Rating Mathod:	1
63 Operating Rating Method:	1
66 Inventory Type:	2 Rating: 42
64 Operating Type:	2 Rating: 70
231Calculated Loads:	
H-Modified:	21 0
HS-Modified:	30 0
Type 3:	33 0
Type 3s2:	40 0
Timber:	37 0
Piggyback:	40 0
261 H Inventory Rating:	23
262 H Operating Rating	39
67 Structural Evaluation:	8
58 Deck Condition:	8
59 Superstructure Condition:	8
* 227 Collision Damage:	0
60A Substructure Condition:	8
60B Scour Condition:	N
60C Underwater Condition	N
71 Waterway Adequacy:	N
61 Channel Protection Cond.:	N
68 Deck Geometry:	6
69 UnderClr. Horz/Vert:	9
72 Appr. Alignment:	8
62 Culvert:	N

Posting Data

70 Bridge Posting Required	5
41 Struct Open, Posted, CL:	A
* 103 Temporary Structure:	0
232 Posted Loads	
H-Modified:	21
HS-Modified:	30
Type 3:	33
Type 3s2:	40
Timber:	37
Piggyback	40
253 Notification Date:	02/01/1901
258 Fed Notify Date:	02/01/1901

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Processed Date:9/4/2014

Parameters: Bridge Serial Num

Bridge Inventory Data Listing

Structure ID:135-5192-0 **Gwinnett** **SUFF. RATING:** 92.97

Location & Geography

Structure ID:	135-5192-0
200 Brdge Information:	06
*6A Feature Int:	I-85 (SR 403)
*6B Critical Bridge:	0
*7A Route No Carried:	CR00134
*7B Facility Carried:	HAMILTON MILL RD
9 Location:	4.8 MI SE OF BUFORD
2 Dot District:	1
207 Year Photo:	2013
*91 Inspection Frequency:	24 Date: 11/14/2013
92A Fract Crit Insp Freq:	0 Date: 02/01/1901
92B Underwater Insp Freq:	0 Date: 02/01/1901
92C Other Spc. Insp Freq:	0 Date: 02/01/1901
* 4 Place Code:	00000
*5 Inventory Route(O/U):	1
Type:	4
Designation:	1
Number:	00134
Direction:	0
*16 Latitude:	34 - 04.5055 HMMS Prefix:00
*17 Longtitude:	83 - 55.0647 HMMS Suffix:0
	MP: 0.00
98 Border Bridge:	000 % Shared:00
99 ID Number:	000000000000000
*100 STRAHNET:	1
12 Base Highway Network:	1
13A LRS Inventory Route:	1352013400
13B Sub Inventory Route:	1
*101 Parallel Structure:	N
*102 Direction of Traffic:	2
*264 Road Inventory Mile Post:	000.17
*208 Inspection Area:	07 Initials: JPD
Engineer's Initials:	jpd
* Location ID No:	135-00134X-000.17N

*104 Highway System:	1
*26 Functional Classification:	17
*204 Federal Route Type:	0 No: 00000
105 Federal Lands Highway:	0
*110 Truck Route:	0
206 School Bus Route:	1
217 Benchmark Elevation:	0000.00
218 Datum:	0
*19 Bypass Length:	02
*20 Toll:	3
*21 Maintanance:	01
*22 Owner:	01
*31 Design Load:	6
37 Historical Significance:	5
205 Congressional District:	10
27 Year Constructed:	2001
106 Year Reconsrtucted:	0000
33 Bridge Median	0
34 Skew:	15
35 Structure Flared:	0
38 Navigation Control:	0
213 Special Steel Design:	0
267 Type of Paint:	0
*42 Type of Service On:	5
Type of Service Under:	1
214 Movable Bridge:	0
203 Type Bridge:	E - O - O - O
259 Pile Encasement	3
*43 Structure Type Main:	5 02
45 No.Spans Main:	002
44 Structure Type Appr:	0 00
46 No Spans Appr:	0000
226 Bridge Curve Horz	0 Vert: 0.00
111 Pier Protection	0
107 Deck Structure Type:	1
108 Wearing Structure Type:	1
Membrane Type:	0
Deck Protection:	8

Signs & Attachments

225 Expansion Joint Type:	02
242 Deck Drains:	0
243 Parapet Location:	3
Height:	2.80
Width:	1.10
238 Curb Height:	1
Curb Material:	1
239 Handrail	1 1
*240 Median Barrier Rail:	0
241 Bridge Median Height:	0
* Bridge Median Width:	0
230 Guardrail Loc. Dir. Rear:	3
Fwrd:	3
Oppo. Dir. Rear:	0
Oppo. Fwrd:	0
244 Aproach Slab	3
224 Retaining Wall:	8
233Posted Speed Limit:	50
236 Warning Sign:	0.00
234 Delineator:	0.00
235 Hazard Boards:	0
237 Utilities Gas:	00
Water:	21
Electric:	00
Telephone:	00
Sewer:	00
247 Lighting Street:	0
Navigation:	0
Aerial:	0
*248 County Continuity No.:	00

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Bridge Inventory Data Listing

Structure ID:135-5192-0

Programming Data

201 Project No:	IM-00MS (371)
202 Plans Available:	3
249 Prop Proj No:	000000000000000000000000
250 Approval Status:	0000
251 PI Number:	0000000
252 Contract Date:	02/01/1901
260 Seismic No:	00000
75 Type Work:	00 0
94 Bridge Imp: Cost:	$1,570
95 Roadway Imp. Cost:	$157
96 Total Imp Cost:	$2355
76 Imp Length:	000000
97 Imp Year:	2013
114 Furure ADT:	051315 Year:2032

Hydralic Data

215Waterway Data:	
High Water Elev:	0000.0 Year:1900
Flood Elev:	0000.0 Freq:00
Avg Streambed Elev:	0000.0
Drainage Area:	00000
Area of Opening:	000000
113 Scour Critical	N
216 Water Depth:	00.0 Br.Height:00.0
222 Slope Protection:	0
221Spur Dikes Rear	0 Fwd:0
219 Fender System	0
220 Dolphin:	0
223 Culvert Cover:	000
Type:	0
No. Barrels:	0
Width:	0.00 Height:0.00
Length:	0 Apron:0
*265 U/W Insp. Area	0 Diver:ZZZ
*Location ID No:	135-00134X-000.17N

Measurements:

*29 ADT	034210 Year:2012
109 %Trucks:	1
* 28 Lanes On:	05 Under:04
210 No. Tracks On:	00 Under:00
* 48 Max. Span Length	0111
* 49 Structure Length:	221
51 Br. Rwdy. Width	72.00
52 Deck Width:	86.00
* 47 Tot. Horiz. Cl:	72
50 Curb / Sidewalk Width	6.00 / 6.00
32 Approach Rdwy. Width	028
*229 Shoulder Width:	
Rear Lt:	2.00 Type:1 Rt:2.00
Fwd. Lt:	2.00 Type:1 Rt:2.00
Pavement Width:	
Rear:	24.00 Type: 2
	24.00 Type: 2
Intersaction Rear:	0 Fwd: 0
36Safety Features Br. Rail:	1
Transition:	1
App. G. Rail:	1
App. Rail End:	1
53 Minimum Cl. Over:	99' 99 "
Under: H	17' 02"
*228 Minimum Vertical Cl	
Act. Odm Dir::	99' 99"
Oppo. Dir:	99' 99"
Posted Odm. Dir:	00' 00"
Oppo. Dir:	00' 00"
55 Lateral Undercl. Rt:	H 34.40
56 Lateral Undercl. Lt:	30.00
*10 Max Min Vert Cl:	99' 99" Dir:0
39 Nav Vert Cl:	000 Horiz:0000
116 Nav Vert Cl Closed:	000
245 Deck Thickness Main	7.50
Deck Thick Approach:	0.00
246 Overlay Thickness:	0.00
212 Year Last Painted:	Sup:0000 Sub:0000

65 Inventory Rating Mathod:	2
63 Operating Rating Method:	2
66 Inventory Type:	2 Rating: 34
64 Operating Type:	2 Rating: 57
231Calculated Loads:	
H-Modified:	21 0
HS-Modified:	30 0
Type 3:	33 0
Type 3s2:	40 0
Timber:	37 0
Piggyback:	00 0
261 H Inventory Rating:	27
262 H Operating Rating	69
67 Structural Evaluation:	7
58 Deck Condition:	8
59 Superstructure Condition:	8
* 227 Collision Damage:	0
60A Substructure Condition:	8
60B Scour Condition:	N
60C Underwater Condition	N
71 Waterway Adequacy:	N
61 Channel Protection Cond.:	N
68 Deck Geometry:	6
69 UnderClr. Horz/Vert:	9
72 Appr. Alignment:	5
62 Culvert:	N

Posting Data

70 Bridge Posting Required	5
41 Struct Open, Posted, CL:	A
* 103 Temporary Structure:	0
232 Posted Loads	
H-Modified:	00
HS-Modified:	00
Type 3:	00
Type 3s2:	00
Timber:	00
Piggyback	00
253 Notification Date:	02/01/1901
258 Fed Notify Date:	02/01/1901

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