ORIGINAL TO GENERAL FILES

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

OFFICE OF DESIGN POLICY & SUPPORT
INTERDEPARTMENTAL CORRESPONDENCE

FILE P.I. # 0010418
Fulton County
GDOT District 7 - Metro Atlanta
SR 120 from CR 119/State Bridge Rd. to
CR 65/Jones Bridge Rd.
Widening and Improvements

OFFICE Design Policy & Support

DATE August 14, 2014

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
Kathy Zahul, 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
Jeff Fletcher, Statewide Location Bureau Chief
Rachel Brown, District Engineer
Scott Lee, District Preconstruction Engineer
Patrick Allen, District Utilities Engineer
Peter Emanuel, Project Manager
BOARD MEMBER - 6th Congressional District

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
PROJECT CONCEPT REPORT

Project Type:	Widening	P.I. Number:	0010418
GDOT District:	7	County:	Fulton
Federal Route Number:	N/A	State Route Number:	120

SR 120/Kimball Bridge Road Widening from State Bridge to Jones Bridge

Submitted for approval:

Brian O'C — T.Y. Lin International — 6/18/14
Consultant Designer & Firm — DATE

City of Johns Creek — 6/18/14
Local Government — DATE

Albert Shelby — 6.20.14
Office Head *(Project Manager's Office)* — DATE

6/19/14
GDOT Project Manager — DATE

Recommendation for approval:

Program Control Administrator — DATE

* Hiral Patel / KLP — 6-24-2014
State Environmental Administrator — DATE

* Kathy Zahul / KLP — 6-30-2014
State Traffic Engineer — DATE

* Lisa Myers / KLP — 6-25-2014
Project Review Engineer — DATE

* Jun Birnkammer / KLP — 6-27-2014
State Utilities Engineer — DATE

District Engineer — DATE

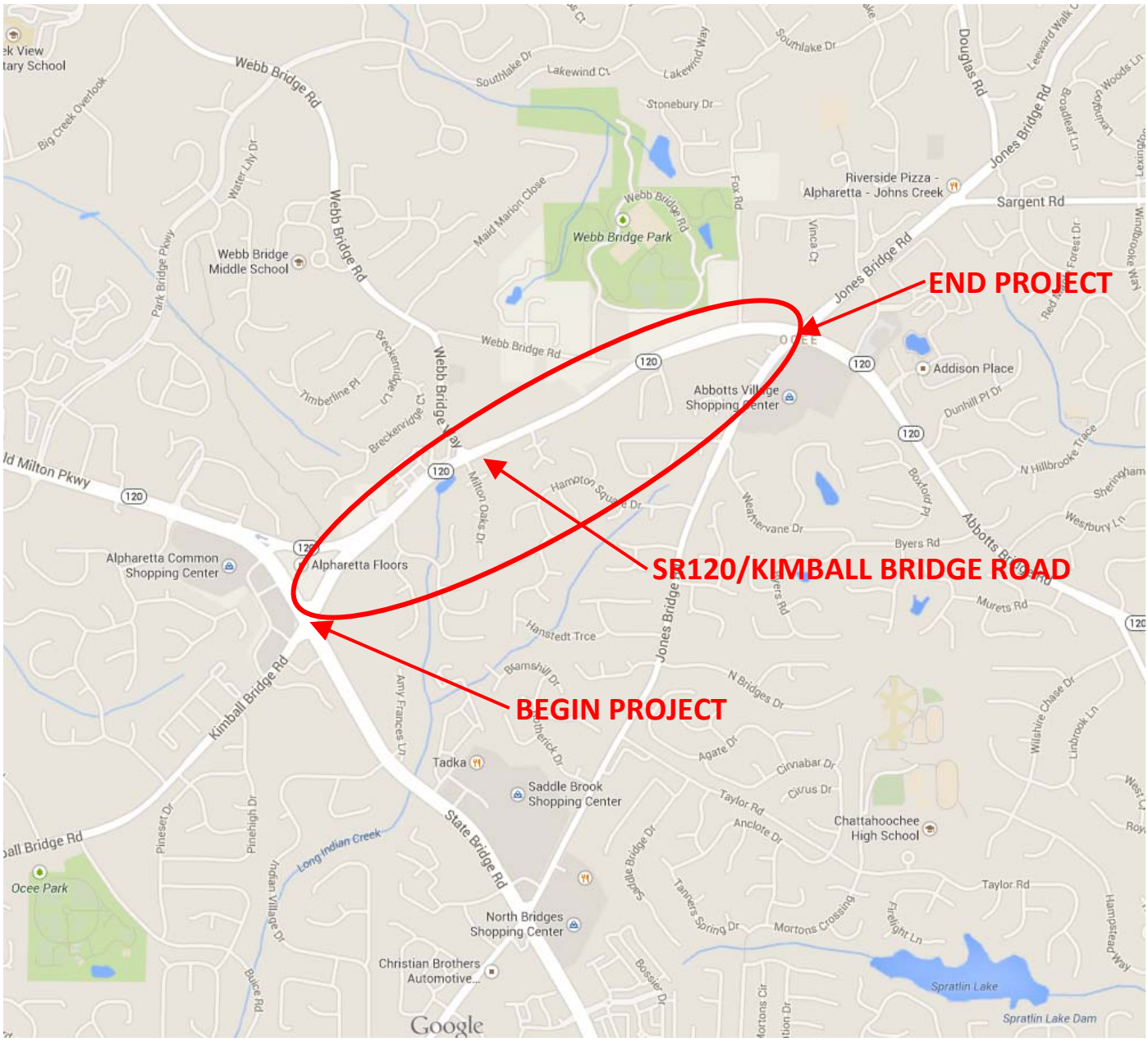
State Transportation Financial Management Administrator — DATE

The ~~concept as presented herein and submitted for approval~~ is consistent with that which is included in the Regional Transportation Plan (RTP) and/or the State Transportation Improvement Program (STIP).

Cynthia L Vaughn — 7-3-14
State Transportation Planning Administrator — DATE

* Recommendation on file

PROJECT LOCATION



SR 120/Kimball Bridge Road Widening from State Bridge to Jones Bridge

PLANNING & BACKGROUND DATA

Project Justification Statement: The existing SR 120 / Kimball Bridge Road section between State Bridge Road and Jones Bridge Road experience high levels of peak-hour congestion in current conditions. By 2020, many of the intersections will experience unacceptable delays with level-of-service E or F. The intersection delays will worsen through the proposed design year of 2040. The corridor is completely built out with many residential and mixed commercial uses (schools, churches, parks, retail and office buildings) depending on access to SR 120/Kimball Bridge Road. Addressing capacity and operational issues on SR 120/Kimball Bridge Road was identified as a top priority project by the cities of Johns Creek and Alpharetta. Improved connectivity and safety for pedestrians and bicycles also are goals of the project.

Description of the proposed project: The project will widen 1.25 miles of SR 120/Kimball Bridge Road from 2 to 4 lanes from State Bridge Road to Jones Bridge Road and will include the addition of an 8 to 10 foot enhanced sidewalk on both sides. The roadway serves as the border between the Cities of Johns Creek and Alpharetta in Fulton County. The roadway itself and all parcels to the south are within Johns Creek while all parcels to the north are within Alpharetta. The improvements include reconfiguring existing operational right-of-way to accommodate four lanes where the existing two lanes create bottleneck conditions. The project also includes operational improvements to medians, turn lanes, and traffic signals, and reconfiguration of the existing pavement and ROW to add two through lanes. The through lanes would connect to the existing four-lane sections and eliminate the bottleneck. SR 120/Kimball Bridge Road within the intersections with State Bridge Road and Jones Bridge Road has previously been widened to the ultimate 4-lane width and this project will connect to those sections. Of the 1.25-mile length, 55 percent of the widening is located within existing pavement, while 2,400 feet would require some additional ROW to accommodate the through lanes along with enhanced sidewalk and pedestrian facilities. Lighting and landscaping along the corridor will be included as part of this project.

Federal Oversight: ☐ Full Oversight ☒ Exempt ☐ State Funded ☐ Other

MPO: Atlanta Regional Commission (ARC) MPO Project ID FN-263

Regional Commission: Atlanta Regional Commission RC Project ID FN-263

Congressional District(s): 6

Projected Traffic: ADT

Current Year: 30,430 (2013) Open Year: 36,240 (2020) Design Year: 52,850 (2040)
Traffic Projections Performed by: URS

Functional Classification (Mainline): Urban Minor Arterial Street

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

Is this project on a designated Bike Route, Pedestrian Plan, or Transit Network?
☐ None ☐ Bike Route ☒ Pedestrian Plan ☐ Transit Network

CONTEXT SENSITIVE SOLUTIONS

Issues of Concern:

- Impacts to existing neighborhoods and commercial developments
- Access to commercial developments
- Impacts to potential historic properties
- Impacts and access to Webb Bridge Park (City of Alpharetta)
- Impacts to Big Creek Primitive Baptist Church, Bridgeway Christian Academy, and Messiah Lutheran Church

Context Sensitive Solutions: The project team has individuals from multiple disciplines working together to provide an effective and efficient solution. The environmental special studies were started early to identify potential impacts to community or environmental resources. This area blends residential neighborhoods with commercial properties and the success of the commercial properties is very import to the Cities of Johns Creek and Alpharetta. Improving or maintaining access to these developments will be vital to the long-term success of this facility. Stakeholder meetings have been held with several of the neighborhoods, the Lutheran Church, Bridgeway Christian Academy and Alpharetta Parks to obtain input on what these stakeholders would like to see as a part of the project. This stakeholder input will be blended with the project objectives to achieve support. Access to Webb Bridge Park is very important to the residents and adding enhanced sidewalks to both sides of the project concept is a direct result of this input. Retaining walls and other measures will be developed to reduce or eliminate impacts to commercial, residential and spiritual properties throughout the corridor.

DESIGN AND STRUCTURAL DATA

Mainline Design Features: SR 120/Kimball Bridge Road

Feature	Existing	Standard*	Proposed
Typical Section			
- **Number of Lanes**	**2**	**4**	**4**
- **Lane Width(s)**	**12’**	**11-12’**	**11-12’**
- **Median Width & Type**	**Raised and depressed grass with varying widths**	**Raised 20’**	**Match existing where widened with 20’ raised grassed medians in**

			proposed sections
- **Outside Shoulder or Border Area Width**	**Mixed Curb & Gutter and 2' paved shoulder**	**N/A**	**16-foot urban shoulders with 2'-6" Curb & Gutter**
- **Outside Shoulder Slope**	**Varies**	**2:1/4:1**	**4:1 with 2:1 MAX**
- **Inside Shoulder Width**	**2' paved in rural sections**	**N/A**	**N/A**
- **Sidewalks**	**5' and 8' sections**	**5'**	**8' to 10' enhanced**
- **Auxiliary Lanes**	**LT and RT turn lanes**	**LT and RT turn lanes**	**LT and RT turn lanes**
- **Bike Lanes**	**None**	**None**	**8' to 10' enhanced sidewalk**
Posted Speed	**45 mph**		**45 mph**
Design Speed	**45 mph**	**45 mph**	**45 mph**
Min Horizontal Curve Radius	**1500'**	**711'**	**1500'**
Superelevation Rate	**3.25%**	**4.00%**	**3.25%**
Grade	**6.00%**	**6.00%**	**6.00%**
Access Control	**Permit**	**Permit**	**Permit**
Right-of-Way Width	**Varies 52' to 195'**		**Varies 110' to 195'**
Maximum Grade – Crossroad	**10%**	**10%**	**10%**
Design Vehicle		**WB-67**	**WB-67**

*According to current GDOT design policy if applicable

Major Structures: N/A

Major Interchanges/Intersections: Signalized intersection at SR 120/Kimball Bridge Road and State Bridge Road, SR120/Kimball Bridge Road and Webb Bridge Road and SR 120/Kimball Bridge Road and Jones Bridge Road.

Utility Involvements:
Power – Sawnee EMC, Georgia Power Company and Georgia Transmission Corp
Gas – AGL
Communications – AT&T, Verizon Business
Cable – Comcast
Water and Sewer – Fulton County Water

Public Interest Determination Policy and Procedure recommended (Utilities)? ☒ No ☐ Yes

SUE Required: ☐ No ☒ Yes
Railroad Involvement: None

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

Warrants met: ☐ None ☒ Bicycle ☒ Pedestrian ☐ Transit

Pedestrian and Bicycle Warrants met for the corridor due to the residential neighborhoods, commercial areas, schools and public parks along the corridor. The project will incorporate 8 to 10-foot enhanced sidewalks on both sides of the proposed project to accommodate the pedestrian and bicycle traffic while providing ties to the existing enhanced sidewalks in the project area.

Right-of-Way:

Required Right-of-Way anticipated: ☐ No ☒ Yes ☐ Undetermined
Easements anticipated: ☐ None ☒ Temporary ☒ Permanent ☐ Utility ☐ Other

Anticipated number of impacted parcels:		33
Displacements anticipated:	Total:	2
	Businesses:	0
	Residences:	2
	Other:	

Location and Design approval: ☐ Not Required ☒ Required

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	No	Undeter -mined	Yes	Appvl Date (if applicable)
1. Design Speed	☒	☐	☐	
2. Lane Width	☒	☐	☐	
3. Shoulder Width	☒	☐	☐	
4. Bridge Width	☒	☐	☐	
5. Horizontal Alignment	☒	☐	☐	
6. Superelevation	☒	☐	☐	
7. Vertical Alignment	☒	☐	☐	
8. Grade	☒	☐	☐	
9. Stopping Sight Distance	☒	☐	☐	
10. Cross Slope	☒	☐	☐	
11. Vertical Clearance	☒	☐	☐	
12. Lateral Offset to Obstruction	☒	☐	☐	
13. Bridge Structural Capacity	☒	☐	☐	

Design Variances to GDOT Standard Criteria anticipated:

GDOT Standard Criteria	Reviewing Office	No	Undeter--mined	Yes	Appvl Date (if applicable)
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 & Transit 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	☒	☐	☐	

The existing intersection skews of SR 120/Kimball Bridge Road with Jones Bridge Road and State Bridge Road are both currently less than 70 degrees. The intent of this project is to tie to these existing intersections without completing any work within the intersections themselves as they have already built to the ultimate width in previous projects. Therefore, design variance/exceptions are not anticipated in this project.

VE Study anticipated: ☒ No ☐ Yes ☐ Completed – Date:

ENVIRONMENTAL DATA

Anticipated Environmental Document:

GEPA: ☐ **NEPA:** ☒ CE ☐ EA/FONSI ☐ EIS

Received conditional FHWA concurrence at the concept meeting May 27, 2014 (see attached minutes).

Project 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 project matches the conforming model.

MS4 Compliance – Is the project located in an MS4 area? ☐ No ☒ Yes
See attached preliminary concept-level investigation attached.

Environmental Permits/Variances/Commitments/Coordination anticipated:

Permit/ Variance/ Commitment/ Coordination Anticipated	No	Yes	Remarks
1. U.S. Coast Guard Permit	☒	☐	
2. Forest Service/Corps Land	☒	☐	
3. CWA Section 404 Permit	☐	☒	Culvert Extension
4. Tennessee Valley Authority Permit	☒	☐	
5. Buffer Variance	☐	☒	Maintenance Type A for Pond
6. Coastal Zone Management Coordination	☒	☐	
7. NPDES	☐	☒	Disturbed Area > 1 Acre
8. FEMA	☒	☐	
9. Cemetery Permit	☒	☐	
10. Other Permits	☒	☐	
11. Other Commitments	☒	☐	
12. Other Coordination	☒	☐	

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

NEPA/GEPA: The field surveys for the special studies have been completed and the reports are being prepared for submittal. The NEPA document is being discussed to determine the level of document required for the project.

Ecology: Field survey of the project has been completed and a draft ecology report is being developed. Identified one pond and an associated stream at a drainage outfall located within the survey area. A culvert extension may be necessary while the pond would be avoided. Potentially suitable habitats for the Pink Ladyslipper and the Georgia Aster have been identified. The projects will be will be surveyed during the specified survey windows for each as they occur.

History: Six properties of 50 years or older within the APE; two of the properties may be eligible historic resources: a church with associated cemetery on 4490 State Bridge Way and a farm complex located at 4505 Kimball Bridge Road. Minor frontage may be required at these properties to fit the proposed sidewalks; within size and percentage of setback typically approved for finding of de minimis. Draft history reports have been submitted to GDOT-OES and will be submitted to SHPO for concurrence following approval.

Archeology: Five previously recorded sites are located within the APE for archeology, none of which were determined to be eligible. Draft archeology reports have been submitted to GDOT-OES and will be submitted to SHPO for concurrence following approval.

Air & Noise: Waiting for approved traffic volumes to conduct studies.

Public Involvement: Stakeholder Meetings held (6) - City of Alpharetta Parks (03/26/14), Bridgeway Christian Academy (03/27/14), Kimball Parc HOA (04/01/14), Brookhollow HOA (04/08/14), Ashlee Oaks HOA (04/09/14), Messiah Lutheran Church (04/16/14)

PIOH scheduled for August 19, 2014.

Major stakeholders: City of Johns Creek, City of Alpharetta, Big Creek Primitive Baptist Church, Bridgeway Christian Academy, Messiah Lutheran Church, Commercial business owners and residential neighborhoods

CONSTRUCTION

Issues potentially affecting constructability/construction schedule: The existing corridor has very high traffic volumes and is very congested during both AM and PM peak hours. Restricted work hours are recommended during construction. Traffic through the corridor will need to be maintained during construction and detailed staging plans will be required to accomplish this.
Early Completion Incentives recommended for consideration: ☒ No ☐ Yes

PROJECT RESPONSIBILITIES

Project Activities:

Project Activity	Party Responsible for Performing Task(s)
Concept Development	City of Johns Creek/T.Y. Lin International
Design	City of Johns Creek/T.Y. Lin International
Right-of-Way Acquisition	City of Johns Creek
Utility Relocation	Utility Companies
Letting to Contract	City of Johns Creek
Construction Supervision	City of Johns Creek
Providing Material Pits	Contractor
Providing Detours	N/A
Environmental Studies, Documents, and Permits	City of Johns Creek/Adrian Collaborative and URS
Environmental Mitigation	City of Johns Creek/Adrian Collaborative
Construction Inspection & Materials Testing	City of Johns Creek

Lighting required: ☐ No ☒ Yes

Initial Concept Meeting: December 5, 2013 (minutes attached)

Concept Meeting: May 27, 2014 (minutes attached)

Other projects in the area:

- Design of SR 120 Operational and Safety Improvements from Jones Bridge Road to Parsons Road (PI 0007310, City of Johns Creek)
- Design of Jones Bridge Road Widening from State Bridge Road to Abotts Bridge Road (local engineering project)
- Long range project to widen Old Milton Parkway to six lanes from GA 400 to Kimball Bridge Road

- Design of SR 120 Operational and Safety Improvements from Parsons Road to SR 141/Medlock Bridge Road (PI 0012788, City of Johns Creek)
- Design of SR 120 Widening from Medlock Bridge Road to Peachtree Industrial Blvd (PI 721000-, GDOT)

Other coordination to date: Stakeholder meeting notes attached.

Project Cost Estimate and Funding Responsibilities:

	Breakdown of PE	ROW	Reimbursable Utility	CST*	Environmental Mitigation	Total Cost
By Whom	Federal/ GDOT	GDOT	GDOT	GDOT	GDOT	
$ Amount	930,757	5,331,000	0	6,166,170	N/A	12,427,927
Date of Estimate	2013	2014	2014	2014		

*CST Cost includes: Construction, Engineering and Inspection, Ŏ2yŭʎyƎŜyŎʎŜǎ and Liquid AC Cost Adjustment.

ALTERNATIVES DISCUSSION

Alternative selection:

Preferred Alternative: *Widen the existing roadway along the existing alignment utilizing the existing pavement on the east and west ends to convert from 2-lane to 4-lane operations. Widen the middle portion of the project from 2 lanes to 4 lanes utilizing the existing pavement where possible with minor alignment changes to minimize ROW impacts. The existing medians will remain as is with the new median constructed as a 20'foot raised grassed median. Left and right turn lanes will be provided for neighborhood, church, school and business entrances. 12-foot lanes will be used throughout the project with 16-foot urban outside shoulders with 8 to 10-foot enhanced sidewalks. In addition to the mainline, Webb Bridge Road will be reconnected to SR 120/Kimball Bridge Road to alleviate some of the traffic which currently flows through the Webb Bridge Way intersection.*			
Estimated Property Impacts:	**33**	**Estimated Total Cost:**	**$12.4 million**
Estimated ROW Cost:	**$5.3 million**	**Estimated CST Time:**	**12 months**
Rationale: *This alternative was selected as it results in reduced commercial property and utility impacts through the corridor and uses the existing pavement to reduce construction costs. The enhanced sidewalks will provide improved pedestrian and bicycle access within the corridor.*			

No-Build Alternative: *The existing pavement has been widened on the east and west ends of the project as part of pervious projects. These sections are currently striped to 1 lane in each direction to tie to the existing 2-lane portion in the middle of the project. Significant delays are observed throughout this corridor during peak hours as well as during church services on Sundays. The school and churches employ police officers during peak hours to aid in access, causing frustration for the through traffic.*			
Estimated Property Impacts:	**0**	**Estimated Total Cost:**	**$0**
Estimated ROW Cost:	**$0**	**Estimated CST Time:**	**N/A**
Rationale: *Adjacent projects along SR 120 and Old Milton Parkway are under current design or are planned for the future. This will bring additional volumes through this already congested corridor.*			

Alternative 1: *Widen the existing roadway along the existing alignment utilizing the existing pavement on the east and west ends to convert from 2-lane to 4-lane operations with a shift of the travel lanes to the north with additional pavement. Widen the middle portion of the project from 2 lanes to 4 lanes to align with the northern shift to avoid 2 residential relocations in the Kimball Parc subdivision. The shift to the north will result in parking reductions for several commercial facilities, major impacts to aerial and underground utilities and reduced storage on Kimball Bridge Way. The existing medians will be reduced to allow for the lane shifts and the new median constructed as a 20'foot raised grassed median. Left and right turn lanes will be provided for neighborhood, church, school and business entrances. 11-foot lanes will be used throughout the project with 16-foot urban outside shoulders with 8 to 10-foot enhanced sidewalks.*			
Estimated Property Impacts:	**33**	**Estimated Total Cost:**	**$14.5 million**
Estimated ROW Cost:	**$4.5 million**	**Estimated CST Time:**	**18 months**
Rationale: *Additional construction costs and time will be required due to the impacts to existing utilities and commercial properties as well as for the additional pavement reconstruction required to complete the lane shift.*			

Comments:

Attachments:

1. Concept Layout
2. Typical sections
3. Detailed Cost Estimates:
    a. Construction including Engineering and Inspection
    b. Completed Fuel & Asphalt Price Adjustment forms
    c. Right-of-Way
    d. Utilities
4. Traffic diagrams
5. Concept-Level study for MS4 Permit
6. Lighting Commitment Letter
7. Minutes of Concept meetings
8. Minutes of any meetings that shows support or objection to the concept
9. Pavement Information

APPROVALS

Concur: _____
Director of Engineering

Approve: _____ 8-7-14
Chief Engineer Date

CITY OF JOHNS CREEK

SR 120/KIMBALL BRIDGE ROAD WIDENING

PREFERRED ALTERNATIVE

5/21/2014 3:56:08 PM	GPLOT-V8	T:\Atlanta\Projects\2013\45.8475.00 - City of Johns Creek SR 120 CID\Drawings\Concept\00104I8_TYPS.dgn	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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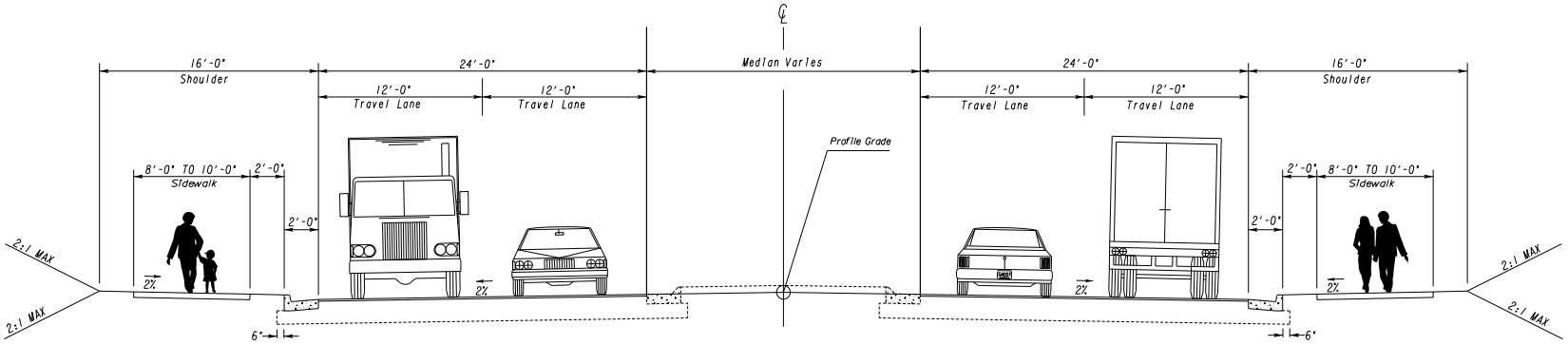
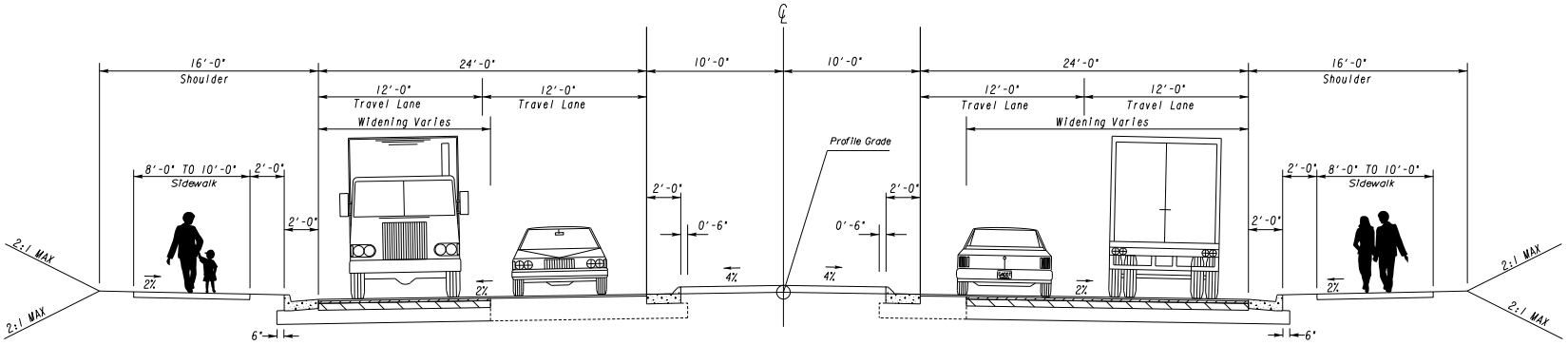


TYPICAL SECTION #1



TYPICAL SECTION #2

CITY OF JOHNS CREEK GEORGIA

TYLIN INTERNATIONAL
260 PEACHTREE STREET SUITE 900
ATLANTA, GEORGIA 30303
PHONE: (404) 841-7886 FAX: (404) 841-7887

NOT TO SCALE

REVISION DATES		

CITY OF JOHNS CREEK
GEORGIA

TYPICAL SECTIONS

SR 120 / KIMBALL BRIDGE RD
WIDENING

DRAWING No.
05-001

12/14/2012 GPLN

STATE HIGHWAY AGENCY

DATE : 06/16/2014
PAGE : 1

JOB ESTIMATE REPORT

JOB NUMBER : 0010418 SPEC YEAR: 13
DESCRIPTION: SR 120/KIMBALL BRIDGE ROAD WIDENING
FROM STATE BRIDGE ROAD TO JONES BRIDGE ROAD

ITEMS FOR JOB 0010418

LINE	ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0005	150-1000		LS	TRAFFIC CONTROL - 0010418	1.000	300000.00	300000.00
0010	163-0001		LS	EROSION CONTROL, NON-REFUNDABLE DEDUCT	1.000	350000.00	350000.00
0020	210-0100		LS	GRADING COMPLETE - 0010418	1.000	400000.00	400000.00
0025	310-1101		TN	GR AGGR BASE CRS, INCL MATL	14600.000	19.37	282861.28
0030	318-3000		TN	AGGR SURF CRS	500.000	21.40	10704.24
0035	402-1812		TN	RECYL AC LEVELING,INC BM&HL	105.000	90.25	9476.87
0040	402-3113		TN	RECYL AC 12.5MM SP,GP1/2,BM&HL	5600.000	73.91	413921.09
0045	402-3121		TN	RECYL AC 25MM SP,GP1/2,BM&HL	4400.000	71.25	313543.74
0050	402-3190		TN	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	2200.000	74.10	163028.03
0055	413-1000		GL	BITUM TACK COAT	4100.000	3.18	13040.91
0060	432-5010		SY	MILL ASPH CONC PVMT,VARB DEPTH	54400.000	1.85	101002.30
0064	439-0022		SY	PLN PC CONC PVMT CL3 10 THK	305.000	57.00	17387.20
0065	441-0018		SY	DRIVEWAY CONCRETE, 8 IN TK	1050.000	39.70	41690.67
0069	441-0104		SY	CONC SIDEWALK, 4 IN	1050.000	33.55	35234.06
0070	441-0106		SY	CONC SIDEWALK, 6 IN	9500.000	34.00	323036.67
0075	441-0748		SY	CONC MEDIAN, 6 IN	3900.000	34.43	134313.74
0080	441-4030		SY	CONC VALLEY GUTTER, 8 IN	210.000	40.07	8416.45
0085	441-6222		LF	CONC CURB & GUTTER/ 8X30TP2	14700.000	14.13	207733.64
0090	441-6740		LF	CONC CURB & GUTTER/ 8X30 TP7	14700.000	11.92	175368.80
0095	444-1000		LF	SAWED JTS IN EXIST PVMTS - PCC	210.000	4.21	885.62
0100	446-1100		LF	PVMT REF FAB STRIPS, TP2,18 INCH WIDTH	210.000	7.74	1626.31
0105	500-3110		LF	CLASS A CONCRETE, TYPE P1, RETAINING WAL	1200.000	401.69	482035.22
0110	550-1180		LF	STM DR PIPE 18,H 1-10	6900.000	33.66	232300.85
0115	550-1240		LF	STM DR PIPE 24,H 1-10	3500.000	36.42	127492.86
0120	550-4224		EA	FLARED END SECT 24 IN, ST DR	8.000	639.51	5116.10
0125	603-2180		SY	STN DUMPED RIP RAP, TP 3, 12	105.000	49.17	5162.95
0130	603-7000		SY	PLASTIC FILTER FABRIC	105.000	3.86	406.28
0135	647-1000		LS	TRAF SIGNAL INSTALLATION NO - 0010418	1.000	300000.00	300000.00
0140	653-1501		LF	THERMO SOLID TRAF ST 5 IN, WHI	200000.000	0.50	100000.00
0145	668-1100		EA	CATCH BASIN, GP 1	41.000	2239.55	91821.78
0150	681-3600		EA	LIGHTING STD, SPCL DES	147.000	3215.79	472722.04
ITEM TOTAL							5120329.67
INFLATED ITEM TOTAL							5120329.67

TOTALS FOR JOB 0010418

ESTIMATED COST:	5120329.70
CONTINGENCY PERCENT (0):	0.00

STATE HIGHWAY AGENCY

DATE : 06/16/2014
PAGE : 1

JOB ESTIMATE REPORT

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE P.I. No. **10418**

OFFICE Program Delivery

PROJECT DESCRIPTION

SR 120/Kimball Bridge Road Widening from State Bridge to Jones Bridge

DATE July 16, 2014

From: Chris Haggard, City of Johns Creek

To: Lisa L. Myers, State Project Review Engineer

Subject: REVISIONS TO PROGRAMMED COSTS

MGMT LET DATE

PROJECT MANAGER Peter Emmanuel

MGMT ROW DATE

PROGRAMMED COSTS (TPro W/OUT INFLATION)			**LAST ESTIMATE UPDATE**	
CONSTRUCTION	$	8,946,150.00	DATE	4/1/2011
RIGHT OF WAY	$	9,465,000.00	DATE	11/12/2013
UTILITIES	$		DATE	

REVISED COST ESTIMATES

CONSTRUCTION*	$	6,166,170.70
RIGHT OF WAY	$	5,331,000.00
UTILITIES	$	

*Cost Contains **10** % Contingency

REASONS FOR COST INCREASE AND CONTINGENCY JUSTIFICATION:

Contingency set at 10% due to the project adding capacity.

CONTINGENCY SUMMARY

A.	CONSTRUCTION COST ESTIMATE:	$ 5,120,329.00	Base Estimate From CES		
B.	ENGINEERING AND INSPECTION (E & I):	$ 256,016.45	Base Estimate (A) x	5	%
C.	CONTINGENCY:	$ 537,634.55	Base Estimate (A) + E & I (B) x See % Table in "Risk Based Cost Estimation" Memo	10	%
D.	TOTAL LIQUID AC ADJUSTMENT:	$ 252,190.70	Total From Liquid AC Spreadsheet		
E.	CONSTRUCTION TOTAL:	$ 6,166,170.70	(A + B + C + D = E)		

REIMBURSABLE UTILTY COSTS

UTILITY OWNER	REIMBURSABLE COST
TOTAL	$ -

ATTACHMENTS:

Detailed Cost Estimate Printout From TRAQS
Liquid AC Adjustment Spreadsheet

PROJ. NO.	10418	CALL NO.	9/29/2009
P.I. NO.	0010418		
DATE	7/16/2014		

INDEX (TYPE)	**DATE**	**INDEX**
REG. UNLEADED	Jul-14	$ 3.589
DIESEL		$ 3.867
LIQUID AC		$ 574.00

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)				**222310.2**	**$ 222,310.20**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$	918.40	
Monthly Asphalt Cement Price month project let (APL)			$	574.00	
Total Monthly Tonnage of asphalt cement (TMT)				645.5	

ASPHALT	**Tons**	**%AC**	**AC ton**
Leveling	110	5.0%	5.5
12.5 OGFC		5.0%	0
12.5 mm	5900	5.0%	295
9.5 mm SP		5.0%	0
25 mm SP	4600	5.0%	230
19 mm SP	2300	5.0%	115
	12910		**645.5**

BITUMINOUS TACK COAT

Price Adjustment (PA)			**$**	**6,360.70**	**$ 6,360.70**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$	918.40	
Monthly Asphalt Cement Price month project let (APL)			$	574.00	
Total Monthly Tonnage of asphalt cement (TMT)				18.46893396	

Bitum Tack Gals	gals/ton	tons
4300	232.8234	18.468934

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)				**23519.80084**	**$ 23,519.80**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$	918.40	
Monthly Asphalt Cement Price month project let (APL)			$	574.00	
Total Monthly Tonnage of asphalt cement (TMT)				68.29210466	

Bitum Tack	SY	Gals/SY	Gals	gals/ton	tons
Single Surf. Trmt.	52000	0.20	10400	232.8234	44.66904959
Double Surf.Trmt.	12500	0.44	5500	232.8234	23.62305507
Triple Surf. Trmt		0.71	0	232.8234	0
					68.29210466

TOTAL LIQUID AC ADJUSTMENT **$ 252,190.70**

GEORGIA DEPARTMENT OF TRANSPORTATION
PRELIMINARY ROW COST ESTIMATE SUMMARY

Date: 6/11/2014
Revised:

Project: SR 120/Kimball Bridge Rd
County: Fulton
PI: 10418

Description: Road Widening
Project Termini: SR 120 - Old Milton Pkwy to Jones Bridge Rd

Existing ROW: Varies
Parcels: 33
Required ROW: 120'

Land and Improvements		$4,568,865.00
Proximity Damage	*$250,000.00*	
Consequential Damage	*$0.00*	
Cost to Cures	*$250,000.00*	
Trade Fixtures	*$0.00*	
Improvements	*$1,250,000.00*	
Valuation Services		$85,000.00
Legal Services		$209,775.00
Relocation		$146,000.00
Demolition		$37,500.00
Administrative		$283,500.00
TOTAL ESTIMATED COSTS		$5,330,640.00
TOTAL ESTIMATED COSTS (ROUNDED)		***$5,331,000.00***

Preparation Credits	Hours	Signature

Prepared By: CG#: 06-11-14
Approved By: CG#: (DATE)

NOTE: No Market Appreciation is included in this Preliminary Cost Estimate

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTER-DEPARTMENT CORRESPONDENCE

FROM: Patrick Allen, P.E. District Utilities Engineer **DATE:** June 4, 2014

TO: Peter Emmanuel, Project Manager

SUBJECT: PRELIMINARY UTILITY COST ESTIMATE – P.I. No. 0010418 – SR 120 FM CR 119/State Bridge RD TO CR 65/Jones Bridge Road, Fulton County

As requested by your office, we are furnishing you with a Preliminary Cost Estimate for each utility with facilities potentially located with the project limits.

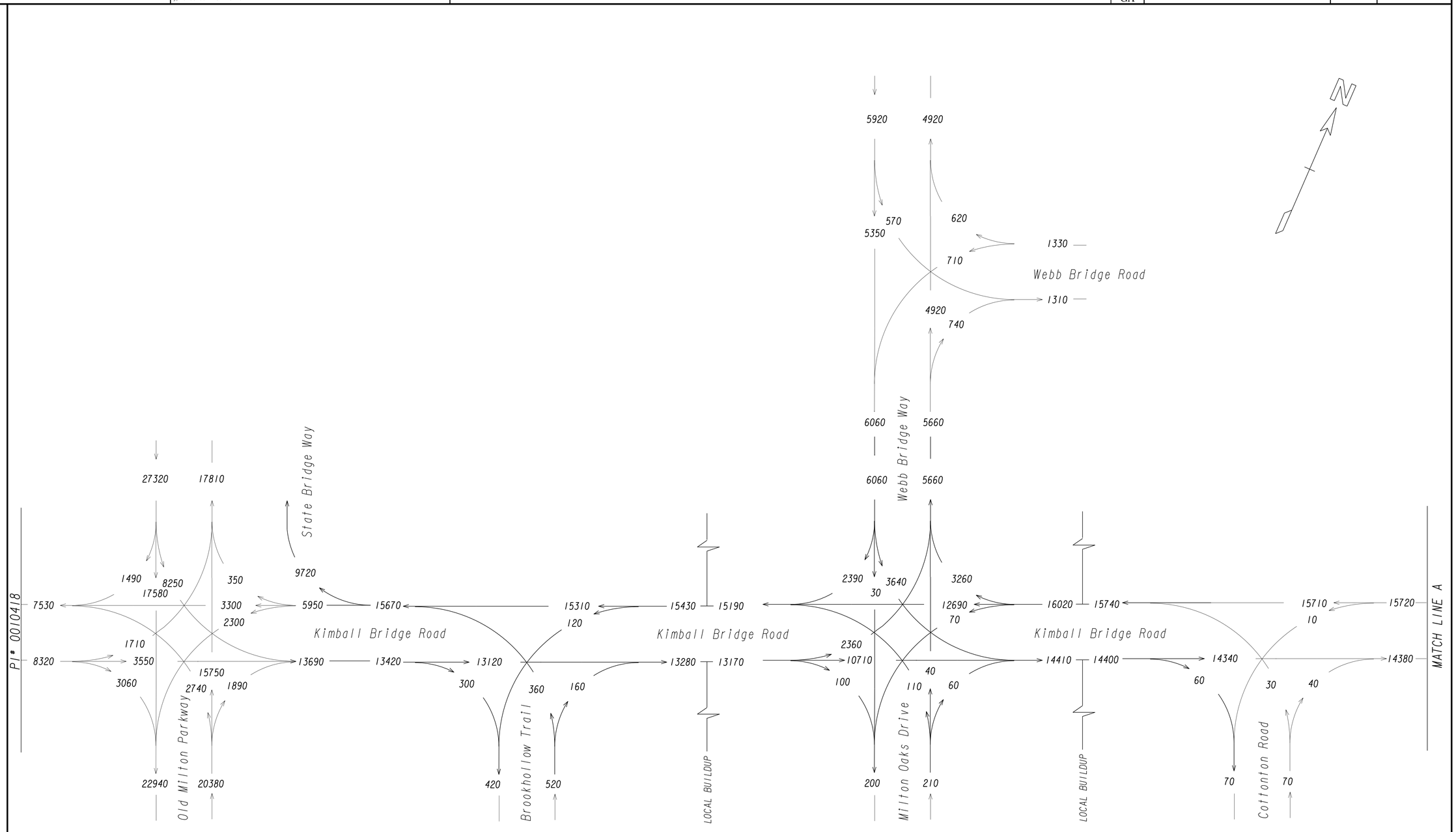
FACILITY OWNER	REIMBURSABLE	NON-REIMBURSABLE	TOTAL
Georgia Power Distribution	$0.00	$1,300,000.00	$1,300,000.00
Atlanta Gas Light	$0.00	$354,275.00	$354,275.00
Fulton County Public Works	$0.00	$443,500.00	$443,500.00
AT&T	$0.00	$380,800.00	$380,800.00
Comcast of Georgia	$0.00	$204,800.00	$204,800.00
Charter Cable	$0.00	$88,000.00	$88,000.00
Sawnee EMC	$0.00	$100,000.00	$100,000.00
Georgia Power Transmission	$0.00	$750,000.00	$750,000.00
TOTAL	$0.00	$3,621,375.00	$3,621,375.00

This estimate is based upon the current information. We will provide an updated estimate when the plans are further developed.

If you have any questions, please contact Clyde Cunningham at 770-986-1117

RSB/PA/SW/CAC

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA			



PI# 0010418
FULTON COUNTY
KIMBALL BRIDGE ROAD
FROM OLD MILTON PARKWAY
TO JONES BRIDGE ROAD

2013 ADT
EXISTING

24 HOUR T = 7.9%
SU = 6.0%
COMB = 1.8%

REVISION DATES		

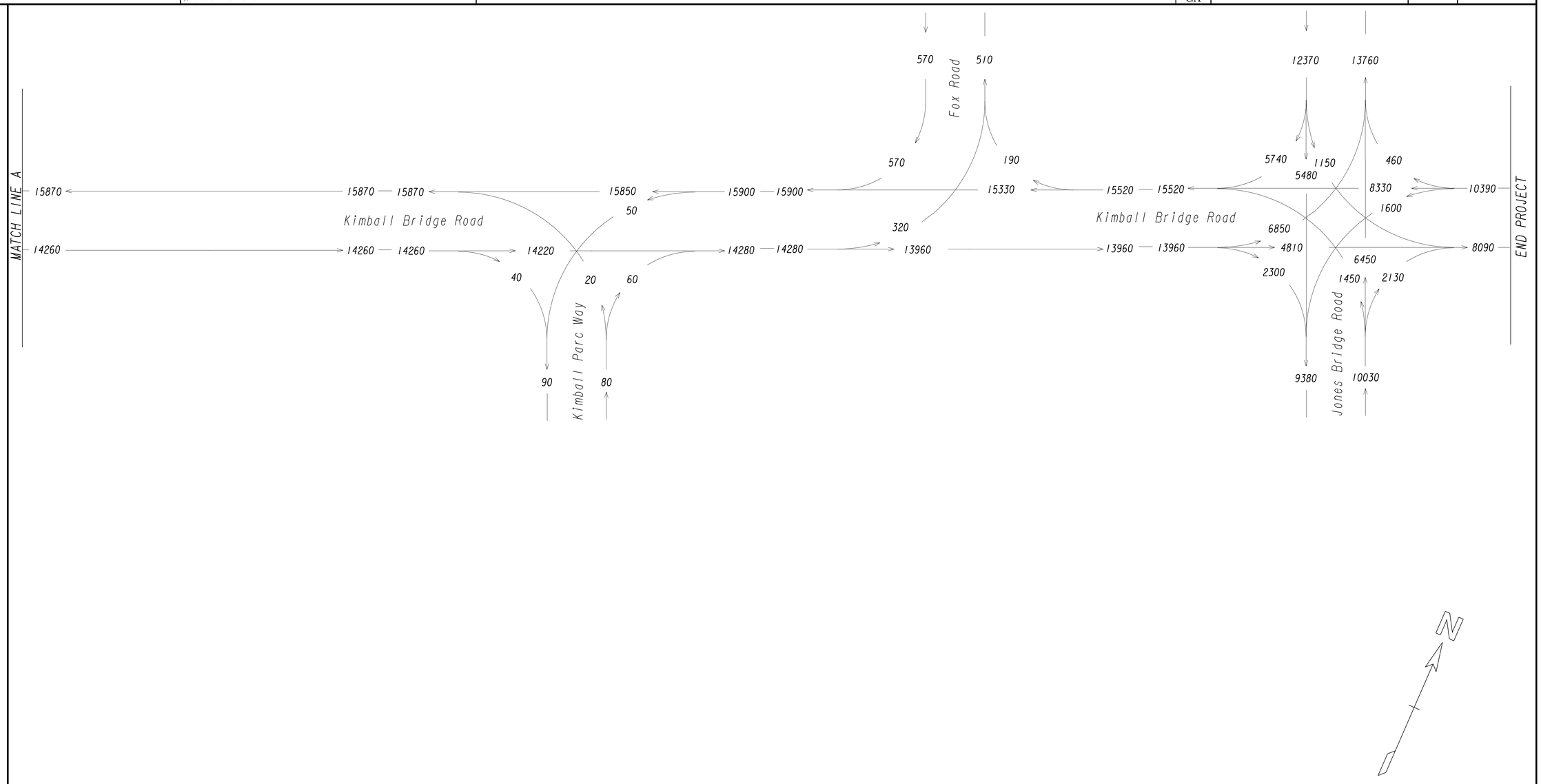
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PLANNING

TRAFFIC DIAGRAM

DRAWING No.
10-001

6/20/2011 GPLN

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA			



PI# 0010418
FULTON COUNTY
KIMBALL BRIDGE ROAD
FROM OLD MILTON PARKWAY
TO JONES BRIDGE ROAD

2013 ADT
EXISTING

24 HOUR T = 7.9%
SU = 6.0%
COMB = 1.8%

REVISION DATES

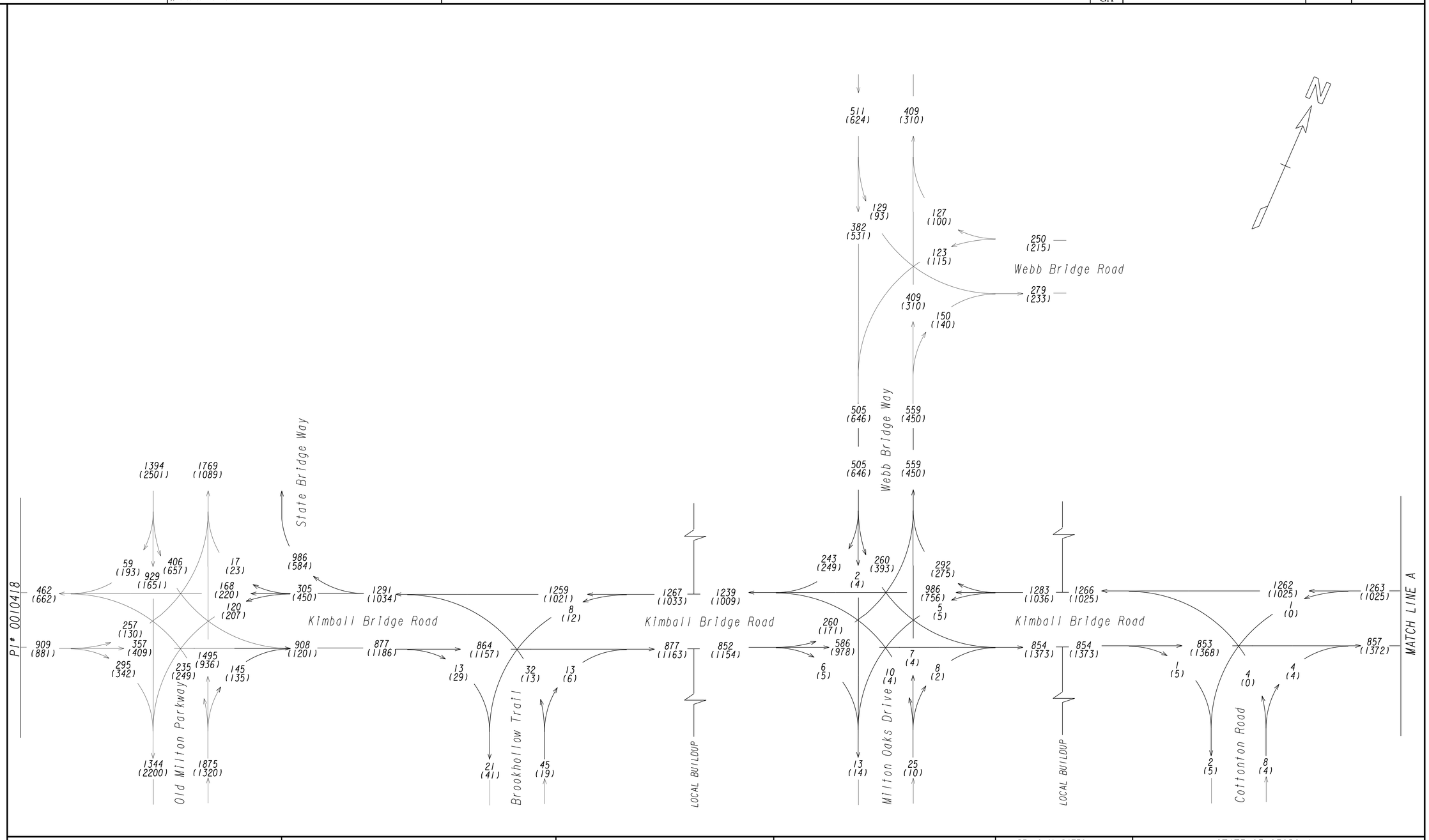
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PLANNING

TRAFFIC DIAGRAM

DRAWING No.
10-002

6/20/2011 GPLN

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA			



PI# 0010418
FULTON COUNTY
KIMBALL BRIDGE ROAD
FROM OLD MILTON PARKWAY
TO JONES BRIDGE ROAD

2013 AM DHV = 000
2013 PM DHV = (000)
EXISTING

T = 12.6%
SU = 8.8%
COMB = 3.8%

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PLANNING

TRAFFIC DIAGRAM

DRAWING No. 10-003

6/20/2011 GPLN

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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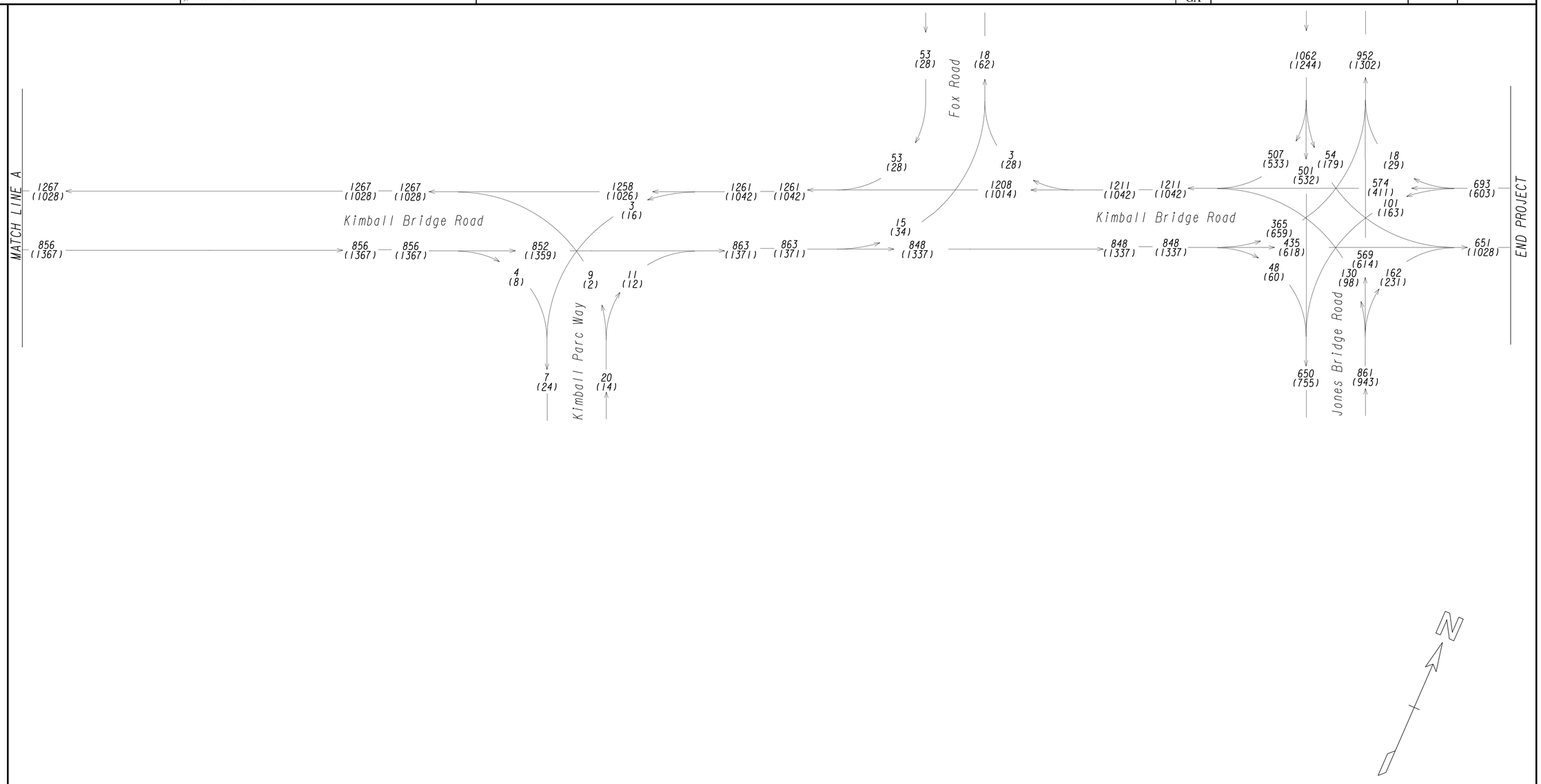

PI# 0010418
FULTON COUNTY
KIMBALL BRIDGE ROAD
FROM OLD MILTON PARKWAY
TO JONES BRIDGE ROAD

2013 AM DHV = 000
2013 PM DHV = (000)
EXISTING

T = 12.6%
SU = 8.8%
COMB = 3.8%

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PLANNING

TRAFFIC DIAGRAM

DRAWING No. 10-004

6/20/2011 GPLN

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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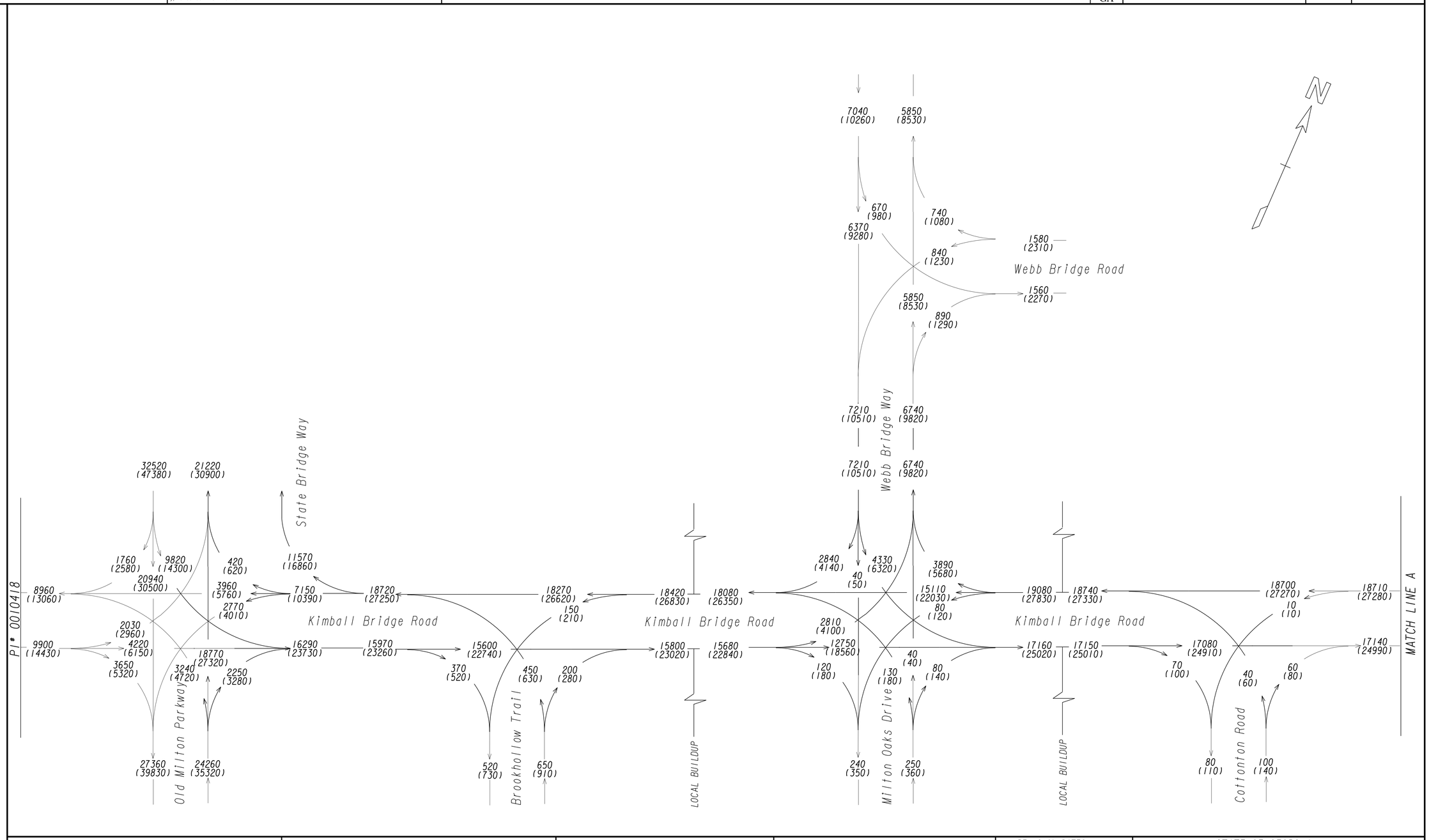

PI# 0010418
FULTON COUNTY
KIMBALL BRIDGE ROAD
FROM OLD MILTON PARKWAY
TO JONES BRIDGE ROAD

2020 ADT = 000
2040 ADT = (000)
NO BUILD

24 HOUR T = 7.9%
SU = 6.0%
COMB = 1.8%

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PLANNING

TRAFFIC DIAGRAM

DRAWING No. 10-005

6/20/2011 GPLN

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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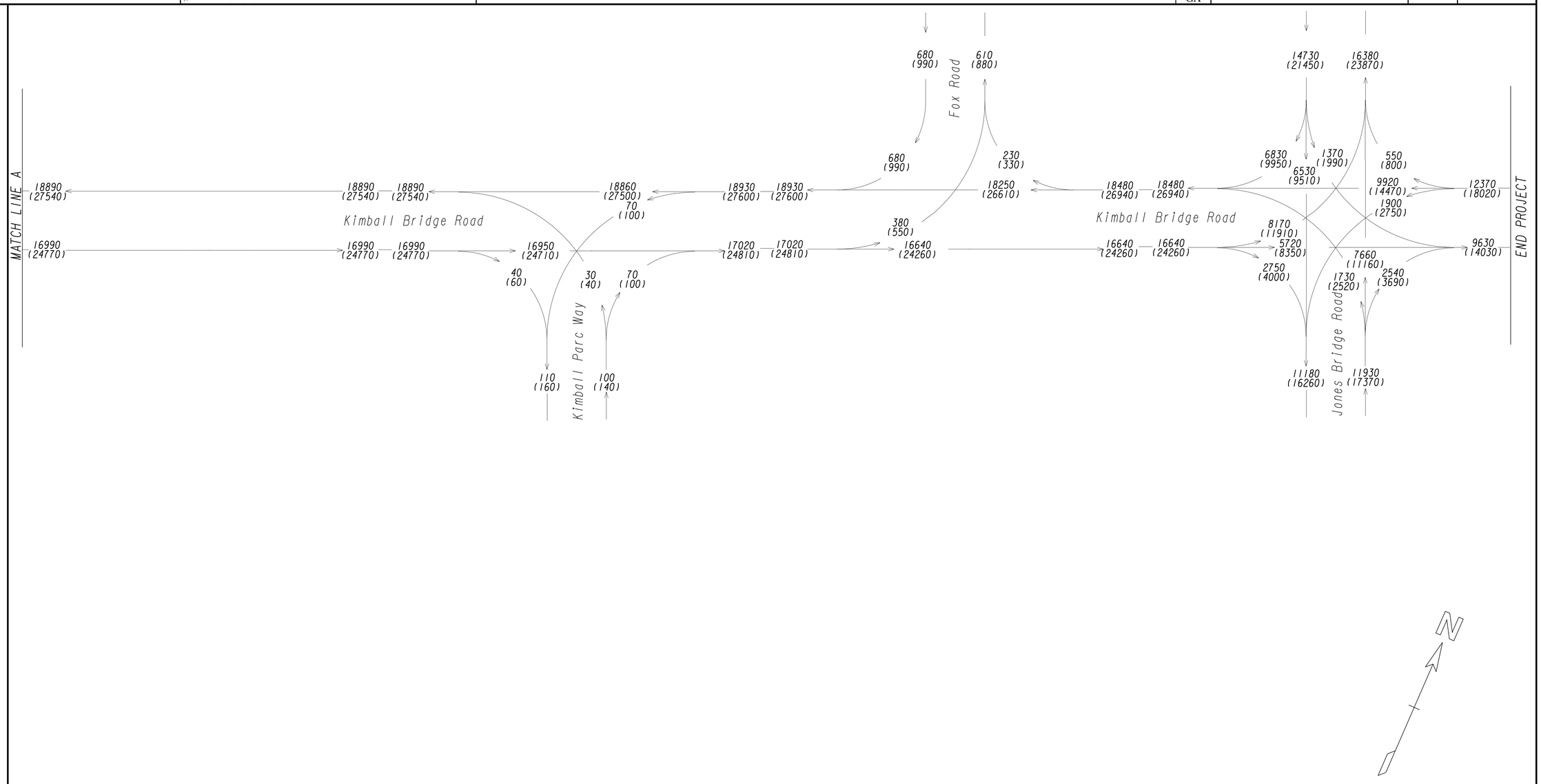


PI# 0010418
FULTON COUNTY
KIMBALL BRIDGE ROAD
FROM OLD MILTON PARKWAY
TO JONES BRIDGE ROAD

2020 ADT= 000
2040 ADT= (000)
NO BUILD

24 HOUR T = 7.9%
SU = 6.0%
COMB = 1.8%

REVISION DATES

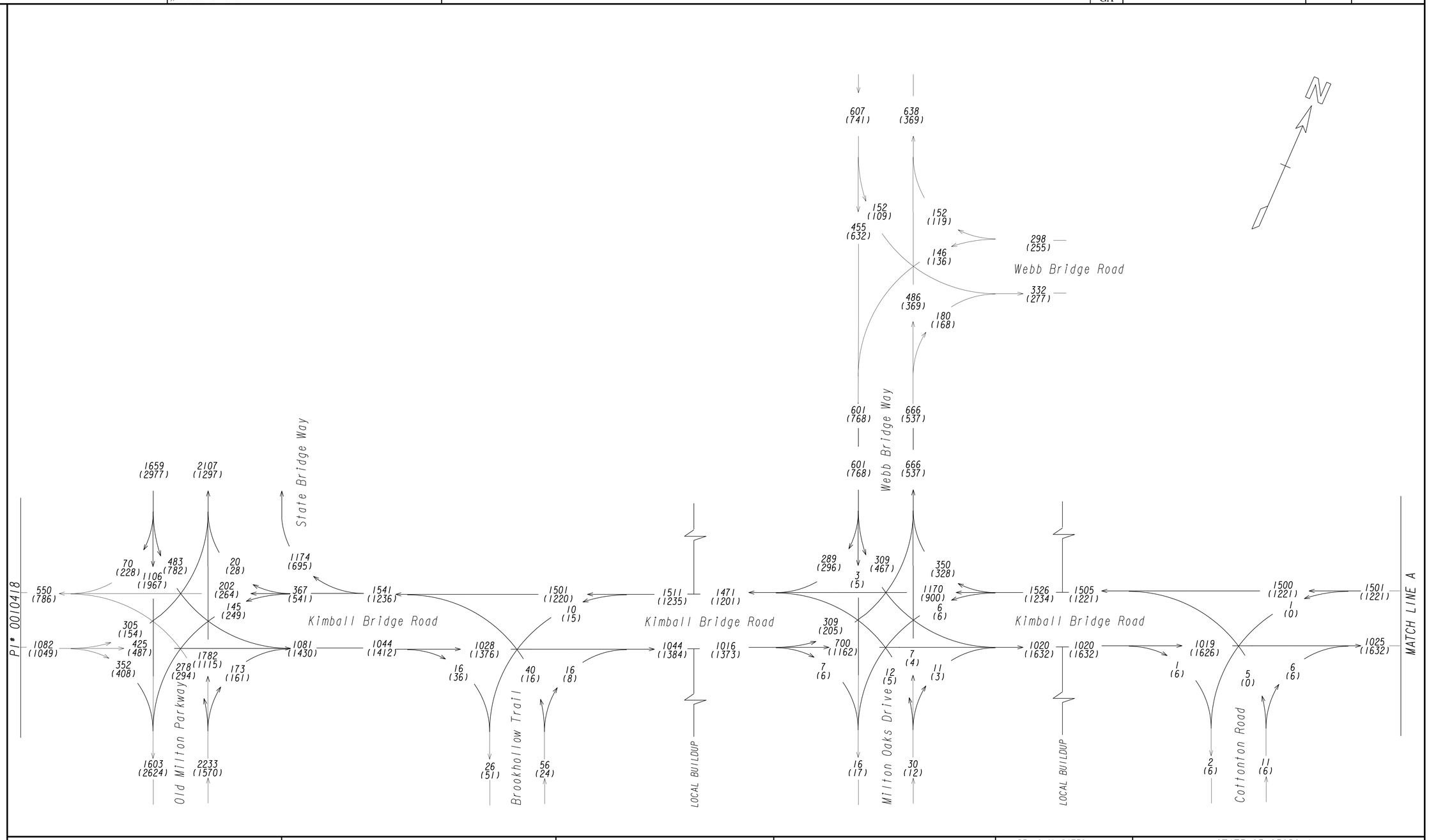
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PLANNING

TRAFFIC DIAGRAM

DRAWING No. 10-006

6/20/2011 GPLN

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA			



PI# 0010418
FULTON COUNTY
KIMBALL BRIDGE ROAD
FROM OLD MILTON PARKWAY
TO JONES BRIDGE ROAD

2020 AM DHV = 000
2020 PM DHV = (000)
NO BUILD

24 HOUR T = 7.9%
SU = 6.0%
COMB = 1.8%

REVISION DATES

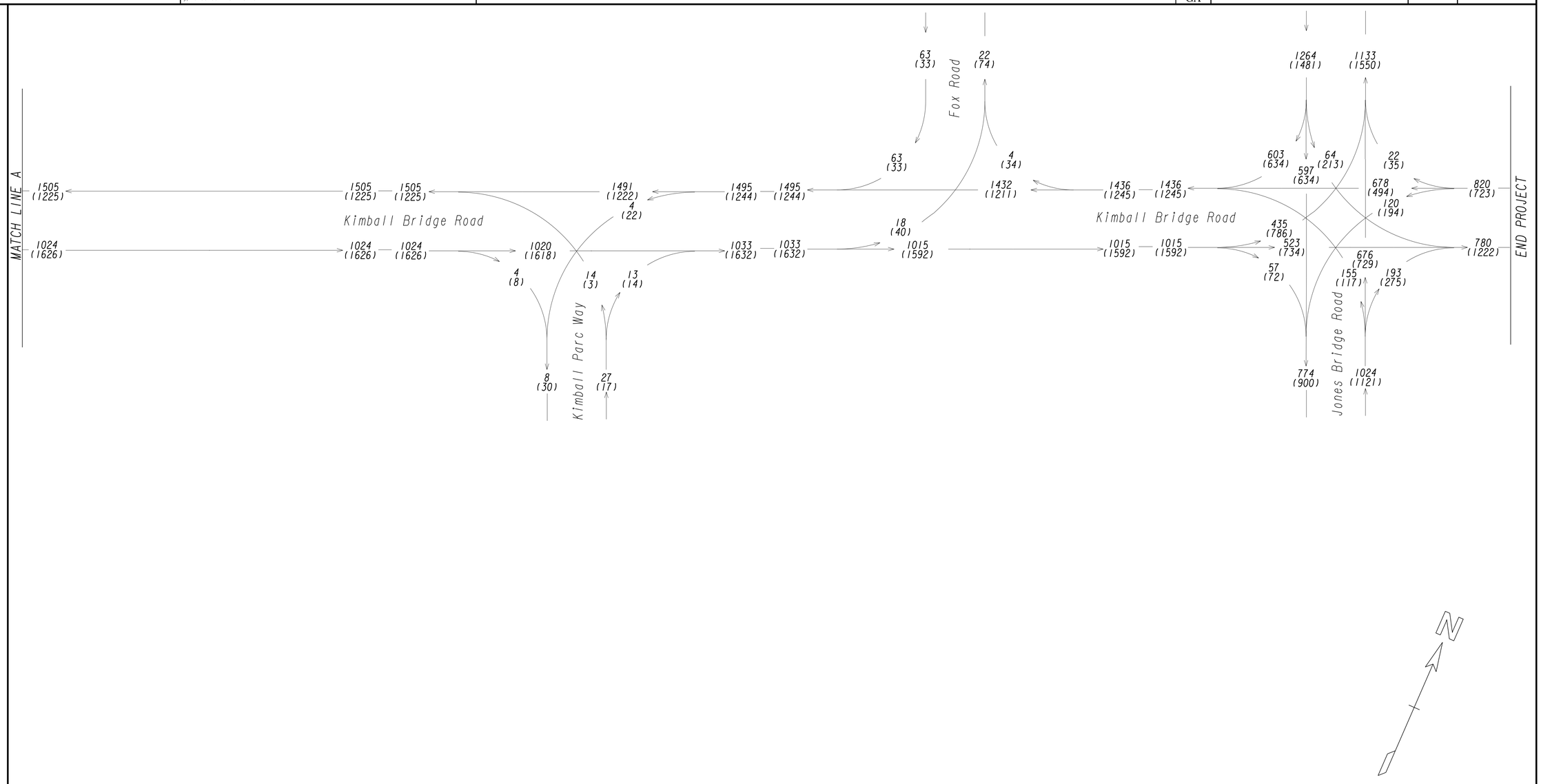
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PLANNING

TRAFFIC DIAGRAM

DRAWING No. 10-007

6/20/2011 GPLN

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA			



PI# 0010418
FULTON COUNTY
KIMBALL BRIDGE ROAD
FROM OLD MILTON PARKWAY
TO JONES BRIDGE ROAD

2020 AM DHV = 000
2020 PM DHV = (000)
NO BUILD

24 HOUR T = 7.9%
SU = 6.0%
COMB = 1.8%

REVISION DATES

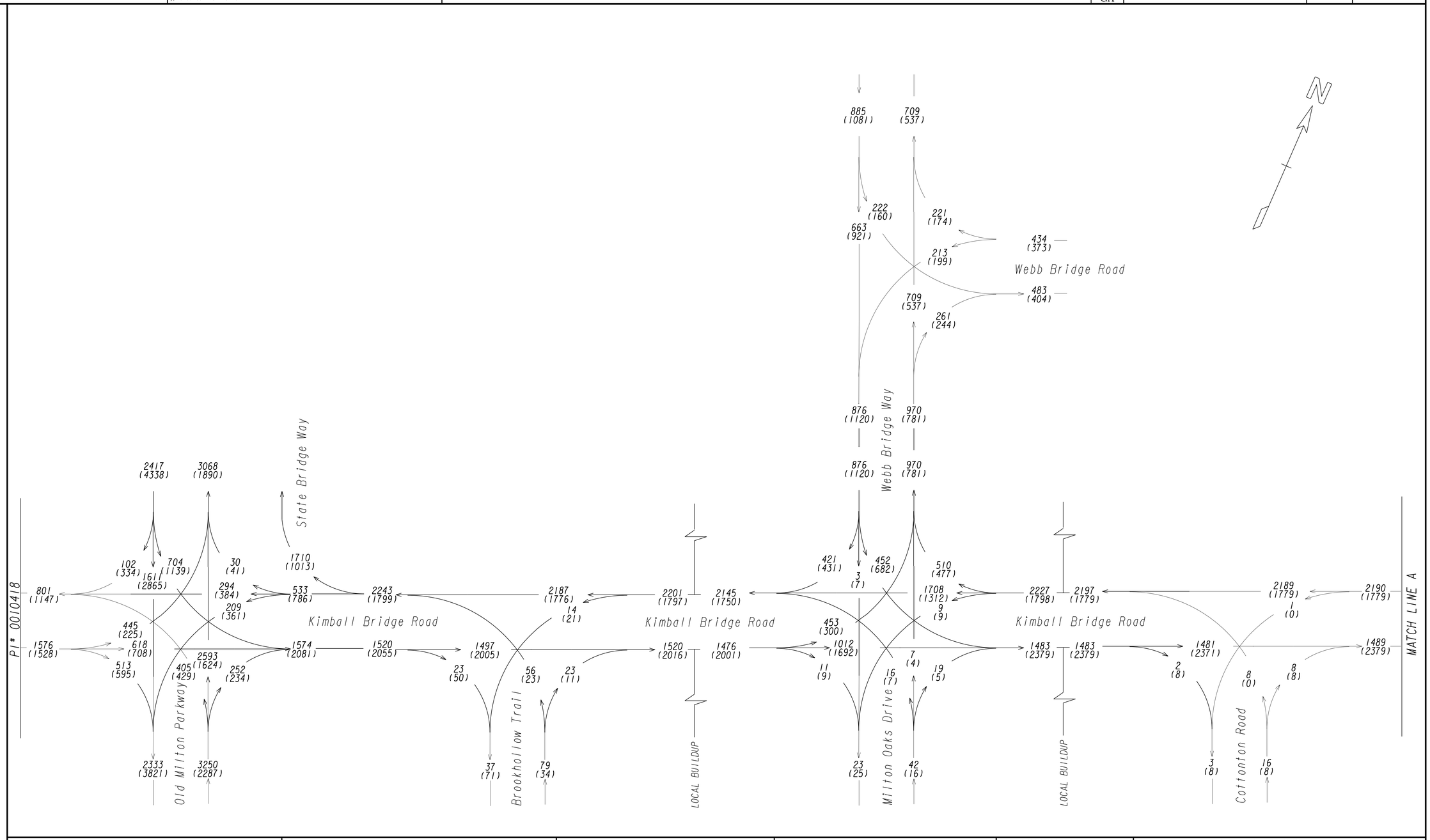
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PLANNING

TRAFFIC DIAGRAM

DRAWING No. 10-008

6/20/2011 GPLN

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA			



PI# 0010418
FULTON COUNTY
KIMBALL BRIDGE ROAD
FROM OLD MILTON PARKWAY
TO JONES BRIDGE ROAD

2040 AM DHV = 000
2040 PM DHV = (000)
NO BUILD

24 HOUR T = 7.9%
SU = 6.0%
COMB = 1.8%

REVISION DATES

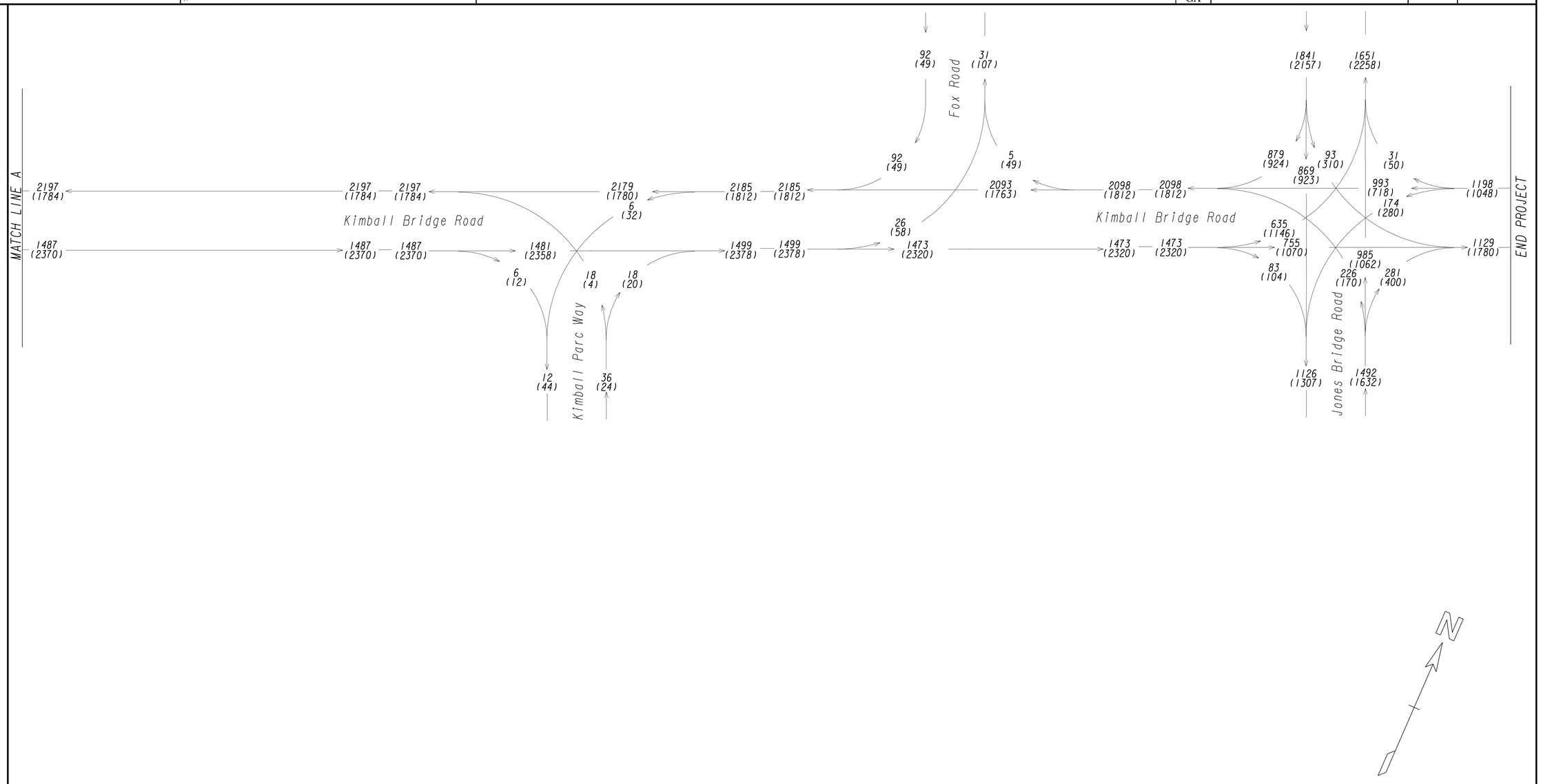
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PLANNING

TRAFFIC DIAGRAM

DRAWING No. 10-009

6/20/2011 GPLN

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA			



PI# 0010418
FULTON COUNTY
KIMBALL BRIDGE ROAD
FROM OLD MILTON PARKWAY
TO JONES BRIDGE ROAD

2040 AM DHV = 000
2040 PM DHV = (000)
NO BUILD

24 HOUR T = 7.9%
SU = 6.0%
COMB = 1.8%

REVISION DATES

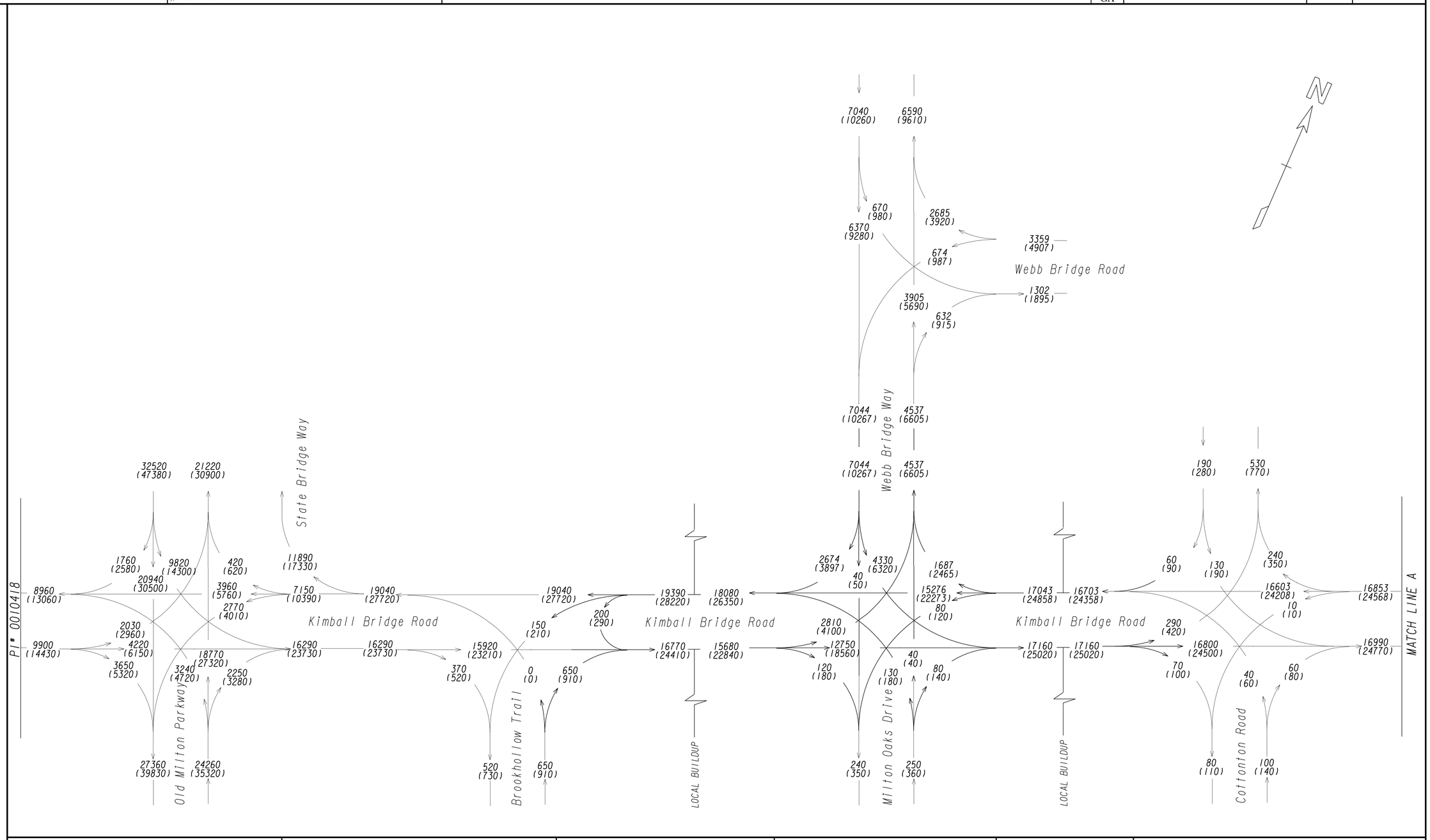
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PLANNING

TRAFFIC DIAGRAM

DRAWING No. 10-010

6/20/2011 GPLN

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA			



PI# 0010418
FULTON COUNTY
KIMBALL BRIDGE ROAD
FROM OLD MILTON PARKWAY
TO JONES BRIDGE ROAD

2020 ADT = 000
2040 ADT = (000)
BUILD

24 HOUR T = 7.9%
SU = 6.0%
COMB = 1.8%

REVISION DATES

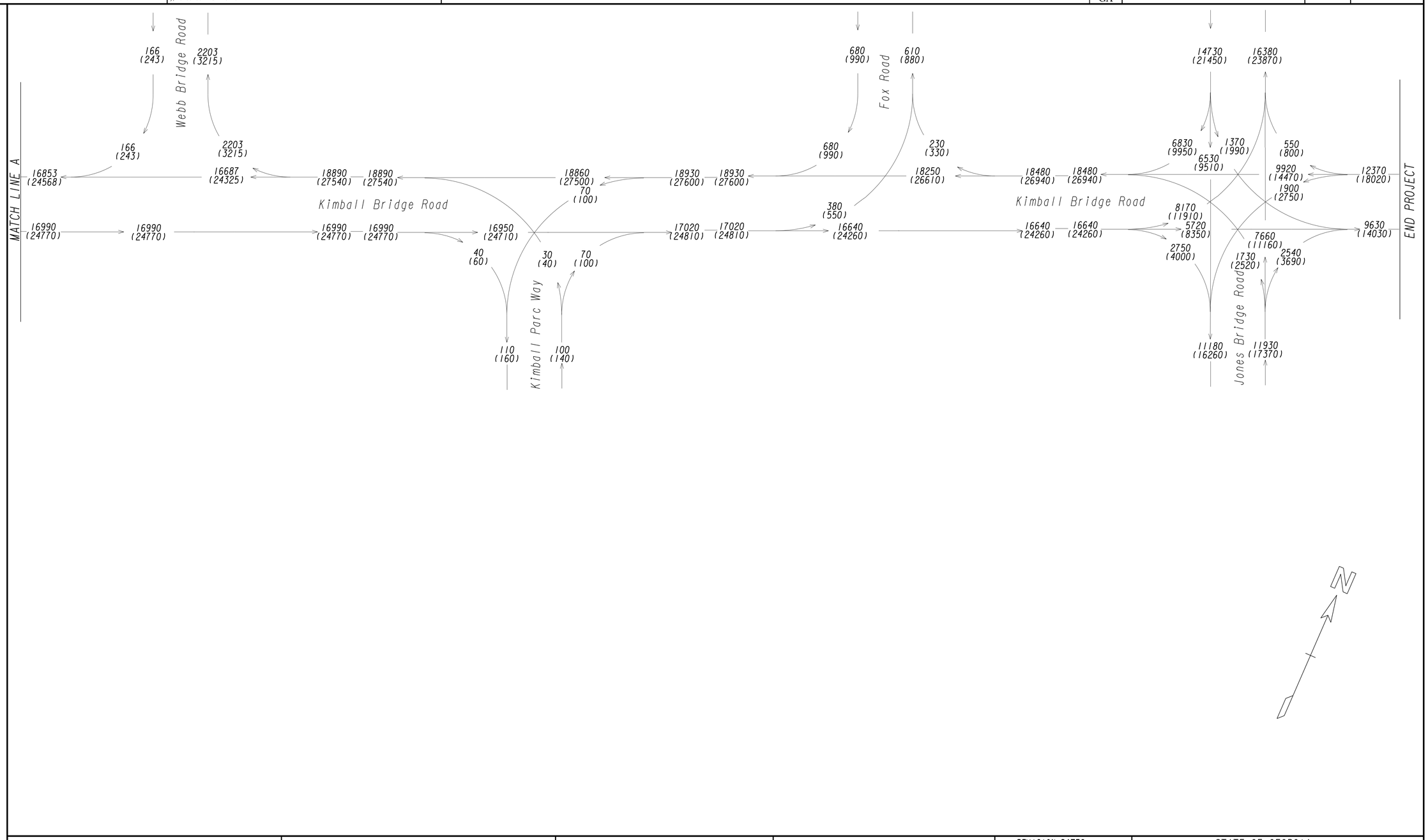
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PLANNING

TRAFFIC DIAGRAM

DRAWING No. 10-011

6/20/2011 GPLN

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA			



PI# 0010418
FULTON COUNTY
KIMBALL BRIDGE ROAD
FROM OLD MILTON PARKWAY
TO JONES BRIDGE ROAD

2020 ADT= 000
2040 ADT= (000)
BUILD

24 HOUR T = 7.9%
SU = 6.0%
COMB = 1.8%

REVISION DATES

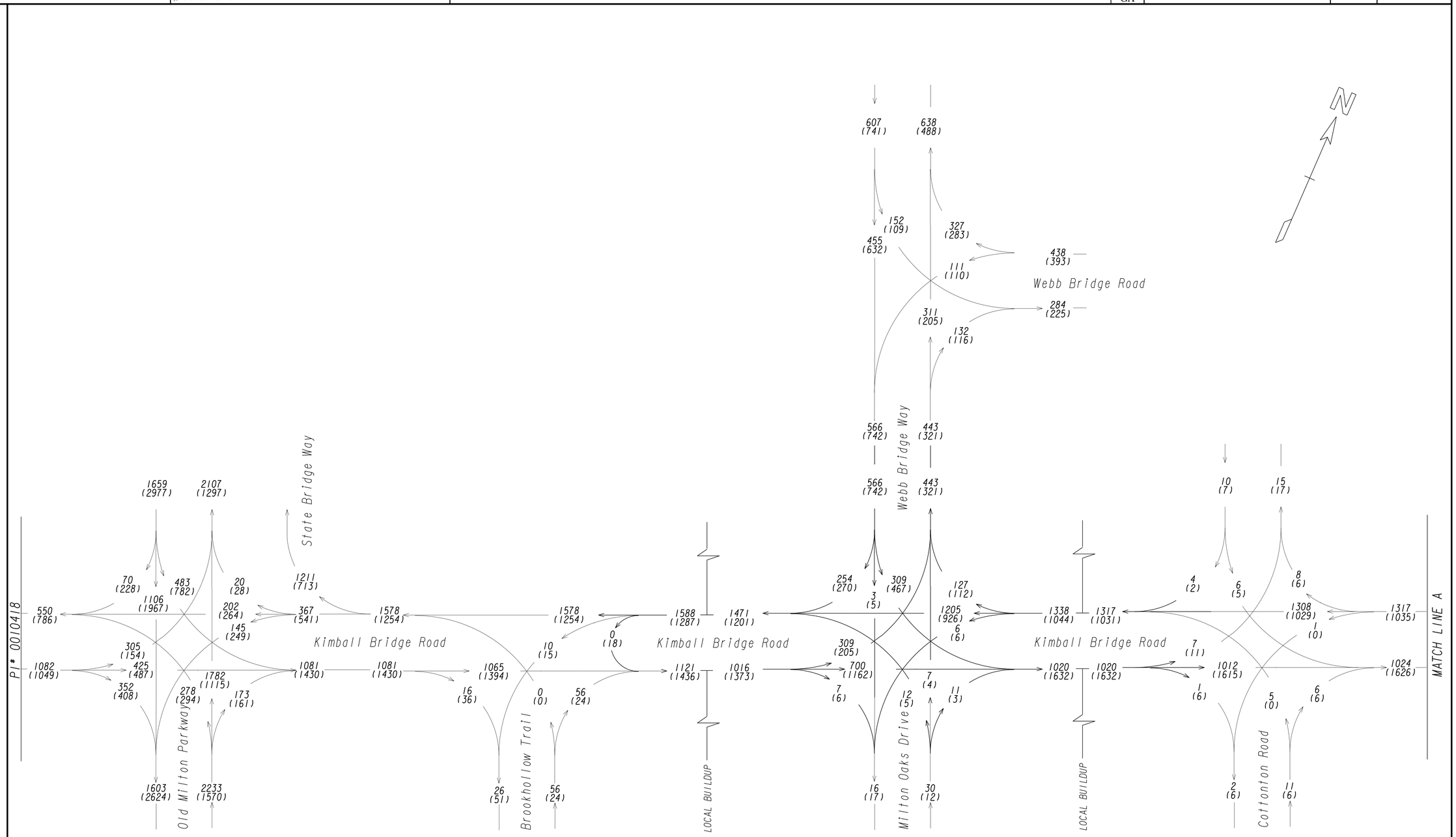
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PLANNING

TRAFFIC DIAGRAM

DRAWING No. 10-012

6/20/2011 GPLN

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA			



PI# 0010418
FULTON COUNTY
KIMBALL BRIDGE ROAD
FROM OLD MILTON PARKWAY
TO JONES BRIDGE ROAD

2020 AM DHV = 000
2020 PM DHV = (000)
BUILD

24 HOUR T = 7.9%
SU = 6.0%
COMB = 1.8%

REVISION DATES		

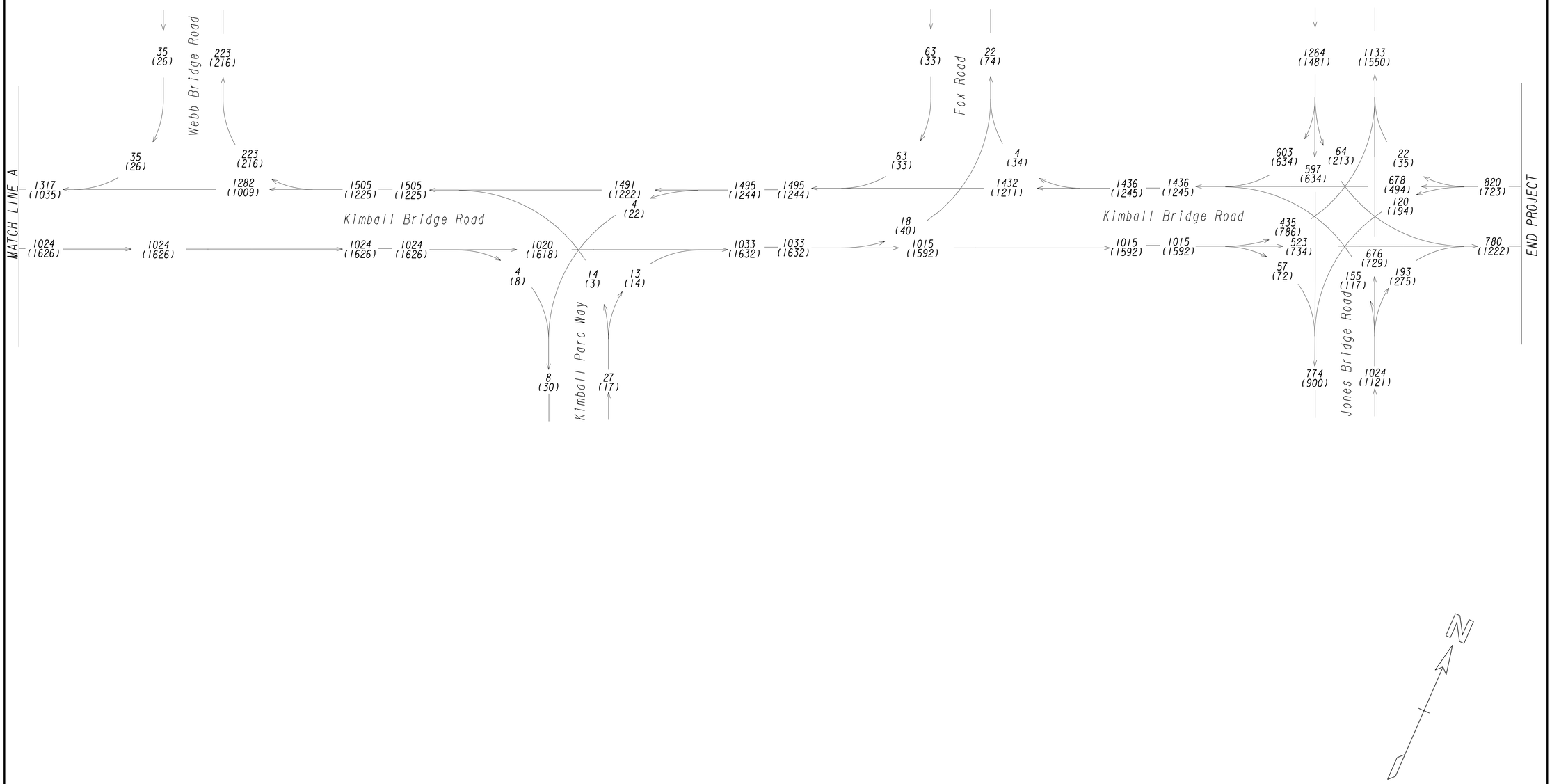
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PLANNING

TRAFFIC DIAGRAM

DRAWING No. 10-013

6/20/2011 GPLN

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA			



PI# 0010418
FULTON COUNTY
KIMBALL BRIDGE ROAD
FROM OLD MILTON PARKWAY
TO JONES BRIDGE ROAD

2020 AM DHV = 000
2020 PM DHV = (000)
BUILD

24 HOUR T = 7.9%
SU = 6.0%
COMB = 1.8%

REVISION DATES

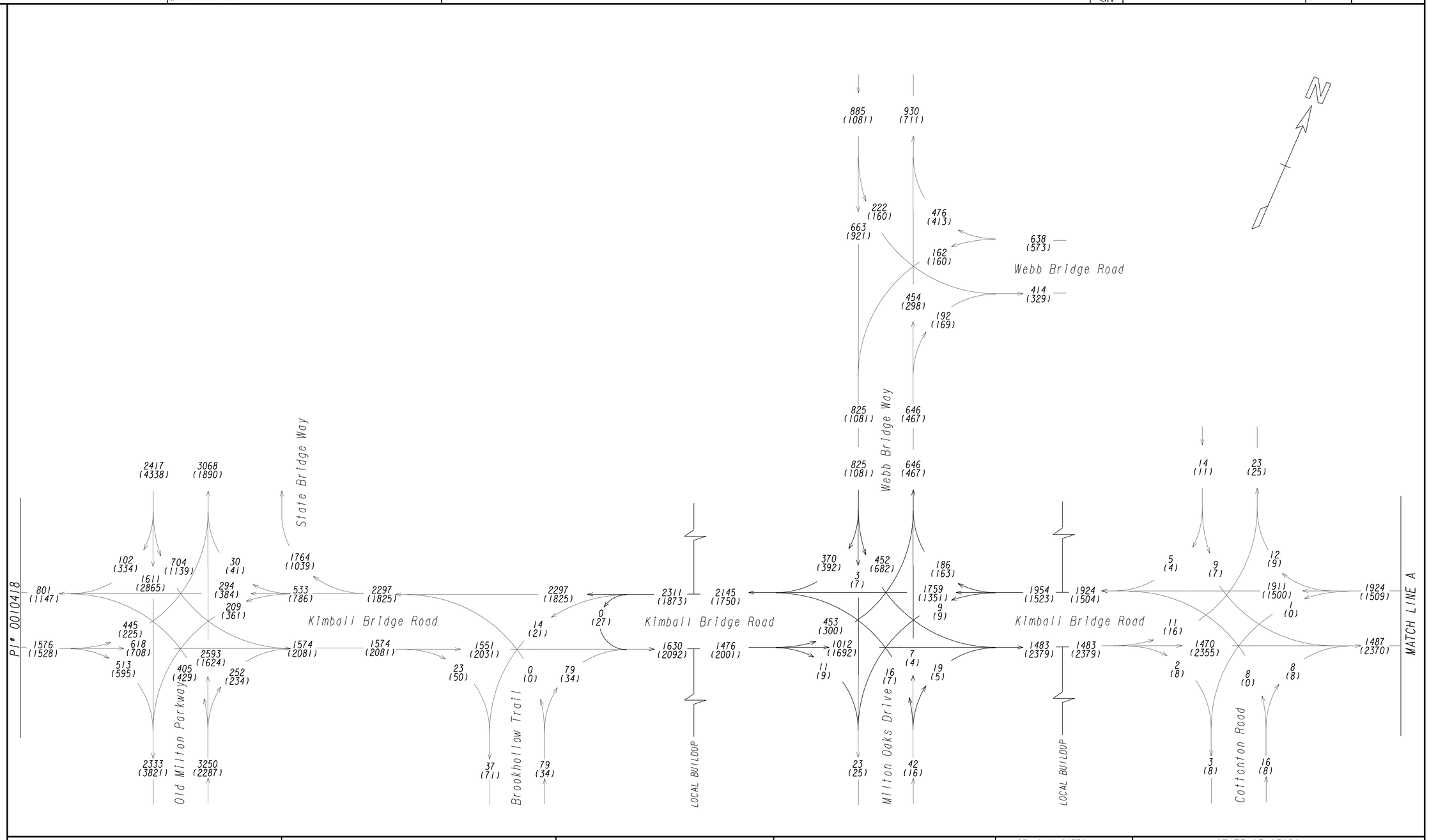
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PLANNING

TRAFFIC DIAGRAM

DRAWING No. 10-014

6/20/2011 GPLN

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA			



PI# 0010418
FULTON COUNTY
KIMBALL BRIDGE ROAD
FROM OLD MILTON PARKWAY
TO JONES BRIDGE ROAD

2040 AM DHV = 000
2040 PM DHV = (000)
BUILD

24 HOUR T = 7.9%
SU = 6.0%
COMB = 1.8%

REVISION DATES

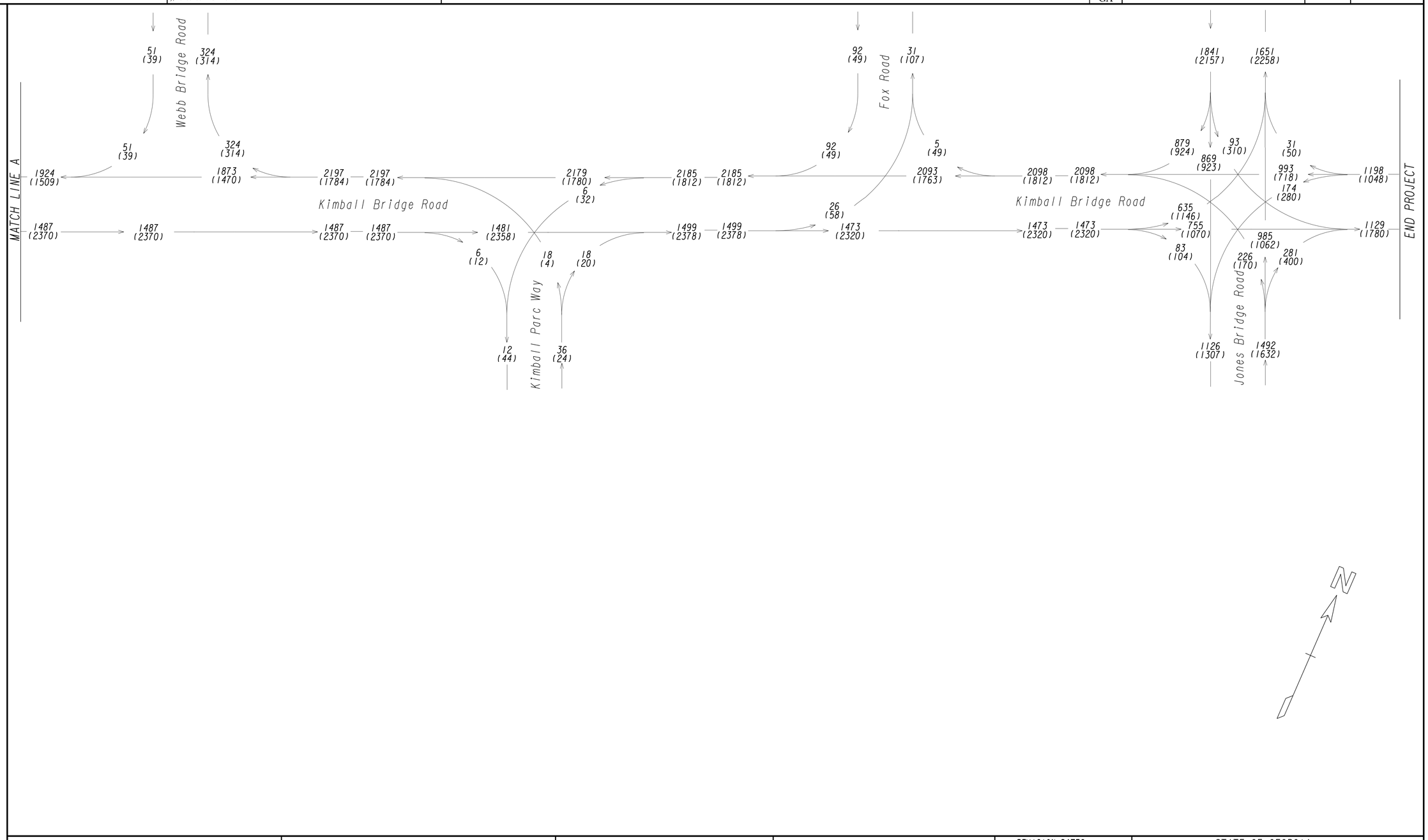
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PLANNING

TRAFFIC DIAGRAM

DRAWING No. 10-015

6/20/2011 GPLN

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA			



PI# 0010418
FULTON COUNTY
KIMBALL BRIDGE ROAD
FROM OLD MILTON PARKWAY
TO JONES BRIDGE ROAD

2040 AM DHV = 000
2040 PM DHV = (000)
BUILD

24 HOUR T = 7.9%
SU = 6.0%
COMB = 1.8%

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PLANNING

TRAFFIC DIAGRAM

DRAWING No. 10-016

6/20/2011 GPLN

MS4 Compliance

The proposed project resides in a designated MS4 (Municipal Separate Storm Sewer Systems) area. Due to the increased stormwater requirements for projects in these zones, it is important that stormwater is evaluated early in the design process as it could affect right-of-way, typical sections, and environmental aspects of the project. During concept design, a preliminary hydrology study will be developed to determine right-of-way needs and to provide a preliminary cost estimate. While this project is located in both City of Johns Creek and City of Alpharetta, since the project is funded through GDOT, GDOT MS4 Guidelines will be followed for this design.

At this time, an initial site visit has been performed and data has been collected to begin the hydrology study. Initial drainage basins have been started but are waiting on survey data to be finalized. This report includes findings from the site visit and the general approach moving forward for the project MS4 design. The hydrology study will be refined over the next month and details will be coordinated with the City of Johns Creek and GDOT as needed. The approved approach will be included in the final concept report along with the preliminary cost estimate.

Existing Conditions

The subject roadway segment encompasses approximately 6,600 LF of SR 120/Kimball Bridge Road from State Bridge Way to Jones Bridge Road. The existing roadway varies from 2-lane to 4-lane along the subject corridor, with some areas of large grass median and striping.

There are four (4) distinct watersheds along the subject corridor. A high point exists near Brookhollow Trail sheds stormwater to the west towards State Bridge Way/Old Milton Parkway. Runoff also travels east from Brookhollow Trail towards a natural low point at the SR120/Kimball Bridge Road intersection with Webb Bridge Way/Milton Oaks Drive. This stormwater flows to a detention pond serving the Ashlee Oaks neighborhood and eventually to a large lake which feeds a blue line stream and eventually a FEMA Zone AE river, *Long Indian Creek*. The third basin is comprised of runoff from Cottonton Road to the Messiah Lutheran Church. A detention pond for the church discharges along with runoff from a culvert under SR 120 / Kimball Bridge Road to the outfall point. The last major watershed in this segment, from the Messiah Lutheran Church to Fox Road, naturally drains to a low point behind the Kimball Parc subdivision and through the property via a drainage channel.

Proposed MS4 Stormwater Approach

The SR120/Kimball Bridge Road corridor is heavily developed with only a few open tracts for stormwater BMPs (Best Management Practices), limiting space available to meet MS4 compliance. The proposed project results in additional impervious area where portions of the road are being widened, and 5-8ft wide sidewalks are also being installed.

General Approach

GDOT requires that all new pavement be treated using approved MS4 stormwater BMPs. The current preferred BMPs for GDOT applications are as follows:

1. Grass channels
2. Enhanced swales, both dry and wet swales
3. Infiltration trenches
4. Stormwater wetlands
5. Stormwater ponds

6. Detention ponds
7. Filter strips

For a project such as this one, stormwater ponds provide the most effective treatment because they are dual-purpose BMPs meeting both stormwater quantity and quality control. Where possible, stormwater will be routed into ponds for treatment to minimize construction and maintenance costs. In other areas where traditional stormwater ponds are not feasible due to limited right-of-way, treatment trains will be considered using a combination of grassed swales, enhanced swales, and filter strips.

GDOT analyzes stormwater on a basin by basin basis and has certain exemptions for MS4 compliance. Specifically, an exemption that will be applicable in some areas of this project is sheet flow. Where possible and where it does not interfere with safety, rural shoulders will be considered to allow a significant portion of the runoff to leave the site as sheet flow. This sheet flow will be checked for downstream impacts, but will not require additional treatment. In the more developed areas, this will not be feasible and curb and gutter will be installed and will help route stormwater to BMP treatment facilities.

Areas that have a net impervious area that remains the same as pre-developed conditions will not require treatment since these areas will not result in any new pavement beyond what is currently there and thus will not have an adverse impact on stormwater. In addition, flows that originate off-site will be diverted to the extent practical to minimize treatment requirements.

Preliminary Project Specific MS4

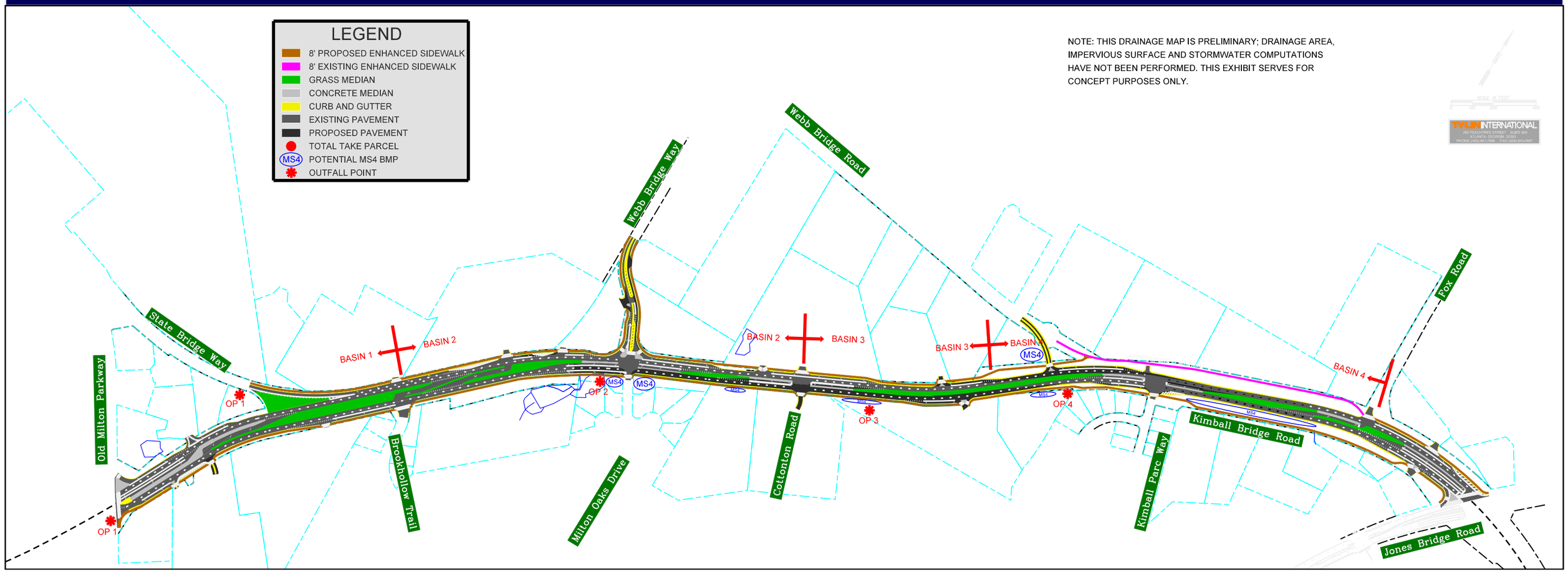
Along the southern side of SR 120/Kimball Bridge Road, there are a couple undeveloped areas that could be used for stormwater BMPs. There are a few locations along the northern side but it is more suitable for linear water quality swales.

The design team proposes to place MS4 measures in with the natural landscape of the corridor and conforming to existing drainage patterns. The western most watershed should not increase the impervious surface any so stormwater measures will be minimal, if any at all. The watershed draining to Ashlee Oaks will likely utilize a full stormwater pond in one of the take parcels to meet all GDOT stormwater requirements. An upstream, intermediate swale or infield grass median may be designed for additional treatment, as required. The third basin has very limited right-of-way for BMPs; ideally a stormwater fixture can be designed just downstream and offline of the church walled pond. Lastly, the eastern most basin draining to Kimball Parc, will likely require several smaller BMPs in order to meet MS4 compliance. Existing roadside ditches can be modified for increased capacity/usage. Enhanced swales, grassed medians and sheet flow are all potential candidates for this basin.

CITY OF JOHNS CREEK

SR 120/KIMBALL BRIDGE ROAD WIDENING

POTENTIAL MS4 LOCATIONS



CITY OF JOHNS CREEK GEORGIA

July 17, 2014

Mr. Brent A. Story, P.E., State Design Policy Engineer
Georgia Department of Transportation
Office of Design Policy & Support, 26th Floor
One Georgia Center
600 West Peachtree Street, NW
Atlanta, Georgia 30308

Dear Brent:

I am writing in regards to the Kimball Bridge Road widening project, PI #0010418 and subsequent lighting needs for this project under design by the Georgia Department of Transportation (GDOT). The City of Johns Creek understands that GDOT requires a commitment of long term maintenance and operational costs before the project can proceed forward. As a means of ensuring that the design continues, the City of Johns Creek agrees to provide maintenance and energy costs as stated below for any lighting within the jurisdiction of the City of Johns Creek along SR 120/Kimball Bridge Road from State Bridge Road to Addison Way.

> Upon completion of the installation of said lighting system (GDOT, P.I. No. 0007311, Fulton County, SR 120/Kimball Bridge Road) and acceptance by the DEPARTMENT, the City of Johns Creek shall assume full responsibility for the operation, the repair and the maintenance of the entire lighting system, including but not limited to repairs of any damages replacement of lamps, ballasts, luminaires, lighting structures, associated equipment, conduit, wiring and service equipment, and the requirements of the Georgia Utility Facility Protection Act within the City limits. The City of Johns Creek further agrees to provide and pay for all the energy required for the operation of said lighting system in the unincorporated area.

Please advise if additional information is required by the Department on this issue.

Sincerely,

Tom Black
Public Works Director

Public Works

12000 Findley Road, Suite 400, Johns Creek, Georgia 30097-1412 • Tel: 678.512.3200 • Fax: 678.512.3199

MEETING MINUTES

T·Y·LIN INTERNATIONAL

Meeting Date	December 5, 2013
Meeting Time	9:30 am – 11:00 am
Meeting Location	GDOT, 25th Floor Conference Room
Facilitator	Peter Emmanuel – GDOT PM
Minutes Prepared By:	Brian O'Connor
Topic	PI 0010418 – SR 120/Kimball Bridge Road Widening – Kick-off/Preliminary Concept Team Meeting

Attendees – See Attached

Meeting Summary

The meeting was held to serve as the Kick-off and Preliminary Concept Team Meeting for the SR 120/Kimball Bridge Road Widening project in the City of Johns Creek. Peter Emmanuel, the GDOT PM, provided a project delivery overview and led the introductions. Tom Ziegler, the T.Y. Lin International (TYLI) PM then gave a project overview.

GDOT PM general comments included the following:

- The current programmed project schedule calls for Authorization of Right of Way Funds in FY 2016. Use this as the project target date and work backwards in establishing the baseline schedule.
- Context Sensitive Design will be required on this project.
- The current business owners will most likely be vocal in their opposition to a median that restricts access to their properties. Early outreach and coordination with these business owners will be a key to a successful project.
    - A number of the businesses appear to encroach on the existing GDOT right of way so avoiding impacts to all of them may not be possible.

I. Introductions (All)

II. Project Overview (Ziegler)

- The project limits extend from Old Milton Parkway to Jones Bridge Road along SR 120/Kimball Bridge Road.
    - The roadway corridor has previously been widened on both the east and west ends, so minimal reconstruction is assumed in these areas other than minor modifications and signing and marking revisions.
- The majority of the widening will occur in the middle of the project and will consist of widening 2 lanes to 4 lanes with a raised median. The use of urban outside shoulders vs paved shoulders has yet to be determined. If rural shoulders are used, then sidewalks would be added along the roadway.
    - Paved shoulders may be considered in order to coincide with any required erosion control and MS4 facilities.
    - The GDOT PM stated that due to the urban route designation, a design variance would be required for rural paved shoulders. Also, the GDOT Design Policy Manual will be reviewed for the applicability of the design variance and 13 controlling criteria.

- The anticipated project alignment and widening will require the relocation of two residences in the Ashlee Oaks subdivision across from Webb Bridge Way. A shift to the north to avoid these relocations could substantially increase the impacts to the commercial parcels on each corner of the Webb Bridge Way/SR 120 intersection and may require significant utility relocations.

- TYLI will investigate the use of 11' lanes through the corridor and consider truck traffic volumes before making a recommendation.

- The team will identify all potential median openings and turn lanes as early as possible in order to coordinate with property owners and the local municipalities:

    - Access to commercial properties at the intersections of SR 120/Kimball Bridge Road with State Bridge Way and Webb Bridge Way

    - Access to existing residential neighborhoods

    - Access to Bridgeway Christian Academy

    - Reconnection of Webb Bridge Road to Kimball Bridge Way

    - Access to Fox Road

    - Access to the recently constructed enhanced sidewalk and to Webb Bridge Park

- Long term transportation plans for the area will be investigated and bike route designations will be reviewed. If the road is on a designated bike route, bike lanes or a trail may be required unless a letter can be obtained from local riders that the pavement is acceptable without them.

III. PDP Process (Emmanuel)

- Concept Development

    - Transportation Management Plan will be required.

    - GDOT PM requested that a copy of the conceptual layout be provided so that the Subject Matter Experts (SME) can provide comments.

- Initiate any design variance/exception requests as soon as they are identified and attempt to get approval prior to submitting concept report, although they can be submitted concurrently.

- Hold PFPR prior to CE approval so that comments can be incorporated.

    - All special studies must be submitted prior to scheduling PFPR.

- Assume 15 to 18 months for Right of Way Acquisition.

    - Early acquisition of the two residential takes, if required, may help reduce this timeframe.

IV. Environmental (Barker)

- Start with the assumption of an EA document and schedule for development of an EA/FONSI.

    - Work with FHWA to push for a CE as soon as special studies and conceptual development allows. This should be completed within the first 1/3 of the project (or 30% completed plans and/or if a Constructability Review meeting is needed).

- Identify all environmental resources within the corridor even if no impacts are anticipated. This will help to eliminate review questions of resources as the project moves forward.
- The more information that is provided, the faster approvals can be expected.
- There are several potential historic properties within the project limits. Identifying the boundaries and reducing or eliminating the impacts can help in obtaining a de minimis impact finding.
- Avoid park properties if possible to avoid 4f resources.
    - Webb Bridge Park is a City of Alpharetta resource. The City staff will work with the project team to obtain a de minimis impacts letter for the park. TYLI will provide a concept layout to the City for presentation to the Alpharetta City Council.
- Noise barrier wall will have to be investigated since additional lanes are being added. May be able to show that the noise walls are not feasible or prudent within the project limits.
- Public Involvement will be significant in getting commercial and residential support for the project.
- There was discussion of a roundabout or alternate traffic-calming device at the park entrance.

V. Traffic (Wood)

- The traffic counts for the corridor and intersections have been completed.
- The project team will request crash data from GDOT. URS will attempt to access the GEARS accident database online, but may request the most up-to-date data.
    - URS will make the request directly to GDOT Traffic Operations if required and will copy the City of Johns Creek and the GDOT PM.

VI. Drainage/MS-4 (Etheridge)

- GDOT PM stated that Brad McManus will be the GDOT contact for this project for drainage/MS-4 compliance.
- The project will follow GDOT guidelines for MS4 and erosion control and will be reviewed by the GA EPD. There may be possible exceptions available on this project if documented.
    - No underground structures or proprietary devices will be allowed.
    - Coordinate with the Cities of Alpharetta and Johns Creek as well to ensure their MS-4 regulations are covered.
    - Will look at possible detention within the existing roadway ditches.
- The TYLI team will request stormwater information from adjacent projects to confirm basins.

VII. Surveying/Utilities (Hurley)

- Surveying
    - GDOT has completed the control survey and will provide to Cardno.

- Aerial Mapping will be completed by GDOT in Jan/Feb 2014 and will be sent to the project team as well.
- Cardno will merge the aerial mapping with the ground information and perform all database compliance checks.

- Utilities
  - The project team does not anticipate major utility impacts if the roadway is widened to the south. Transmission lines and the utility vault at Webb Bridge Way may be impacted if the widening is to the north.
  - Utilities identified currently:
    - Underground – Fulton Co. Water/Sewer, AGL, Verizon, GA Power
    - Overhead – Transmission Lines, Cable, Phone
  - Avoid any impacts to the power substation at the beginning of the project.
  - Existing utility vaults in the Webb Bridge Way intersection and east of Kimball Parc Way.
  - The Webb Bridge Way intersection is the most critical area for utility impacts. Qual level C is being performed for the project. Qual Level A may be performed in the intersection (if required).
  - Any potential utility impacts need to be identified early so that the GDOT PM can request utility relocation funding if required. Clyde Cunningham with GDOT will provide a utility cost estimate within a month once potential reimbursable utilities have been identified.

VIII. Schedule (Emmanuel)

- A Project Management Plan Schedule will be required.
  - Schedule should begin at Kick-off and run through to Final Construction Documents.
  - Identify each action with begin/end dates plus submittal dates.
    - Show duration for each activity.
    - Add a comment as each task is completed.
  - GDOT PM will provide an example Microsoft Project schedule to use as a guide as well as GDOT initial schedule template.

IX. Agency Coordination/Communication (Ziegler)

- All project team correspondence should go through the City of Johns Creek and include GDOT PM. Chris Haggard who will serve as the Johns Creek PM on this project but also copy Cindy Jenkins.
- May contact individual offices at GDOT directly, but copy the PM on all correspondence.

- Follow up on any submittals or requests to GDOT if no response is received within 3 business days.

X. Other/Miscellaneous (Ziegler)

- Future meetings will be set up as required.
- Regular meetings may be set up as the project moves forward.

XI. Summary of Action Items

- GDOT PM will provide survey control information to Cardno and will send aerial mapping information upon completion in Jan/Feb 2014.
- URS to request crash data from GDOT.
- TYLI to identify potential utility impacts and forward to GDOT for cost estimate.
- TYLI to revise layout per previous discussion items and send to GDOT for SME review.
- GDOT PM to provide example schedule to TYLI (received 12/5/13).
- TYLI to provide draft schedule and task list to City and GDOT for review and approval.

This summary represents our understanding of the meeting minutes from December 5, 2013. Please contact Tom Ziegler (thomas.ziegler@tylin.com) or Brian O'Connor (brian.oconnor@tylin.com) with any revisions or additions.

MEETING MINUTES

T·Y·LIN INTERNATIONAL

Meeting Date	May 27, 2014
Meeting Time	2:00 pm – 3:00 pm
Meeting Location	GDOT OPD Conference Room – 25th Floor
Facilitator	Peter Emmanuel – GDOT PM
Minutes Prepared By:	Brian O'Connor
Topic	PI 0010418 – SR 120/Kimball Bridge Road Widening – FHWA Meeting

Peter Emmanuel	GDOT OPD
Bobby Dollar	GDOT OES
Jennifer Giersch	FHWA
Tom Black	City of Johns Creek
Chris Haggard	City of Johns Creek
Tom Ziegler	T.Y. Lin International
Brian O'Connor	T.Y. Lin International
Todd Barker	Adrian Collaborative

Meeting Summary

The meeting was held as a continuation of topics from the May 7th status meeting by GDOT, FHWA, the City of Johns Creek (COJC), and the consultant team for the State Route (SR) 120 / Kimball Bridge Road Widening project between Old Milton Road and Jones Bridge Road. In particular, the topics focused on the environmental findings to date and a request to prepare NEPA documentation as a Categorical Exclusion (CE). The discussion and action items appear below:

1. Peter opened the meeting with a general discussion of the previous topics, the need to confirm environmental schedule, and the desire to begin the NEPA process as a CE.

2. Tom Ziegler provided a technical overview of the project, including a summary of previous and adjacent projects and how the proposed concept makes efficient use of the existing pavement and right-of-way (ROW).

    - Previous projects by Fulton County and GDOT involved improvements to the major intersections at State Bridge Road and Jones Bridge Road, with multilane sections on either end and some four-lane sections along the SR 120 approaches. South of Jones Bridge Road, a current COJC project is underway for operational improvements to SR 120.

    - One historic property was moved prior to construction of previous roadway improvements, so that the same parcel remains in the proposed limits while the primary historic structure has been set back away from SR 120.

    - Two residences built later within the front edge of a subdivision are the only two parcels currently estimated for relocations by the proposed SR 120 / Kimball Bridge Road project

    - The proposed concept uses a high percentage of existing pavement within the existing ROW. Approximately 0.5 mile remains to be widened within the 1.25-mile limits.

3. Tom and Chris described the traffic flow, the city's priority need for the short widening, and recent stakeholder coordination.

4. Todd provided an overview of the NEPA findings, related projects, anticipated impacts, and project definition as follows:

- Previous projects PI 751410 and PI 731835 were researched to determine NEPA status and previous impacts. Both were approved as CE's more than 15 years ago, with construction complete between 2000 and 2003. Impacts were minimal: no Waters of the US, three to five relocations including the historic home that has been relocated onto the same parcel, and no other known historic or archeological resources.

- Concurrent project PI 0007310 is underway with NEPA studies for operational improvements on SR 120 / Abbots Bridge Road from Jones Bridge Road to Parsons Road. The special studies do not indicate any Waters of the US, historic resources, or relocations.

- Much of the proposed new SR 120 widening would occur within the same limits as these projects. Of the 1.25-mile length, 55 percent of the widening is located within existing pavement.

- The primary resource area of concern is on the historic homestead parcel, where the structures, pond, and stream are located near the edge of proposed ROW. No impacts are expected to Waters of the US, consistent with the previous and adjacent projects mentioned. Any impacts on historic properties would be at a *de minimis* level for frontage to accommodate a sidewalk.

- Regarding the NEPA class of action, the combination of operational improvements and widening within existing operational ROW would be candidates for a CE under the FHWA approved (d) list of project types.

Todd asked Jennifer Giersch to consider the project for processing as a CE and to ask any questions to help clarify the project or NEPA scope.

5. Jennifer expressed FHWA's willingness to be flexible on smaller-scale widening projects. Her reaction to the proposed project and decision about the NEPA process are as follows:

   - SR 120 / Kimball Bridge Road project appears to be consistent with the scale of a CE.

   - An important factor will be justifying that the project provides logical termini. Tom and Chris described other local and GDOT projects underway that will improve traffic conditions within the broader SR 120 corridor and its major intersections. Todd offered to write an expanded discussion of logical termini and potential for indirect and cumulative impacts based on the land use patterns.

   - The potential for controversy can affect the NEPA class of action and should be considered.

6. Jennifer agreed that the project could proceed as a CE with the following conditions:

   - The CE will have an expanded discussion of logical termini and how adjacent projects already programmed will provide other needed improvements.

   - A discussion of indirect and cumulative impacts will be added, based on a review of zoning and adjacent land uses (a full-scale analysis would not be necessary).

   - Public involvement will continue, and no major controversy will occur as a result of the proposed project.

This summary represents our understanding of the meeting minutes from May 27, 2014. Please contact Tom Ziegler (thomas.ziegler@tylin.com) or Brian O'Connor (brian.oconnor@tylin.com) with any revisions or additions.

MEETING MINUTES

T·Y·LIN INTERNATIONAL

Meeting Date	May 7, 2014
Meeting Time	3:00 pm – 4:30 pm
Meeting Location	GDOT OPD Conference Room – 25th Floor
Facilitator	Peter Emmanuel – GDOT PM
Minutes Prepared By:	Brian O'Connor
Topic	PI 0010418 – SR 120/Kimball Bridge Road Widening – Status Meeting

Peter Emmanuel	GDOT OPD
Albert Shelby	GDOT OPD
Gail D'Avino	GDOT OES
Kimberly Nesbitt	GDOT OES
Henry Green	GDOT Planning
Julia Billings	GDOT Planning
Tom Black	City of Johns Creek
Chris Haggard	City of Johns Creek
Cindy Jenkins	City of Johns Creek
Tom Ziegler	T.Y. Lin International
Brian O'Connor	T.Y. Lin International

Meeting Summary

The meeting was held to serve as a project status and schedule discussion meeting with GDOT and the City of Johns Creek (COJC) for the 120/Kimball Bridge Road Widening project between Old Milton Road and Jones Bridge Road. General discussion of the project status and schedule below:

1. The meeting opened with a general discussion regarding the proposed COJC schedule submitted, the ARC TIP schedule and the GDOT P6/TPRO schedule.

    - The current TIP schedule still has R/W authorization in FY 2016 and GDOT stated that this would not change unless COJC submits a request to ARC for it to move, even if the GDOT Congressional District Balancing may show something different.

    - The current GDOT P6 schedule has R/W authorization in FY 2018. TY Lin had previously reviewed the P6 schedule and identified areas that the schedule could potentially pull forward.

    - GDOT stated that start and end dates for items underway or completed must be submitted to GDOT in order to look at pulling the schedule forward.

    - GDOT OES voiced concerns over the timing of several submittal and approval dates within the COJC schedule. COJC and TY Lin agreed to review the schedule to update for current start, completion and submittal dates while also matching the review times for submittals to those in the P6 schedule.

    - Peter will need the final schedule for approval no later than May 26, 2014 for the June 6, 2014 Schedule Review Committee Meeting.

2. COJC will prepare a draft environmental screening letter to GDOT PM so that a meeting can be set up with GDOT OES to discuss NEPA activities and schedule in detail. This meeting is being scheduled for the week of May 19th.

3. COJC will develop a written request for GDOT OES to present to FHWA in order to discuss allowing a CE for this project as opposed to an EA. This request will include all identified potential environmental resources as well as potential impacts or mitigation procedures for each.

- The ecology surveys have been completed and the document is being prepared. There does not appear to be a suitable habitat for the GA Aster within the project limits, so the ecology submittal is being prepared for a June submittal. If GDOT does not concur with these findings, the GA Aster study will be completed in fall of 2014 and the report resubmitted.

- The Northern Long-eared bat has been located within Fulton County and a habitat survey must be completed as part of the ecology. COJC has recently coordinated with GDOT OES on the long-eared bat survey for projects adjacent to this one was and was able to get a concurrence of no suitable habitat without conducting a full study. COJC will attempt to coordinate with GDOT OES in the same manner on this project before adding a task or firm to complete the bat habitat survey.

4. GDOT currently has $10 million shown for R/W acquisition on this project. COJC has put together a concept level R/W estimate with a number closer to $3-4 million.

    - COJC requested that the funds be shifted from R/W to Construction to avoid losing the money due to Congressional balancing.

    - GDOT stated that the funds should stay as they currently are until R/W authorization has occurred and a detailed R/W estimate has been completed. At that time, COJC could submit a request to shift any excess R/W funds to construction funds.

5. GDOT requested that COJC submit a draft concept report with updated conceptual layout showing all identified environmental resources and typical section as soon as possible.

6. Summary of Action Items

    - COJC to prepare a draft environmental screening to GDOT

    - GDOT PM to set up a meeting with COJC and GDOT OES to discuss NEPA activities and schedule.

    - COJC to submit an updated schedule with submittal and review dates updated.

    - COJC to prepare a written request for GDOT OES to discuss level of environmental document necessary for this project with FHWA

    - COJC will submit a draft concept report to GDOT PM

    - COJC will submit a final schedule to GDOT no later than 5/26/14.

This summary represents our understanding of the meeting minutes from May 7, 2014. Please contact Tom Ziegler (thomas.ziegler@tylin.com) or Brian O'Connor (brian.oconnor@tylin.com) with any revisions or additions.

Stakeholder Meeting Summaries
PI 0010418
City of Johns Creek
SR 120/Kimball Bridge Road Widening

3/26/14 – Alpharetta Parks:

- Met on site to discuss park concerns
- Agreed that improved access to the park would make sense
- Was not opposed to adding right in/out access to Kimball Bridge
- Liked idea of possible roundabout at park entrance

3/27/14 – Bridgeway Christian Academy:

- Discussed potential drive relocation to line up with subdivision across the street
- Discussed how parents entered and exited the parking area. Gravel access and lot only used sparingly
- The school has approximately 200 students
- Only future plans could involve property purchase to add a worship center, but no funding devoted to this at this time.
- Asked about a traffic light
- Discussed schedule of project

4/1/14 – Kimball Parc Way HOA:

- Discussed their difficult left turn out movement due to narrow median. 20' raised median would help the situation.
- Discussed the heavy u-turn movement in front of neighborhood and heavy amount of traffic entering neighborhood to complete the u-turn movement.
- Discussed pedestrian connectivity and they support access to park.

4/8/14 – Brookhollow HOA:

- Discussed difficult left out of subdivision and dangerous situation with speeding motorist passing in left and right turn lanes.
- Discussed GDOT resurfacing project which will stripe 2 through lanes across HOA.
- Discussed safety concerns of left turns in ultimate condition and the possibility of right in/out access with immediate u-turn possibility.
- Discussed adding no outlet sign to neighborhood to reduce accidental traffic in neighborhood.
- In support of improved sidewalk/trails with access to park.
- Requested speed limit reduction in front of neighborhood. A speed study will be investigated after restriping project is completed.
- Asked about a traffic light
- Supported idea of access along Webb Bridge Road to park. Also indicated churches and daycares along Webb Bridge Road may support improved access to Kimball Bridge Road.

4/9/14 – Ashlee Oaks HOA:

- Discussed pedestrian safety and obstructions to pedestrian sight distance at Kimball Bridge Road and Webb Bridge Way. Moving signs will be investigated.
- Discussed pavement condition where sewer line constructed at subdivision entrance. Potential overlay of area will be investigated.

- Discussed parcel ownership of first two homes. HOA claims they own a portion of the parcel behind the homes. They intend to add to the existing wall to increase sound barrier. Wanted to understand location of road improvements, which are still unknown.
- Discussed that the first two homes are impacted by noise and physically shake when a large truck drives by homes on Kimball Bridge Road.
- Discussed traffic concerns along Webb Bridge Way.
- Supported idea of access along Webb Bridge Road to park.

4/16/14 – Lutheran Church:

- Discussed backups due to Bridgeway School and soccer on Saturdays
- Possible future plans to build an education wing to the northeast of the existing building but hoping to maintain the existing parking
- Discussed current church events which are mostly on Wednesdays and Sundays. Weekend before Christmas, they host a living nativity scene.
- Discussed the existing property lines and the church concurred with the GIS information shown
- Expressed concern about the church sign, the new parking lot lighting and maintaining enough throat in the entrance to maintain current traffic patterns.
- Discussed existing stormwater runoff issues to the rear of the property between the church and Hampton Square subdivision

REPORT

Pavement Evaluation Summary
SR 120/ Kimball Bridge Road
P.I. No. 0010418
Fulton County,
Johns Creek, Georgia

Project Number
2013.3807.01

July 22, 2014
Revised
August 14, 2014

We're here for you
UNITED CONSULTING

We're here for you
UNITED CONSULTING

July 22, 2014
Revised August 14, 2014

Mr. Thomas Zeigler, P.E.
T.Y. Lin International
260 Peachtree Street
Suite 900
Atlanta, GA 30303

Via Email: thomas.ziegler@tylin.com

PROJECT: Report of Pavement Evaluation Summary
SR 120 / Kimball Bridge Road
GDOT P.I. No. 0010418
Johns Creek, Fulton County, Georgia
UC Project No. **2013.3807.01**

Dear Mr. Zeigler:

United Consulting is pleased to submit this report of the Pavement Evaluation Summary for the above referenced project site. This revision was performed in accordance to an email dated July 17, 2014 from Mr. Chris Haggard with the City of Johns Creek and email dated August 11, 2014 from Mr. Brian O'Connor of T.Y Lin. The format of this report is consisted with GDOT-OMT pavement evaluation format however the fieldwork was not consistent with GDOT pavement Evaluation Manual. We appreciate the opportunity to assist you with this project and look forward to working with you on future projects. If you have any questions regarding this report, or if we can of further assistance, please feel free to contact us.

Sincerely,

UNITED CONSULTING

Ray E. Halbert, P.E.
Senior Geotechnical Engineer

GEORGIA REGISTERED NO. 23121 PROFESSIONAL ENGINEER MEHDI MOGHZAMI

Mehdi Moghzami, Ph.D., P.E.
Senior Engineer

REH/MM/nj

Revised
August 14, 2014

http://ucblade10/sites/Geotechenv/11425/2013.3807.01/Geotechnical Documents/2013.3807.01 PES Revised 8-14-2014.doc

PAVEMENT EVALUATION SUMMARY

For

SR 120/ Kimball Bridge Road, Fulton County, Georgia
PI No. 0010418

1. LOCATION / DESCRIPTION

This project is for the roadway improvement, widening of SR 120 / Kimball Bridge Road from Old Milton Road to Jones Bridge Road located within the City of Johns Creek and the City of Alpharetta, Fulton County, Georgia. The proposed project limits include approximately 6,800 feet along SR 120 from State Bridge Road to Jones Bridge Road and for 100 feet in each direction from the centerline with the road lengths as follows:

For the purpose of this report, **SR 120** is considered an East-West oriented roadway. Travel lanes are designated with numbers. **Webb Bridge Way** is considered a north-south oriented roadway and **Webb Bridge Road** is considered an east-west oriented roadway. The stations for SR 120 were determined in the field by measuring from a surveyors marked distance closest to the intersection with Old Milton Parkway. Measuring from that known field marking back to the intersection of Old Milton Parkway, the starting station for SR 120 began at Station 100+10 at the crosswalk.

Station to Station	Location
100+00 to 168+00	SR 120 / Kimball Bridge Road
0+00 to 10+00	SR 120 Connection Ramp
0+00 to 8+00	Webb Bridge Way
0+00 to 10+00	Webb Bridge Road

The following types of construction are recommended along the roadway improvement for SR 120:

Road	Station to Station	Type of Construction
SR 120/Kimball Bridge Road-Westbound	100+00± to 168+00± 114+00 ± to 168+00±	Inlay/ Overlay Construction Full Depth Construction for Widening
SR 120/Kimball Bridge Road-Eastbound	100+00± to 168+00± 104+00± to 168+00±	Inlay/ Overlay Construction Full Depth Construction for Widening
Side Roads		
SR 120 Connector Ramp	0+00 to 10+00±	Inlay/ Overlay Construction
SR 120 WB Lane 4 RTL	112+04± to 120+57±	Full Depth Replacement
Webb Bridge Way	0+00 to 8+00±	Inlay/ Overlay Construction and

Road	Station to Station	Type of Construction
		Full Depth Construction for Widening
Webb Bridge Road	0+00 to 10+00±	Full Depth Construction

Notation:
Inlay/Overlay Construction = Existing roadway, overlay conditions are acceptable.
Full Depth Construction = Widening, new roadway and/or alignment.
Full Depth Replacement = Existing Roadway cannot accommodate overlay due to required overlay thickness in excess of 9.00 inches or due to new profile. Extension of the main line Full Depth Construction to the turnouts of the side roads is recommended.

For purposes of this report, SR 120/ Kimball Bridge Road and Webb Bridge Road will be considered an east-west oriented roadway. The remaining side roadways will be considered north-south oriented roadway.

2. PAVEMENT CONDITION SUMMARY

The existing pavement for SR120 is in good to fair condition based on the findings of our field observation. Full Depth Construction is recommended for widening area. Mill and overlay conditions are recommended for the existing pavement. See "**Section 10 - Assumptions and Justifications" section** for details.

3. FULL-DEPTH SECTIONS

The following full-depth pavement structures are recommended for use on this project.

SR 120 FLEXIBLE PAVEMENT DESIGN

(With Curb & Gutter)				
PAY ITEM NUMBER	**MATERIAL**	**COURSE**	**THICKNESS**	**SPREAD RATE**
402-3130	12.5 mm Superpave	Surface	1.50 inches	165 lbs/yd^2
402-3190	19 mm Superpave	Binder	2.00 inches	220 lbs/yd^2
402-3121	25 mm Superpave	Asphalt Base	9.50 inches	1045 lbs/yd^2
310-1101	Graded Aggregate Based	Base	12.00 inches	N/A

WEBB BRIDGE WAY FLEXIBLE PAVEMENT DESIGN

(With Curb & Gutter)				
PAY ITEM NUMBER	**MATERIAL**	**COURSE**	**THICKNESS**	**SPREAD RATE**
402-3130	12.5 mm Superpave	Surface	1.50 inches	165 lbs/yd^2
402-3190	19 mm Superpave	Binder	2.00 inches	220 lbs/yd^2
402-3121	25 mm Superpave	Asphalt Base	7.00 inches	770 lbs/yd^2
310-1101	Graded Aggregate Based	Base	12.00 inches	N/A

WEBB BRIDGE ROAD FLEXIBLE PAVEMENT DESIGN

(With Curb & Gutter)				
PAY ITEM NUMBER	**MATERIAL**	**COURSE**	**THICKNESS**	**SPREAD RATE**
402-3130	12.5 mm Superpave	Surface	1.50 inches	165 lbs/yd^2
402-3190	19 mm Superpave	Binder	2.00 inches	220 lbs/yd^2
402-3121	25 mm Superpave	Asphalt Base	5.00 inches	550 lbs/yd^2
310-1101	Graded Aggregate Based	Base	12.00 inches	N/A

4. OVERLAY SECTIONS

The existing asphalt pavement along SR 120 from Station 100+00 to Station 168+00 does not exceed the distress criteria as outlined in Appendix E.

We recommend that the existing pavement along the following roadways be milled and inlayed/ overlaid as follows:

- **SR 120** from **Station 100+00± to Station 104+00±** Eastbound and **Station 100+00± to Station 114+00±** Westbound be partially milled 1.50 inches to remove existing cracked asphalt. Based on the visual observation, due to recent pavement overlay, no milling is required for Station 104+00± to 168+00± Eastbound and Station 114+00± to 168+00± Westbound. Where no milling is required, we recommend applying a tack coat prior to construction of the overlay.

- See "Additional Recommendations" and "Assumptions and Justifications" section below.

After milling and immediately prior to inlaying/overlaying, we recommend that any surface cracks shall be sealed with a Type M crack sealant, as per Section 407 of the Standard Specifications. The following overlay structures are recommended for use on this project.

SR120 INLAY/ OVERLAY

Sta. 100+00± to 104+00± Eastbound and Sta. 100+00± to 114+00± Westbound (With Curb & Gutter)				
Pay Item Number	**Material**	**Course**	**Thickness**	**Spread Rate**
402-3130	12.5 mm Superpave	Surface	1.50 inches	165 lbs/yd^2
402-3190	19 mm Superpave	Binder	2.25 inches	247 lbs/yd^2
402-3121	25 mm Superpave	Asphalt Base	4.00 inches	440 lbs/yd^2

SR120 INLAY/ OVERLAY

Sta. 104+00± to 168+00± Eastbound and Sta. 114+00± to 168+00± Westbound (With Curb & Gutter)				
Pay Item Number	**Material**	**Course**	**Thickness**	**Spread Rate**
402-3130	12.5 mm Superpave	Surface	1.50 inches	165 lbs/yd^2
402-3190	19 mm Superpave	Binder	2.00 inches	220 lbs/yd^2
402-3121	25 mm Superpave	Asphalt Base	4.00 inches	440 lbs/yd^2

WEBB BRIDGE WAY INLAY/ OVERLAY

(With Curb & Gutter)				
Pay Item Number	**Material**	**Course**	**Thickness**	**Spread Rate**
402-3130	12.5 mm Superpave	Surface	1.50 inches	165 lbs/yd^2
402-3190	19 mm Superpave	Binder	4.00 inches	440 lbs/yd^2

Please refer to **Section 10 "Assumptions and Justifications"** of the report.

5. PAVEMENT CONDITION SUMMMARY

Except for the following, no other significant distresses were encountered during the field exploration of this project:

Rutting On **SR 120,** the maximum rutting observed was 1/4 of an inch within the evaluated sections.

The maximum rutting of ¼ of an inch was observed on Webb Bridge Way near Station 1+50 in the southbound, Lane 2, right turn lane.

Load Cracking On **SR 120,** predominantly Level 1 load cracking was observed within the evaluated sections. However, from Station 104+50 eastbound and 114+00 westbound to the end of the project at Station 168+00, no load distresses were visible due to newly paved surface.

Block/ Transverse Cracking On **SR 120,** predominantly Level 1 and Level 2 block/transverse cracking was observed within the evaluated sections. Note: Newly paved surface was observed from 104+50 eastbound and 114+00 westbound to the end of the project at Station 168+00.

Reflection Cracking On **SR 120,** no visible reflection cracking was observed during this field investigation.

Edge Distress On **SR 120,** no visible distresses of edge distress were observed during this field investigation.

Raveling On **SR 120,** no significant distresses of raveling were observed during this field investigation. On **Webb Bridge Way**, Level 1 raveling distress was observed within the evaluated section.

Bleeding/ Flushing On **SR 120**, no significant distresses or bleeding were observed during this field investigation.

Corrugation/ Pushing On **SR 120,** Corrugation or Pushing was not noted during this field investigation.

Loss of Section On **SR 120,** Loss of Section was not noted during this field investigation.

Patches, Potholes, and Local Base Failures On **SR 120,** patches, potholes or local base failure was not observed during this field investigation.

6. CORES

Cores were recovered from ten (10) separate locations in the travel lanes of this project to determine the thicknesses and condition of the existing pavement sections. The results of the coring operation are tabulated below:

Core/ Sample Number	Location	Station/Direction/ Location	Asphalt Core Length (inches)	Core Condition	Underlying Material
1	SR 120	**161+40 EB, Ln 1, DW, 2.5' Rt**	11.00	Good, No visible stresses	Compacted Sand
2	SR 120	**157+54 WB, Shldr, (2.0') Rt**	10.00	Good, No visible stresses	Compacted Sand
3	SR 120	**150+27 WB, Ln 1, CL**	9.00	Good, No visible stresses	GAB=6"
4	Webb Bridge Road	**5+40 CL**	5.50	Fair, Horizontal crack at 2.5"	Compacted Sand/Gravel
5	SR 120	**135+00 WB, Ln 1, DW, 3.0' Lt**	12.00	Good to fair; 8.50" sample removed, 3.50" sample cracked, unable to remove.	Unknown
6	Webb Bridge Way	**1+50 SB, Ln 1, DW, 3.0' Lt**	10.00	Good, some air voids observed at 6"	Compacted Sand
7	SR 120	**123+00 EB, Shldr, 48' Rt**	11.00	Good to fair; sample recovered in 3 parts; horizontal break at 4", 7", vertical break from 7" to 11"	Compacted Sand/Gravel
8	SR 120	**118+50 WB, Ln 4, RTL, PW, 53.0' Lt**	6.75	Good	Compacted Sand/Gravel
9	SR 120	**110+50 WB, Ln 3, RTL (2.0') Rt**	11.00	Good	Compacted Sand/Gravel
10	SR 120	**104+00 WB, Ln 1, LTL, DW, 3.0' Lt**	11.50	Good	Compacted Sand/Gravel

Notation:
CL = Centerline
DW = Driver's Wheel Path
EB = Eastbound
GAB= Graded Aggregate Base
Ln = Designated Travel Lane
Lt = Left of the existing centerline, direction of travel (lower to higher station)
NB = Northbound
PW = Passengers Wheel Path
Rt = Right of the existing centerline, direction of travel (lower to higher station)
RTL = Right Turn Lane
SB = Southbound
Shldr = Shoulder

7. OTHER INFORMATION

- The Soil Survey Summary for this project was not obtainable as of the issuance of this report. The attached pavement designs used the design values recommended in Appendix G and H of the GDOT Pavement Design Manual. Upon review by GDOT, if different design values are recommended, a revised report will be issued based on the new design values.

- The traffic information provided below is based on Mr. Brian O'Connor of **T.Y. Lin International** via email dated July 7, 2014 and July 18, 2014.

- The full-depth, mill and overlay design analyses are attached to this report. All designs are based on a computer program named GDOT Pavement Design Version 2.0 developed by Georgia Department of Transportation, Pavement Management Branch.

- **Design Considerations for SR 120**
  - Number of lanes (in one-direction): 2
  - With Curb and Gutter
  - Provided Traffic Date A.D.T. (2020): 36,240; (2040): 52,850
  - Provided Project Let Date: 2016
  - **TRAFFIC DATA**
    - A.D.T. (2020): 36,240 (Two-Way)
    - A.D.T. (2040): 52,850 (Two-Way)
    - Directional Distribution: 50/50
    - Lane Distribution: 85/15
    - % 24 Hr. Trucks: 10.2%
    - % MU: 1.4%, % SU: 8.8%
    - Function Class: Urban Principle Arterial

- Speed Design: ≤ 45 mph
- Terminal Serviceability Index: 2.50
- Soil Support: 2.0 (Appendix G)
- Regional Factor: 1.8 (Appendix H)

- **Design Considerations for Webb Bridge Way**
  - Number of lanes (in one-direction): 1
  - With Curb and Gutter
  - Provided Traffic Date A.D.T. (2020): 13,950; (2040): 20,330
  - Provided Project Let Date: 2016
  - **TRAFFIC DATA**
    - A.D.T. (2020): 13,950 (Two-Way)
    - A.D.T. (2036): 20,330 (Two-Way)
    - Directional Distribution: 50/50
    - Lane Distribution: 100
    - % 24 Hr. Trucks: 7.9%
    - % MU: 1.8%, % SU: 6.1%
    - Function Class: Light State Route
    - Speed Design: ≤ 45 mph
    - Terminal Serviceability Index: 2.50
    - Soil Support: 2.0 (Appendix G)
    - Regional Factor: 1.8 (Appendix H)

- **Design Considerations for Webb Bridge Road**
  - Number of lanes (in one-direction):1
  - With Curb and Gutter
  - Provided Traffic Date A.D.T. (2020): 4,661; (2040): 6,802
  - Provided Project Let Date: 2016
  - **TRAFFIC DATA**
    - A.D.T. (2020): 4,661 (Two-Way)
    - A.D.T. (2040): 6,802 (Two-Way)
    - Directional Distribution: 70% Westbound/ 30% Eastbound
    - Lane Distribution: 100
    - % 24 Hr. Trucks: 7.9%
    - % MU: 1.8%, % SU: 6.1%
    - Function Class: Light State Route
    - Speed Design: ≤ 45 mph
    - Terminal Serviceability Index: 2.50
    - Soil Support: 2.0 (Appendix G)
    - Regional Factor: 1.8 (Appendix H)

- **Mill and inlay the top 1.50 inches** of the existing pavement for the project at all tie-in areas. See "**Additional Recommendations Section**" for more details.

- **Testing**
  No laboratory testing of sampled flexible asphalt core samples were performed.

- **For SR 120 Eastbound**
  - From Station 100+00± to Station 104+00±, is an existing 2 lane roadway.
  - From Station 104+00± to Station 168+00± the existing roadway is newly paved.

- **For SR 120 Westbound**
  - Station 100+00± to Station 114+00, is an existing 2 lane roadway with 3 turn added as they approach the intersection.
  - Station 114+00± to Station 168+00± the existing roadway is newly paved.

8. ADDITIONAL RECOMMENDATIONS

- We recommend a minimum 200 foot tie-in transition for SR 120 at the beginning and ending of the project. In addition, we recommend a minimum 100 foot tie-in transition for the side roads. The tie-in transition will consist of milling 1.50 inches and inlay with 12.5 mm Superpave asphalt concrete mix.

- We recommend that the mainline full depth construction be extended to all side roads to the turnouts.

- New pavements should be constructed flush with all existing and/or new utility manholes or vaults.

- We recommend staggered joints for each asphaltic concrete layer to reduce the potential moisture migration from subgrade soils.

- We recommend the application of a 2 foot wide pavement reinforcement fabric, centered on joints to reduce the potential for crack migration through the new asphalt.

- We recommend milling the asphaltic concrete pavement, as per Section 432 of the Standard Specifications.

- We recommend waterproofing the joints and cracks of the asphalt concrete pavement prior to the overlaying operation, as per Section 445 of the Standard Specifications.

- After milling and immediately prior to inlaying/overlaying, we recommend that any surface cracks shall be sealed with a Type M crack sealant, as per Section 407 of the Standard Specifications.

9. ASSUMPTIONS AND JUSTIFICATIONS

- The provided pavement design is based on the traffic information provided by **T.Y. Lin International.**

- The station locations for SR 120 and all roadways associated with this project were not provided or staked in the field by a surveyor. United Consulting determined the approximate location of these stations by using a measuring wheel from the nearest identified stationary object marked on the provided plans.

10. LIMITATIONS=

This report is for the exclusive use of the **Georgia Department of Transportation (GDOT), City of Johns Creek,** its agents, and **T.Y. Lin International** the designers of the project described herein, and may only be applied to this specific project. Our conclusions and recommendations have been prepared using generally accepted standards of Pavement Engineering practice in the State of Georgia and are valid for a period of two years from the issuance of this report. Should the implementation of the recommendations presented in this report be delayed more than two years, re-evaluation of the pavement should be performed. No other warranty is expressed or implied. Our firm is not responsible for conclusions, opinions or recommendations of others. The right to rely upon this report and the data within may not be assigned without **UNITED CONSULTING'S** written permission.

Our preliminary conclusions and recommendations are based upon design information furnished to us, data obtained from the previously described exploration and testing program and our past experience. They do not reflect variations in the subsurface conditions that may be present intermediate of our coring/ borings and in unexplored areas of the site. Should such variations become apparent during construction, it will be necessary to re-evaluate our conclusions and recommendations based upon "on-site" observations of the conditions.

Our conclusions and recommendations are based on our site reconnaissance, anticipated existing pavement thickness, and our past experience.

UNITED CONSULTING

Reported By: Ray E. Halbert, P.E.

Reviewed By: Mehdi Moazzami, Ph.D., P.E.

Flexible Pavement Design Analysis

PI Number	0010418	**County(s)**	Fulton (north)
Project Number	UC Project No. 2013.3807.01	**Design Name**	SR 120/ Kimball Bridge Road
Project Description	SR 12-/ Kimball Bridge Road		

Traffic Data (AADTs are one-way)						**Miscellaneous Data**	
Initial Design Year	2020	**Initial AADT, VPD**	18,120	**24 Hour Truck %**	10.20	**Lanes in one direction**	1
Final Design Year	2040	**Final AADT, VPD**	26,425	**SU Truck %**	8.80	**Curb & Gutter/Barrier**	Yes
		Mean AADT, VPD	22,273	**MU Truck %**	1.40		

Design Data					
Lane Distribution Factor (%)	85.00	**Soil Support Value**	2.00	**Single Unit ESAL**	0.40
Terminal Serviceability Index	2.50	**Regional Factor**	1.80	**Multiple Unit ESAL**	1.50
		User Defined 18-KIP ESAL	0.73	**Calculated 18-KIP ESAL**	0.55
Non-Standard Value Comment					

Design Loading (User Provided 18-KIP ESAL Factor)					
Mean AADT, VPD	**LDF (%)**	**Vehicle Type**	**Volume (%)**	**ESAL Factor**	**Daily ESAL**
22,273	85.00	24 Hour Truck	10.20	0.73	1,410
				Total Design Period ESALs	10,293,000

Proposed Flexible Full Depth Pavement Structure				
Course	**Material**	**Thickness (inches)**	**Structural Coefficient**	**Structural Value**
Course 1	12.5 mm Superpave	1.50	0.4400	0.66
Course 2	19 mm Superpave	2.00	0.4400	0.88
Course 3	25 mm Superpave	1.00	0.4400	0.44
		8.50	0.3000	2.55
Course 4	Graded Aggregate Base	12.00	0.1600	1.92

Required SN	6.73	**Proposed pavement is 4.20% Underdesigned**	**Proposed SN**	6.45

Design Remarks	Full Depth Flexible Pavement with GAB with Curb and Gutter

Prepared By 8/8/2014 8:59 AM

United Consulting **Date**

Recommended By

Office Head **Date**

Approved By

State Pavement Engineer **Date**

Filename: C:\Documents and Settings\XPMUser\My Documents\GDOT Pavement Design Tool v1.0.xlsm

GDOT Pavement Design Tool - Version 1.0 August 21, 2012

Flexible Pavement Design Analysis

PI Number	0010418	**County(s)**	Fulton (north)
Project Number	UC Project No. 2013.3807.01	**Design Name**	Webb Bridge Way
Project Description	SR 120/ Kimball Bridge Road		

Traffic Data (AADTs are one-way)						**Miscellaneous Data**	
Initial Design Year	2020	**Initial AADT, VPD**	6,975	**24 Hour Truck %**	7.90	**Lanes in one direction**	1
Final Design Year	2040	**Final AADT, VPD**	10,165	**SU Truck %**	6.10	**Curb & Gutter/Barrier**	Yes
		Mean AADT, VPD	8,570	**MU Truck %**	1.80		

Design Data					
Lane Distribution Factor (%)	100.00	**Soil Support Value**	2.00	**Single Unit ESAL**	0.40
Terminal Serviceability Index	2.50	**Regional Factor**	1.80	**Multiple Unit ESAL**	1.50
		User Defined 18-KIP ESAL	0.73	**Calculated 18-KIP ESAL**	0.65
Non-Standard Value Comment					

Design Loading (User Provided 18-KIP ESAL Factor)					
Mean AADT, VPD	**LDF (%)**	**Vehicle Type**	**Volume (%)**	**ESAL Factor**	**Daily ESAL**
8,570	100.00	24 Hour Truck	7.90	0.73	495
				Total Design Period ESALs	3,613,500

Proposed Flexible Full Depth Pavement Structure				
Course	**Material**	**Thickness (inches)**	**Structural Coefficient**	**Structural Value**
Course 1	12.5 mm Superpave	1.50	0.4400	0.66
Course 2	19 mm Superpave	2.00	0.4400	0.88
Course 3	25 mm Superpave	1.00	0.4400	0.44
		6.00	0.3000	1.80
Course 4	Graded Aggregate Base	12.00	0.1600	1.92

Required SN 5.87 **Proposed pavement is 2.86% Underdesigned** **Proposed SN** 5.70

Design Remarks	Full Depth Flexible Pavement with GAB with Curb and Gutter

Prepared By 8/8/2014 9:14 AM

United Consulting **Date**

Recommended By

Office Head **Date**

Approved By

State Pavement Engineer **Date**

Flexible Pavement Design Analysis

PI Number	0010418	**County(s)**	Fulton (north)
Project Number	UC Project No. 2013.3807.01	**Design Name**	Webb Bridge Road
Project Description	SR 120/ Kimball Bridge Road		

Traffic Data (AADTs are one-way)						**Miscellaneous Data**	
Initial Design Year	2020	**Initial AADT, VPD**	3,263	**24 Hour Truck %**	7.90	**Lanes in one direction**	1
Final Design Year	2040	**Final AADT, VPD**	4,761	**SU Truck %**	6.10	**Curb & Gutter/Barrier**	Yes
		Mean AADT, VPD	4,012	**MU Truck %**	1.80		

Design Data					
Lane Distribution Factor (%)	100.00	**Soil Support Value**	2.00	**Single Unit ESAL**	0.40
Terminal Serviceability Index	2.50	**Regional Factor**	1.80	**Multiple Unit ESAL**	1.50
		User Defined 18-KIP ESAL	0.73	**Calculated 18-KIP ESAL**	0.65
Non-Standard Value Comment					

Design Loading (User Provided 18-KIP ESAL Factor)

Mean AADT, VPD	**LDF (%)**	**Vehicle Type**	**Volume (%)**	**ESAL Factor**	**Daily ESAL**
4,012	100.00	24 Hour Truck	7.90	0.73	232
				Total Design Period ESALs	1,693,600

Proposed Flexible Full Depth Pavement Structure

Course	**Material**	**Thickness (inches)**	**Structural Coefficient**	**Structural Value**
Course 1	12.5 mm Superpave	1.50	0.4400	0.66
Course 2	19 mm Superpave	2.00	0.4400	0.88
Course 3	25 mm Superpave	1.00	0.4400	0.44
		4.00	0.3000	1.20
Course 4	Graded Aggregate Base	12.00	0.1600	1.92

Required SN 5.29 **Proposed pavement is 3.57% Underdesigned** **Proposed SN** 5.10

Design Remarks	Full Depth Flexible Pavement with GAB with Curb and Gutter

Prepared By 8/8/2014 9:24 AM

United Consulting **Date**

Recommended By

Office Head **Date**

Approved By

State Pavement Engineer **Date**

Flexible Pavement Design Analysis

PI Number	0010418	**County(s)**	Fulton (north)
Project Number	UC Project No. 2013.3807.01	**Design Name**	SR 120/ Kimball Bridge Road
Project Description	SR 120/ Kimball Bridge Road		

Traffic Data (AADTs are one-way)						**Miscellaneous Data**	
Initial Design Year	2020	**Initial AADT, VPD**	18,120	**24 Hour Truck %**	10.20	**Lanes in one direction**	2
Final Design Year	2040	**Final AADT, VPD**	26,425	**SU Truck %**	8.80	**Curb & Gutter/Barrier**	Yes
		Mean AADT, VPD	22,273	**MU Truck %**	1.40	**Milling Depth (inches)**	1.50

Design Data					
Lane Distribution Factor (%)	85.00	**Soil Support Value**	2.00	**Single Unit ESAL**	0.40
Terminal Serviceability Index	2.50	**Regional Factor**	1.80	**Multiple Unit ESAL**	1.50
		User Defined 18-KIP ESAL	0.73	**Calculated 18-KIP ESAL**	0.55
Non-Standard Value Comment					

Design Loading (User Provided 18-KIP ESAL Factor)					
Mean AADT, VPD	**LDF (%)**	**Vehicle Type**	**Volume (%)**	**ESAL Factor**	**Daily ESAL**
22,273	85.00	24 Hour Truck	10.20	0.73	1,410
				Total Design Period ESALs	10,293,000

Proposed Flexible Overlay Pavement Structure				
Course	**Material**	**Thickness (inches)**	**Structural Coefficient**	**Structural Value**
Overlay 1	12.5 mm Superpave	1.50	0.4400	0.66
Overlay 2	19 mm Superpave	2.25	0.4400	0.99
Overlay 3	25 mm Superpave	0.75	0.4400	0.33
		3.25	0.3000	0.98
Existing 1	Asphaltic Concrete	9.50	0.3000	2.85
Existing 2	Sand-Clay Base	6.00	0.1000	0.60

Required SN 6.73 **Proposed pavement is 4.86% Underdesigned** **Proposed SN** 6.41

Design Remarks	Overlay - SR 120/Kimball Bridge Road from Sta. 100+00 to 104+00 EB and 100+00 to 114+00 WB

Prepared By 8/15/2014 11:45 AM

United Consulting **Date**

Recommended By

Office Head **Date**

Approved By

State Pavement Engineer **Date**

Flexible Pavement Design Analysis

PI Number	0010418	**County(s)**	Fulton (north)
Project Number	UC Project No. 2013.3807.01	**Design Name**	SR 120/ Kimball Bridge Road
Project Description	SR 120/ Kimball Bridge Road		

Traffic Data (AADTs are one-way)						**Miscellaneous Data**	
Initial Design Year	2020	**Initial AADT, VPD**	18,120	**24 Hour Truck %**	10.20	**Lanes in one direction**	2
Final Design Year	2040	**Final AADT, VPD**	26,425	**SU Truck %**	8.80	**Curb & Gutter/Barrier**	Yes
		Mean AADT, VPD	22,273	**MU Truck %**	1.40	**Milling Depth (inches)**	0.00

Design Data					
Lane Distribution Factor (%)	85.00	**Soil Support Value**	2.00	**Single Unit ESAL**	0.40
Terminal Serviceability Index	2.50	**Regional Factor**	1.80	**Multiple Unit ESAL**	1.50
		User Defined 18-KIP ESAL	0.73	**Calculated 18-KIP ESAL**	0.55
Non-Standard Value Comment					

Design Loading (User Provided 18-KIP ESAL Factor)					
Mean AADT, VPD	**LDF (%)**	**Vehicle Type**	**Volume (%)**	**ESAL Factor**	**Daily ESAL**
22,273	85.00	24 Hour Truck	10.20	0.73	1,410
				Total Design Period ESALs	10,293,000

Proposed Flexible Overlay Pavement Structure				
Course	**Material**	**Thickness (inches)**	**Structural Coefficient**	**Structural Value**
Overlay 1	12.5 mm Superpave	1.50	0.4400	0.66
Overlay 2	19 mm Superpave	2.00	0.4400	0.88
Overlay 3	25 mm Superpave	1.00	0.4400	0.44
		3.00	0.3000	0.90
Existing 1	Asphaltic Concrete	10.50	0.3000	3.15
Existing 2	Sand-Clay Base	6.00	0.1000	0.60

Required SN 6.73 **Proposed pavement is 1.52% Underdesigned** **Proposed SN** 6.63

Design Remarks	Overlay - SR 120/Kimball Bridge Road from Sta. 104+00 to 168+00 EB and 114+00 to 168+00 WB

Prepared By 8/15/2014 12:42 PM

United Consulting **Date**

Recommended By

Office Head **Date**

Approved By

State Pavement Engineer **Date**

Flexible Pavement Design Analysis

PI Number	0010418	**County(s)**	Fulton (north)
Project Number	UC Project No. 2013.3807.01	**Design Name**	Webb Bridge Way
Project Description	SR 120/ Kimball Bridge Road		

Traffic Data (AADTs are one-way)						**Miscellaneous Data**	
Initial Design Year	2020	**Initial AADT, VPD**	6,975	**24 Hour Truck %**	7.90	**Lanes in one direction**	1
Final Design Year	2040	**Final AADT, VPD**	10,165	**SU Truck %**	6.10	**Curb & Gutter/Barrier**	Yes
		Mean AADT, VPD	8,570	**MU Truck %**	1.80	**Milling Depth (inches)**	1.50

Design Data					
Lane Distribution Factor (%)	100.00	**Soil Support Value**	2.00	**Single Unit ESAL**	0.40
Terminal Serviceability Index	2.50	**Regional Factor**	1.80	**Multiple Unit ESAL**	1.50
		User Defined 18-KIP ESAL	0.73	**Calculated 18-KIP ESAL**	0.65
Non-Standard Value Comment					

Design Loading (User Provided 18-KIP ESAL Factor)					
Mean AADT, VPD	**LDF (%)**	**Vehicle Type**	**Volume (%)**	**ESAL Factor**	**Daily ESAL**
8,570	100.00	24 Hour Truck	7.90	0.73	495
				Total Design Period ESALs	3,613,500

Proposed Flexible Overlay Pavement Structure				
Course	**Material**	**Thickness (inches)**	**Structural Coefficient**	**Structural Value**
Overlay 1	12.5 mm Superpave	1.50	0.4400	0.66
Overlay 2	19 mm Superpave	3.00	0.4400	1.32
		1.00	0.3000	0.30
Existing 1	Asphaltic Concrete	8.50	0.3000	2.55
Existing 2	Sand Clay Base	6.00	0.1000	0.60

Required SN	5.87	**Proposed pavement is 7.46% Underdesigned**	**Proposed SN**	5.43

Design Remarks	Overlay - Webb Bridge Way with Curb and Gutter

Prepared By 8/8/2014 10:01 AM

United Consulting **Date**

Recommended By

Office Head **Date**

Approved By

State Pavement Engineer **Date**

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