

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
TIA PROJECT CONCEPT REPORT

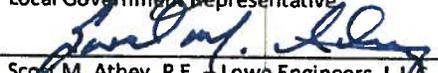
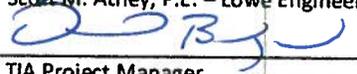
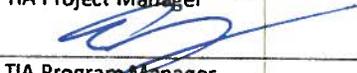


Project Type: TIA Widening
GDOT District: 2 - Tennille
Federal Route Number: N/A
State Route Number: 388 & 223

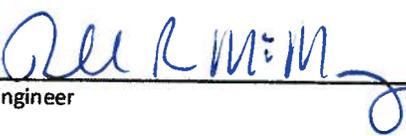
P.I. Number: 0008347
County: Columbia
MPO ID Number: RC07-000032

Wrightsboro Road Improvements from SR 223/Robinson Avenue to SR388/Lewiston Road

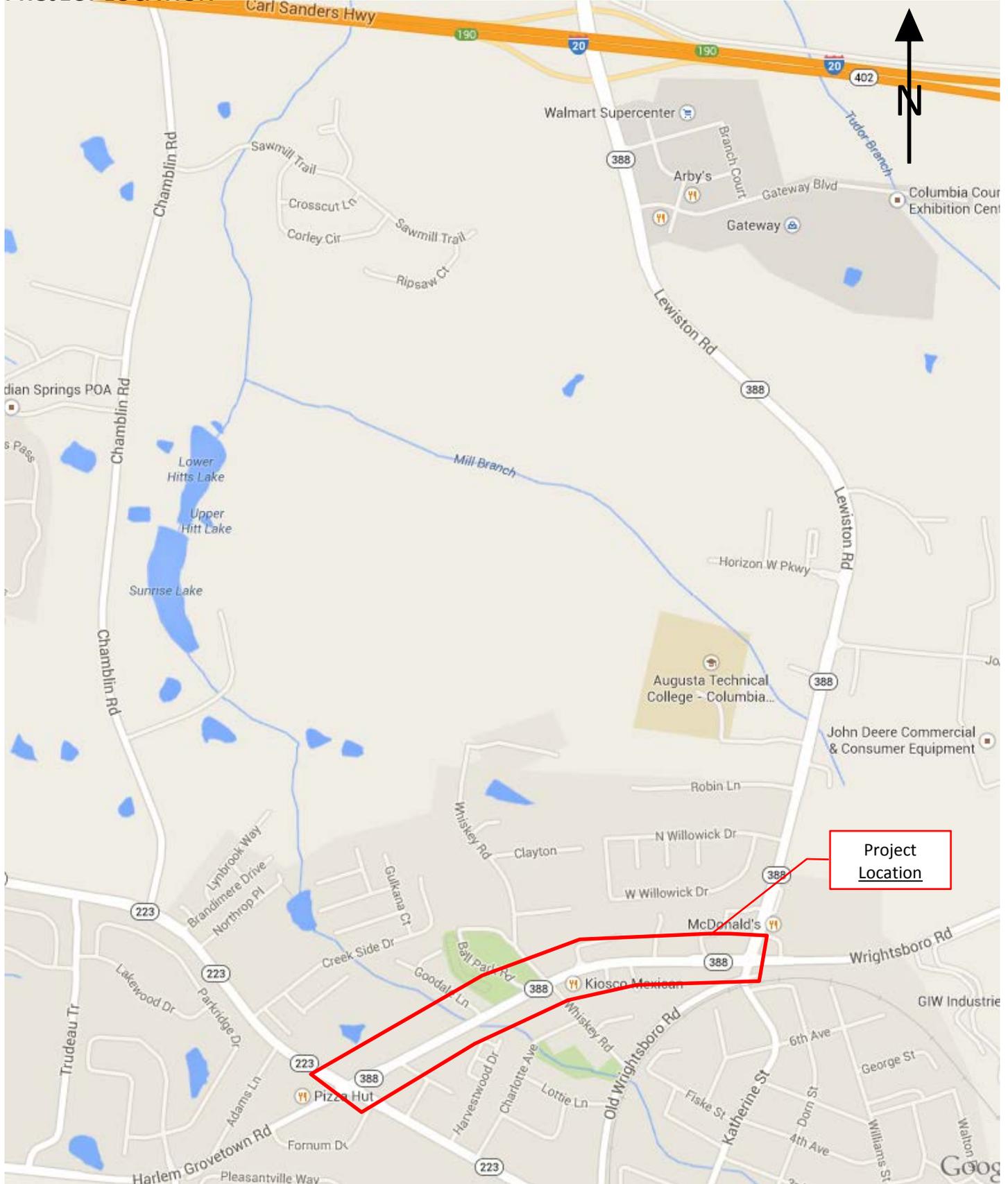
Submitted for approval:

| | |
|--|----------------------------|
|  Local Government Representative | <u>9/22/2014</u> DATE |
|  Scott M. Athey, P.E. - Lowe Engineers, L.L.C. | <u>9/19/2014</u> DATE |
|  TIA Project Manager | <u>9/29/14</u> DATE |
|  TIA Program Manager | <u>29 Sep 2014</u> DATE |
|  GDOT TIA Regional Coordinator | <u>10/3/2014</u> DATE |
|  GDOT State TIA Administrator | <u>10/3/2014</u> DATE |

Approval:

| | |
|---|-------------------------|
| Concur:  GDOT Director of Engineering | <u>10/7/14</u> DATE |
| Approve:  GDOT Chief Engineer | <u>10/10/14</u> DATE |

PROJECT LOCATION



County: Columbia

PLANNING & BACKGROUND DATA

Project Intended Benefit: The project will improve the level of service of SR 388/Wrightsboro Road through the use of facilities that support increased motor vehicle capacity, and manage access to and from the corridor; and, incorporate measures throughout the corridor to accommodate pedestrians and bicyclists.

Description of the proposed project: The project consists of intersection improvements along SR 388/Wrightsboro Road where it intersects SR 223/W. Robinson Avenue and SR 388/Lewiston Road. Intersection improvements will include the addition of left and right turn auxiliary lanes, and updating signal timing/phases to reduce delay, and ADA compliant wheelchair ramps/curb cuts where appropriate. The project also includes the installation of a 10’ multiuse facility for bikes and pedestrians along the north side of SR 388/Wrightsboro Road and the addition of a raised median along SR 388/Wrightsboro Road where it approaches the intersection with SR 388/Lewiston Road.

Federal Oversight: Exempt State Funded TIA Other

MPO: Augusta Regional Transportation Study (ARTS)
MPO Project ID RC07-000032

Regional Commission: Central Savannah River RC RC Project ID RC07-000032

Congressional District(s): 12

Projected Traffic: ADT

Current Year (2014): 17,460 Open Year (2017): 18,910 Design Year (2037): 23,080
Traffic Projections Performed by: Lowe Engineers

Functional Classification (Mainline): Urban Minor Arterial Street

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

Will Context Sensitive Solutions procedures be utilized? No Yes

DESIGN AND STRUCTURAL DATA –

Mainline Design Features: SR388/Wrightsboro Road

| Feature | Existing | Standard* | Proposed |
|---|----------|-----------|-----------|
| Typical Section | | | |
| - Number of Lanes | 2 | N/A | 2 |
| - Lane Width(s) | 12’ | 10’ min. | 11’ min. |
| - Median Width & Type | N/A | N/A | 4’ raised |
| - Outside Shoulder or Border Area Width | Varies | 10’ min. | 8’-16’ |
| - Outside Shoulder Slope | Varies | 2:1 max | 2:1 max |

County: Columbia

| | | | |
|-----------------------------|-----------------|-----------|--------------------|
| - Inside Shoulder Width | N/A | N/A | N/A |
| - Sidewalks | N/A | 4' min. | 10' multiuse |
| - Auxiliary Lanes | LT & RT | N/A | LT & RT |
| - Bike Lanes | None | N/A | 10' multiuse |
| Posted Speed | 45 mph | | 45 mph |
| Design Speed | 45 mph | 30-60 mph | 45 mph |
| Min Horizontal Curve Radius | 2000' | 711' | Match existing |
| Superelevation Rate | Unknown | 4% max | 4% max |
| Grade | 6.15% | 7% max | Match existing |
| Access Control | By permit | By permit | By permit |
| Right-of-Way Width | Varies 60'-100' | N/A | Varies 100' - 120' |
| Maximum Grade – Crossroad | Unknown | 8% max | 8% max |
| Design Vehicle | Unknown | WB-40 | WB-40 |

*According to current GDOT design policy if applicable

Major Interchanges/Intersections: SR 388/Wrightsboro Rd at SR 233/Robinson Ave
 SR 388/Wrightsboro Rd at SR388/Lewiston Rd

Utility Involvements:

- Gas - Atlanta Gas Light Company
- Telephone/Telecommunications – AT&T, Columbia County Broadband Utility, Tower Cloud, Verizon Business
- Power – Georgia Power, Jefferson Energy
- Cable – Comcast, Wide Open West
- Water & Sewer – City of Grovetown

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

SUE Required: No Yes
 SUE QL-D has been completed

Railroad Involvement: Nearby project GDOT PI# 0008351 will adjust at-grade crossing of CSX RR at Lewiston Road/Katherine Street. **This project will have no impact to the crossing.**

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

Warrants met: None Bicycle Pedestrian Transit

Right-of-Way:

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

Anticipated number of impacted parcels: 20
 Displacements Anticipated: 0

County: Columbia

| | |
|-------------|----|
| Businesses: | 20 |
| Residences: | 0 |
| Other: | 0 |

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: None

Design Variances to GDOT Standard Criteria anticipated: None

ENVIRONMENTAL DATA

Anticipated Environmental Document:
 GEPA: Type A Letter Type B Letter
 NEPA: CE EA/FONSI

Project Air Quality: *(On-system projects only)*
 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

MS4 Compliance – Is the project located in an MS4 area? No Yes

Due to budget constraints, portions of the MS4 design may be infeasible (See MS4 Water Quality Pond Locations & Costs, attachment 1.a.). Efforts will be made to coordinate with the Regional Project Manager, and the Office of Design Policy & Support as design plans finalize.

Environmental Permits/Variations/Commitments/Coordination: Anticipate Stream Buffer Variance, 404 Nationwide Permit

NEPA/GEPA Comments & Information:

- **History:** Eligible resources located within Area of Potential Effect. Anticipate No Effect or No Adverse Effect
- **Archaeology:** No known concerns at this time.
- **Air:** No known concerns at this time.
- **Noise:** Not required for GEPA.
- **Public Involvement:** None required.
- **Ecology:** Potential Stream impacts; Potential Section 404 permit, Stream Buffer Variance, and Mitigation Credits.
- **Major Stakeholders:**
 - Columbia County
 - City of Grovetown

PROJECT RESPONSIBILITIES

Project Activities:

| Project Activity | Party Responsible for Performing Task(s) |
|---|--|
| Concept Development | Lowe Engineers |
| Design | Lowe Engineers |
| Right-of-Way Acquisition | TIA Regional Program Manager |
| Utility Relocation | Contractor/GDOT/Utility Companies |
| Letting to Contract | GDOT/TIA Regional Program Manager |
| Construction Supervision | GDOT/TIA Regional Program Manager |
| Providing Material Pits | Contractor |
| Providing Detours | N/A |
| Environmental Studies, Documents, and Permits | Lowe Engineers |
| Environmental Mitigation | TIA Regional Program Manager |
| Construction Inspection & Materials Testing | GDOT/TIA Regional Program Manager |

Lighting required: No Yes

Other projects in the area:

- GDOT PI# 0008348, Columbia County – Wrightsboro Rd from SR 388 to SR 383/Jimmie Dyes Pkwy
- GDOT PI# 0008350, Columbia County – SR 388 from I-20 to SR 232
- GDOT PI# 0008351, Columbia County – SR 388 from CR 571/Wrightsville Rd to I-20 (T.I.A.)
- GDOT PI# 0011414, Columbia & Richmond Counties – SR 223/Robinson Ave from SR 388/Columbia to SR 10/Richmond (T.I.A.)

Other coordination to date:

- Utility Coordination
- Projects 0008350 & 0011414

Project Cost Estimate and Funding Responsibilities:

| | Breakdown of PE | Breakdown of ROW | Breakdown of Reimbursable Utilities | Breakdown of CST | Environmental Mitigation | Total Cost |
|----------------------------------|-----------------|------------------|-------------------------------------|------------------|--------------------------|----------------|
| By Whom | TIA | TIA | NA | TIA | TIA | |
| Date of Estimate | Unknown | 7/10/2014 | Unknown | 7/10/2014 | Unknown | |
| TIA Current Programmed Budget \$ | \$200,000.00 | \$500,000.00 | \$300,000.00 | \$2,000,000.00 | \$0.00 | \$3,000,000.00 |
| Estimated \$ Amount | \$180,657.42 | \$555,435.00 | \$282,000.00 | \$1,770,046.62 | \$0.00 | |
| Budget Contingency \$ | \$2,687.57 | \$8,510.35 | \$4,594.00 | \$82,625.86 | \$0.00 | |
| Total Estimated Cost | \$183,344.99 | \$563,945.35 | \$286,594.00 | \$1,852,672.48 | \$0.00 | \$2,886,556.83 |

Note: 1. All phases contain 1% Department Management costs and calculated project risk contingencies in the Budget Contingency \$ line item.
 2. Construction phase contains 3% CE&I in addition to other contingencies.

ALTERNATIVES

Preferred Alternative: The preferred alternative will improve the level of service of SR 388/Wrightsboro Road through the use of facilities that support increased motor vehicle capacity, and manage access to and from the corridor; and, incorporate measures throughout the corridor to accommodate pedestrians and bicyclists. The preferred alternative consists of intersection improvements along SR 388/Wrightsboro Road where it intersects SR 223/W. Robinson Avenue and SR 388/Lewiston Road. Intersection improvements will include the addition of left and right turn auxiliary lanes, and updating signal timing/phases to reduce delay, and ADA compliant wheelchair ramps/curb cuts where appropriate. The preferred alternative also includes the installation of a 10’ multiuse facility for bikes and pedestrians along the north side of SR 388/Wrightsboro Road and the addition of a raised median along SR 388/Wrightsboro Road where it approaches the intersection with SR 388/Lewiston Road.

| | | | |
|------------------------------------|---------------------|------------------------------|-----------------------|
| Estimated Property Impacts: | 23 | Estimated Total Cost: | \$2,886,556.83 |
| Estimated ROW Cost: | \$563,945.35 | Estimated CST Time: | 24 mo. |

Rationale: This alternative could potentially maximize the full utility of Wrightsboro Road through LOS improvements, thereby fulfilling the project’s intended public benefit.

Alternative 1: No Build

| | | | |
|------------------------------------|---|------------------------------|-----|
| Estimated Property Impacts: | 0 | Estimated Total Cost: | 0 |
| Estimated ROW Cost: | 0 | Estimated CST Time: | N/A |

Rationale *The No Build alternative would not serve to maximize the full utility of Wrightsboro Road, providing no public benefit.*

Comments/additional information:

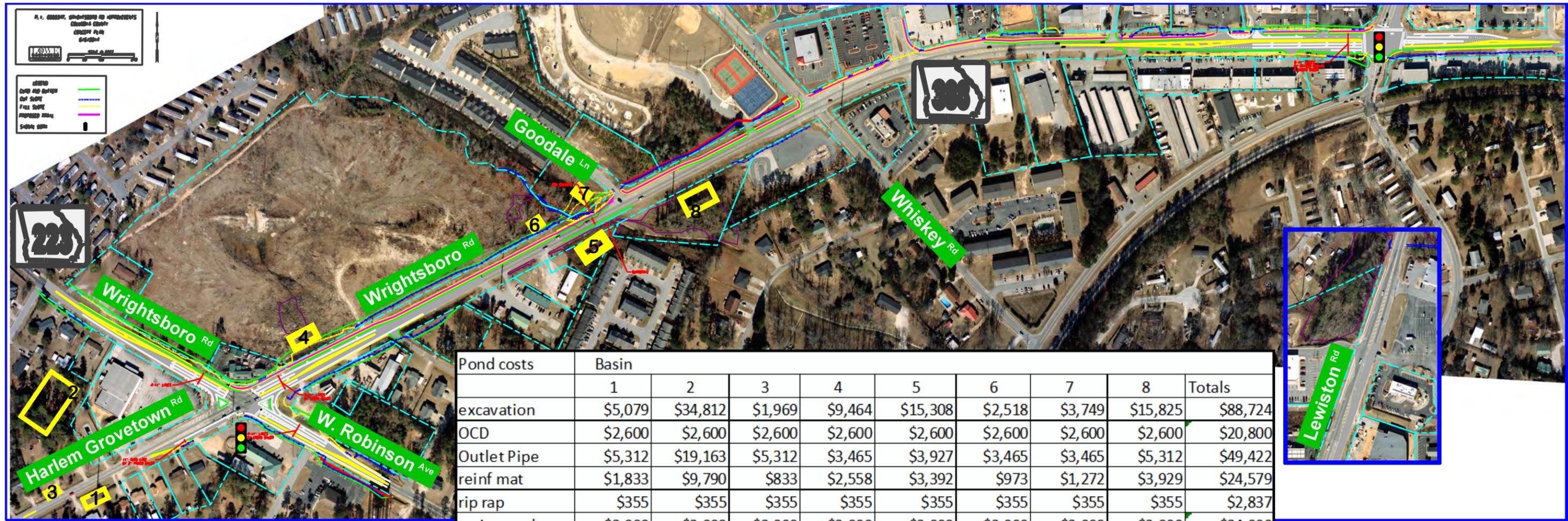
Attachments:

1. Concept Layouts
 - a. Preferred Alternative Concept Layout
 - b. MS4 Water Quality Ponds Locations & Costs – Concept Level
2. Cost Estimates
3. Typical sections
4. Traffic diagrams
5. Traffic Analysis
 - a. Capacity Analysis
 - b. Crash Summaries
6. Meeting Minutes
 - a. Concept Team Meeting
 - b. Concept Coordination Meeting (City of Grovetown)

PI# 0008347, Columbia County
Wrightsboro Road Improvements - Concept Layout
Preferred Alternative



PI# 0008347, Columbia County
 MS4 Water Quality Ponds Locations & Costs - Concept Level



| Pond costs | Basin | | | | | | | | Totals |
|--------------|------------------|------------------|-----------------|-----------------|------------------|-----------------|-----------------|------------------|--------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| excavation | \$5,079 | \$34,812 | \$1,969 | \$9,464 | \$15,308 | \$2,518 | \$3,749 | \$15,825 | \$88,724 |
| OCD | \$2,600 | \$2,600 | \$2,600 | \$2,600 | \$2,600 | \$2,600 | \$2,600 | \$2,600 | \$20,800 |
| Outlet Pipe | \$5,312 | \$19,163 | \$5,312 | \$3,465 | \$3,927 | \$3,465 | \$3,465 | \$5,312 | \$49,422 |
| reinf mat | \$1,833 | \$9,790 | \$833 | \$2,558 | \$3,392 | \$973 | \$1,272 | \$3,929 | \$24,579 |
| rip rap | \$355 | \$355 | \$355 | \$355 | \$355 | \$355 | \$355 | \$355 | \$2,837 |
| maint road | \$3,000 | \$3,000 | \$3,000 | \$3,000 | \$3,000 | \$3,000 | \$3,000 | \$3,000 | \$24,000 |
| fence | \$6,555 | \$14,003 | \$4,655 | \$7,600 | \$8,550 | \$4,750 | \$5,130 | \$9,120 | \$60,363 |
| landscaping | \$552 | \$1,179 | \$392 | \$640 | \$720 | \$400 | \$432 | \$768 | \$5,083 |
| Right of Way | \$189,875 | \$297,515 | \$45,370 | \$66,495 | \$87,650 | \$35,740 | \$59,515 | \$81,400 | \$863,560 |
| Displacement | \$104,438 | \$0 | \$32,185 | \$0 | \$0 | \$0 | \$0 | \$0 | \$136,623 |
| Total | \$319,598 | \$382,417 | \$96,670 | \$96,177 | \$125,501 | \$53,801 | \$79,517 | \$122,309 | \$1,275,991 |

Concept Cost Estimate
P.I. 0008347
TIA Project No. RC07-000032

| | Item No. | Descr. | Plan Qty | Unit | Unit Cost | Price |
|--------------|----------|--|----------|-----------------|------------|---------------------|
| Road | 402-3121 | 25 mm | 1682 | TN | \$61.18 | \$102,914.34 |
| | 402-3190 | 19 mm | 561 | TN | \$66.66 | \$37,377.52 |
| | 402-4510 | 12.5 mm | 448 | TN | \$74.46 | \$33,340.52 |
| | 446-1100 | PVMT REINF FABRIC STRIPS, TP 2, 18 INC | 6429 | LF | \$3.72 | \$23,915.88 |
| | 500-9999 | CLASS B CONC, BASE OR PVMT WIDENIN | 74 | CY | \$166.62 | \$12,279.89 |
| | 413-1000 | Tack | 814 | GAL | \$2.55 | \$2,076.00 |
| | 310-1101 | GR AGGR BASE CRS, INCL MATL | 3839 | TN | \$18.18 | \$69,786.91 |
| | | | | SUBTOTAL | | \$281,691.06 |
| Concrete | 441-6222 | CONC CURB & GUTTER, 8 IN X 30 IN, TP 2 | 5029 | LF | \$11.79 | \$59,291.91 |
| | 310-1101 | GAB under C&G | 1094 | TN | \$18.18 | \$19,885.42 |
| | 441-0104 | CONC SIDEWALK, 4 IN | 4900 | SY | \$25.35 | \$124,215.00 |
| | 441-5057 | CONC DOWELED INTEGRAL CURB, TP 7, I | 1210 | LF | \$32.00 | \$38,720.00 |
| | 441-0748 | CONCRETE MEDIAN, 6 IN | 332 | SY | \$41.89 | \$13,916.68 |
| | 441-4030 | CONC VALLEY GUTTER, 8 IN | 1016 | SY | \$41.70 | \$42,376.47 |
| | 441-0016 | DRIVEWAY CONCRETE, 6 IN TK | 589 | SY | \$33.13 | \$19,509.89 |
| | | | | SUBTOTAL | | \$317,915.37 |
| Sign/Marking | 653-1501 | 5 in solid white | 5670 | LF | \$0.51 | \$2,891.55 |
| | 653-1502 | 5 in solid yellow | 10951 | LF | \$0.53 | \$5,803.99 |
| | 653-1704 | 24 in solid white | 279 | LF | \$5.82 | \$1,620.97 |
| | 653-1804 | 8 in solid white | 1138 | LF | \$1.99 | \$2,264.10 |
| | 653-0110 | arrow tp 1 | 0 | EA | \$72.40 | \$0.00 |
| | 653-0120 | arrow tp 2 | 33 | EA | \$72.10 | \$2,379.30 |
| | 653-0130 | arrow tp 3 | 7 | EA | \$97.97 | \$685.79 |
| | 653-6004 | white hatch | 471 | SY | \$3.08 | \$1,450.68 |
| | 653-6006 | yellow hatch | 1387 | SY | \$3.09 | \$4,286.17 |
| | 653-3501 | 5 in skip white | 1945 | GLF | \$0.27 | \$525.15 |
| | 656-0050 | striping eradication | 19982 | LF | \$0.25 | \$4,995.47 |
| | 636-1033 | tp 9 refl sheeting | 250 | SF | \$14.90 | \$3,725.00 |
| | 636-1020 | tp 3 refl sheetng | 250 | SF | \$13.19 | \$3,297.50 |
| | 636-2070 | posts | 960 | LF | \$6.24 | \$5,990.40 |
| | 654-1001 | tp 1 rpms | 274 | EA | \$2.93 | \$802.15 |
| | 654-1003 | tp 3 rpms | 142 | EA | \$3.29 | \$466.33 |
| | | | | SUBTOTAL | | \$41,184.56 |
| Drainage | 668-1100 | CATCH BASIN, GP 1 | 17 | EA | \$2,133.29 | \$36,265.93 |
| | 611-3000 | RECONSTR CATCH BASIN, GROUP 1 | 10 | EA | \$1,667.34 | \$16,673.40 |
| | 550-1240 | STORM DRAIN PIPE, 24 IN, H 1-10 | 829 | LF | \$37.44 | \$31,037.76 |
| | 550-2240 | SIDE DRAIN PIPE, 24 IN, H 1-10 | 496 | LF | \$32.96 | \$16,348.16 |

| | | | | |
|------------------|----------------------------------|-----------------|--------------|---------------------|
| 550-3624 | side fes | 10 EA | \$649.34 | \$6,493.40 |
| 550-3324 | fes | 6 EA | \$862.76 | \$5,176.56 |
| | Box Culvert, CLASS A CONC | 30 CY | \$399.19 | \$12,037.97 |
| | BAR REINF STEEL | 1969 LB | \$0.79 | \$1,555.12 |
| | Side Barrier, Retaining Wall | 65 CY | \$507.80 | \$33,007.00 |
| | GALV STEEL PIPE HANDRAIL, 2IN | 205 LF | \$35.45 | \$7,267.25 |
| | | SUBTOTAL | | \$165,862.55 |
| Signal | | | | |
| 639-3004 | STEEL STRAIN POLE, TP IV | 2 EA | \$12,528.17 | \$25,056.34 |
| 639-2002 | Span Wire | 1600 LF | \$4.14 | \$6,624.00 |
| 647-1000 | TRAFFIC SIGNAL INSTALLATION | 2 LS | \$50,000.00 | \$100,000.00 |
| | | SUBTOTAL | | \$131,680.34 |
| Erosion Control | | | | |
| 171-0030 | TEMPORARY SILT FENCE, TYPE C | 12960 LF | \$2.85 | \$36,936.00 |
| 165-0030 | Maint. Silt Fence | 6480 LF | \$0.44 | \$2,851.20 |
| 163-0550 | Inlet sed trap | 24 EA | \$138.75 | \$3,330.00 |
| 165-0105 | Maint. Inlet sed trap | 24 EA | 41.21 | \$989.04 |
| 163-0527 | CONST AND REM CHECK DAMS | 100 EA | \$209.48 | \$20,948.00 |
| 165-0041 | MAINT. CHECK DAMS | 2000 LF | \$1.13 | \$2,260.00 |
| 163-0503 | CONST AND REMOVE SILT GATE TP 3 | 14 EA | \$466.01 | \$6,524.14 |
| 165-0087 | MAINT. SILT GATE TP 3 | 14 EA | \$74.08 | \$1,037.12 |
| 163-0300 | CONSTRUCTION EXIT | 7 EA | \$1,231.75 | \$8,622.25 |
| 165-0101 | MAINT. CONST EXIT | 7 EA | \$461.14 | \$3,227.98 |
| 163-0240 | MULCH | 80 TN | \$154.02 | \$12,332.38 |
| 603-2181 | STN DUMPED RIP RAP, TP 3, 18 IN | 91 SY | \$46.52 | \$4,233.32 |
| 603-7000 | PLASTIC FILTER FABRIC | 91 SY | \$4.88 | \$444.08 |
| 716-2000 | EROSION CONTROL MATS, SLOPES | 5556 SY | \$1.13 | \$6,277.78 |
| 700-8000 | FERTILIZER MIXED GRADE | 5 TN | \$573.20 | \$2,753.77 |
| 163-0232 | TEMPORARY GRASSING | 4 AC | \$304.67 | \$1,340.55 |
| 700-6910 | PERMANENT GRASSING | 5 AC | \$844.42 | \$4,507.51 |
| 700-7000 | AGRICULTURAL LIME | 11 TN | \$67.74 | \$723.19 |
| 700-8100 | FERTILIZER NITROGEN CONTENT | 267 LB | \$2.83 | \$755.33 |
| 167-1500 | WATER QUALITY INSPECTIONS | 18 MO | \$462.56 | \$8,326.08 |
| 167-1000 | WATER QUALITY MONITORING AND SAM | 2 EA | \$291.20 | \$582.40 |
| | MS4 Pond Contingency | 1 LS | \$339,400.00 | \$339,400.00 |
| | | SUBTOTAL | | \$468,402.12 |
| Grading Complete | | | | |
| 610-0355 | REM CONC CURB AND GUTTER | 2806 LF | \$18.03 | \$50,592.18 |
| 610-2815 | REM CONC SIDEWALK | 92 SY | \$20.67 | \$1,903.94 |
| | pipe demo | 1007 LF | \$10.33 | \$10,402.31 |
| 610-6625 | REM MANHOLE/CB | 9 EA | \$917.11 | \$8,254.01 |
| 610-0714 | REM CONC MEDIAN | 332 SY | \$41.15 | \$13,670.84 |
| 444-1000 | saw cut | 4742 LF | \$1.72 | \$8,156.24 |
| | clear and grub | 4 AC | \$5,000.00 | \$20,000.00 |
| | mobilization | 1 LS | \$1,000.00 | \$1,000.00 |
| 610-6515 | REM HIGHWAY SIGN, STD | 35 EA | \$85.74 | \$3,000.90 |
| 205-0001 | UNCLASS EXCAV | 4948 CY | \$3.79 | \$18,752.92 |

| | | | | |
|-----------------|-----------------------------|-----------------------------|--------------|-----------------------|
| 206-0002 | BORROW EXCAV, INCL MATL | 360 CY | \$5.92 | \$2,131.20 |
| | | SUBTOTAL | | \$137,864.53 |
| Traffic Control | | | | |
| 150-1000 | TRAFFIC CONTROL | 1 LS | \$141,292.02 | \$141,292.02 |
| 318-3000 | AGGR SURF CRS | 15 TN | \$20.38 | \$305.70 |
| Field Office | | | | |
| 153-1300 | FIELD ENGINEERS OFFICE TP 3 | 1 EA | \$83,848.37 | \$83,848.37 |
| | | Construction Total | | \$1,770,046.62 |
| | | Budget Contingency | | \$82,625.86 |
| | | Total Estimated Cost | | \$1,852,672.48 |

Preliminary ROW Cost Estimate

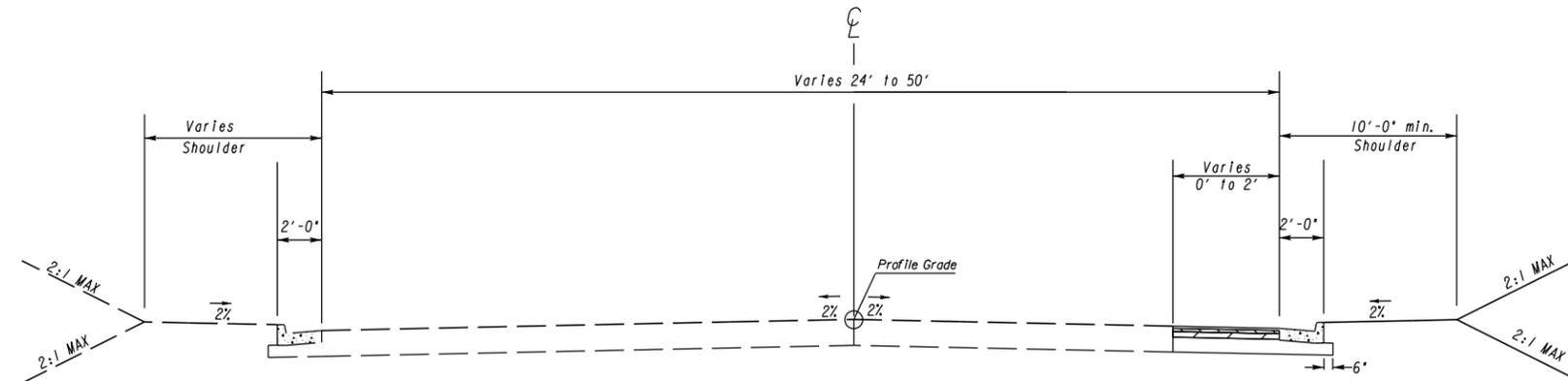
Project No. RC07-000032

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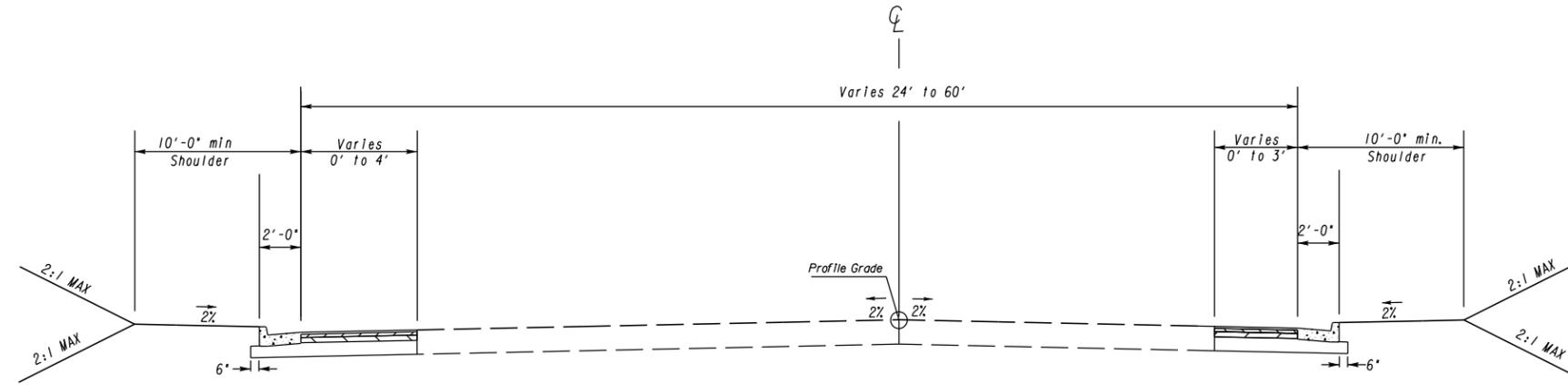
Project Name: Wrightsboro Rd.

Date: 9/18/2014

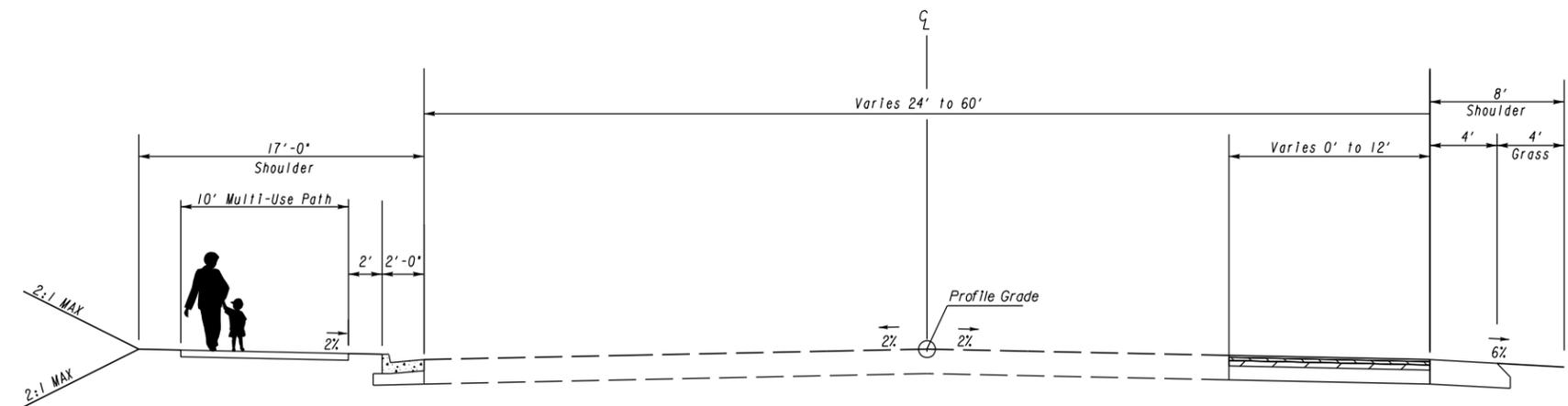
| Land and Improvements | Agriculture | Residential | Commercial | Industrial | Notes |
|--|-------------|------------------|------------------|-------------------------|---|
| Estimate (\$/ac) | \$0 | \$0 | \$325,000 | \$0 | Enter Cost / Acre |
| Fee Simple Area (ac) | 0.00 | 0.00 | 0.99 | 0.00 | Enter Acreage |
| Fee Simple Estimate | \$0 | \$0 | \$321,750 | \$0 | CALCULATED FIELD |
| Perm Easement Area (ac) | 0.00 | 0.00 | 0.10 | 0.00 | Enter Acreage |
| Perm Easement Factor | 0% | 0% | 50% | 0% | Adjust Percentage as Appropriate |
| Perm Easement Estimate | \$0 | \$0 | \$16,738 | \$0 | CALCULATED FIELD |
| Temp Easement Area (ac) | 0.00 | 0.00 | 0.00 | 0.00 | Enter Acreage |
| Temp Easement Factor | 0% | 0% | 0% | 0% | Adjust Percentage as Appropriate |
| Temp Easement Estimate | \$0 | \$0 | \$0 | \$0 | CALCULATED FIELD |
| | 0.00 | 0.00 | 0.00 | 0.00 | |
| | \$0 | \$0 | \$0 | \$0 | |
| Proximity Damages | \$0 | \$0 | \$0 | \$0 | Enter Fees and Provide Notes as Appropriate |
| Consequential Damages | \$0 | \$0 | \$0 | \$0 | Enter Fees and Provide Notes as Appropriate |
| Cost to Cures | \$0 | \$0 | \$0 | \$0 | Enter Fees and Provide Notes as Appropriate |
| Improvements | \$0 | \$0 | \$0 | \$0 | Enter Fees and Provide Notes as Appropriate |
| Trade Fixtures | \$0 | \$0 | \$0 | \$0 | Enter Fees and Provide Notes as Appropriate |
| PROPERTY TYPE TOTALS | \$0 | \$0 | \$338,488 | \$0 | CALCULATED FIELD |
| Land and Improvements Sub Total | | | | | CALCULATED FIELD |
| | | | \$338,488 | | |
| Valuation Services | Agriculture | Residential | Commercial | Industrial | |
| Appraisals (# of Parcels) | 0 | 0 | 10 | 0 | Adjust Parcels as required |
| Estimated Fee (per Parcel) | \$0 | \$0 | \$1,000 | \$0 | Enter Estimated Fee per Parcel |
| Total Appraisals | \$0 | \$0 | \$10,000 | \$0 | CALCULATED FIELD |
| Specialty Reports | \$0 | \$0 | \$0 | \$0 | Enter Estimated Costs and Provide Notes |
| Estimated Fees | \$0 | \$0 | \$0 | \$0 | Enter Estimated Fees and Provide Notes |
| PROPERTY TYPE TOTALS | \$0 | \$0 | \$10,000 | \$0 | CALCULATED FIELD |
| | | | \$10,000 | CALCULATED FIELD | |
| Legal Services | Parcels | Estimated Fees | | Totals | |
| Meeting with Attorney | 25 | \$125 | | \$3,125 | Adjust Parcels / Fees as required (using best judgement) |
| Preliminary Titles | 25 | \$200 | | \$5,000 | Adjust Parcels / Fees as required |
| Closing and Final Title | 25 | \$300 | | \$7,500 | Adjust Parcels / Fees as required |
| Recording Fees | 25 | \$50 | | \$1,250 | Adjust Parcels / Fees as required |
| Legal Services Sub Total | | | \$16,875 | | CALCULATED FIELD |
| Administrative | Parcels | Man Hours/Parcel | | Totals | |
| Pre-Acquisition | 12.5 | 40 | | \$25,000 | Adjust Parcels / Fees as required |
| Acquisition | 12.5 | 100 | | \$62,500 | Adjust Parcels / Fees as required |
| Administrative Appeals | 4 | 50 | | \$10,000 | Calculates as 15% of Acq Parcel Count (Adjust if Necessary) |
| Administrative Sub Total | | | \$97,500 | | CALCULATED FIELD |
| Contingency | | | | | |
| Overall Contingency | 20% | \$92,573 | | | Enter Percentage for Contingency (Default = 20%) |
| Total Estimated Costs | | | | \$555,435 | CALCULATED FIELD |



TS-1
Applies to SR223/Wrightsboro Road
From STA 801+50 to 810+00



TS-2
Applies to SR223/Robinson Ave
From STA 810+00 to 816+00



TS-3
Applies to Harlem Grovetown Rd
STA 15+00 to 19+00
SR 388/Wrightsboro Rd
STA 19+00 to 22+00

LOWE
ENGINEERS

990 HAMMOND DRIVE, SUITE 900, ATLANTA, GA 30328
PHONE 770.857.8400 FAX 770.857.8401

N. T. S.

| REVISION DATES | |
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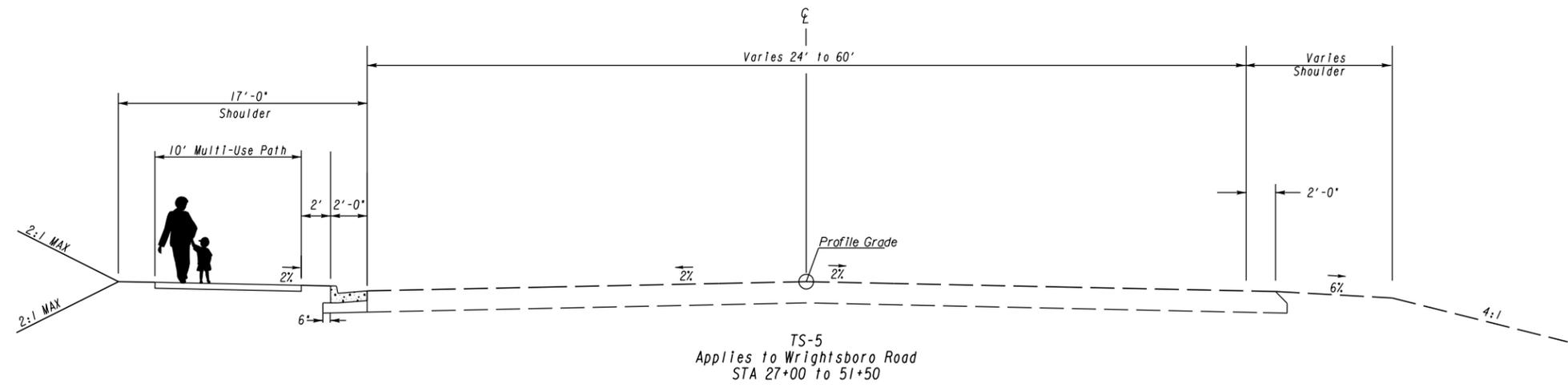
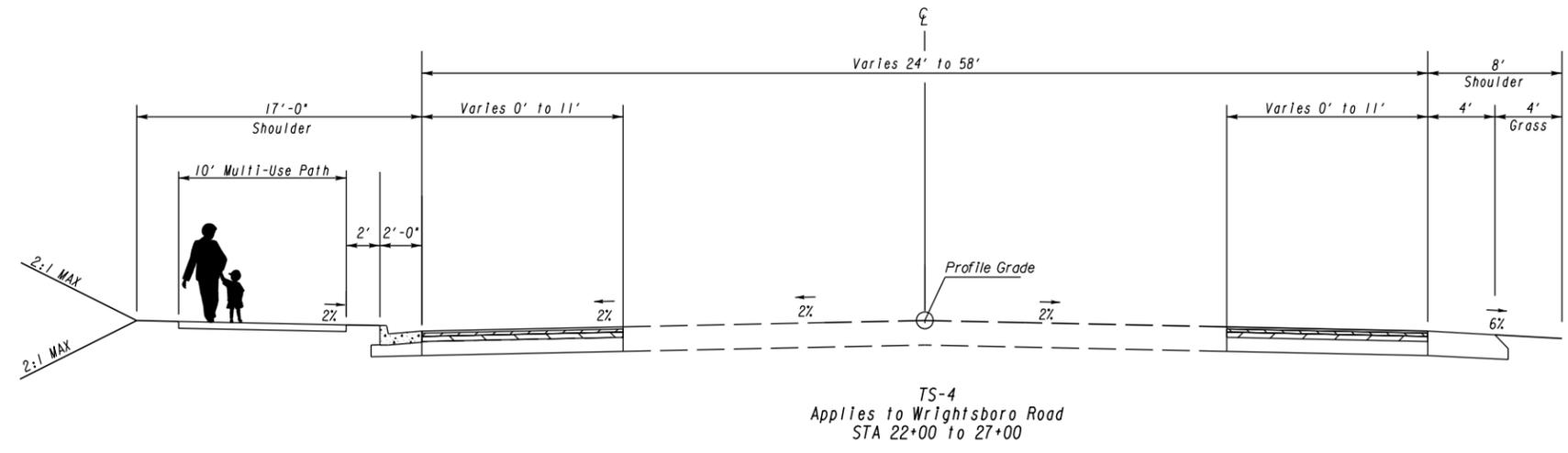
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

TYPICAL SECTIONS

SR 388/Wrightsboro Rd
From Harlem Grovetown Rd
To Horizon S Pkwy

DRAWING No.
05-001



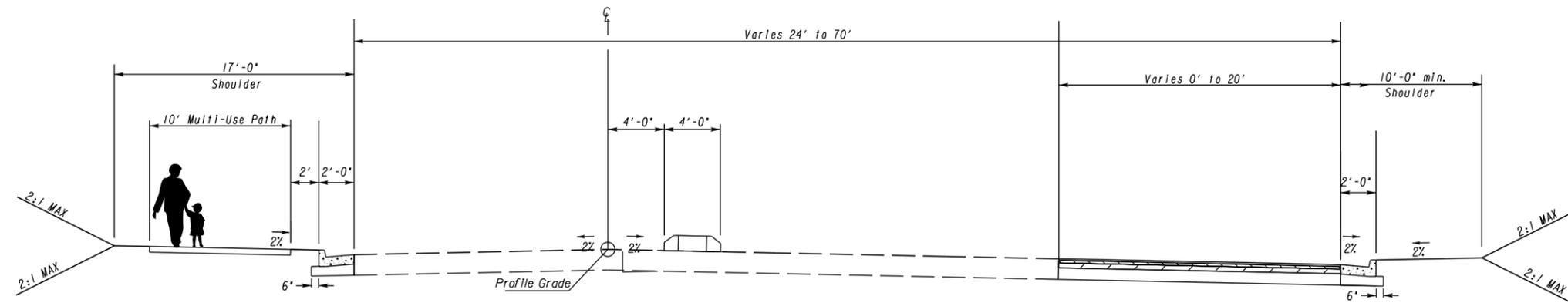
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ENGINEERS
990 HAMMOND DRIVE, SUITE 900, ATLANTA, GA 30328
PHONE 770.857.8400 FAX 770.857.8401

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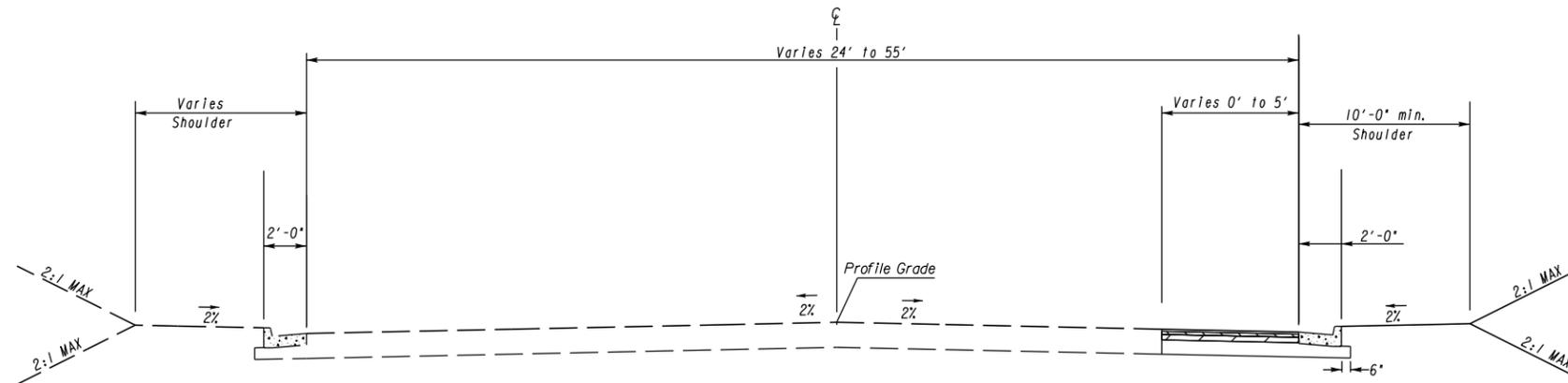
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STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:
TYPICAL SECTIONS
SR 388/Wrightsboro Rd
From Harlem Grovetown Rd
To Horizon S Pkwy

DRAWING No.
05-002



TS-6
Applies to Wrightsboro Road
STA 52+00 to 64+00



TS-7
Applies to Wrightsboro Road
STA 64+00 to 70+20

LOWE
ENGINEERS
990 HAMMOND DRIVE, SUITE 900, ATLANTA, GA 30328
PHONE 770.857.8400 FAX 770.857.8401

N. T. S.

REVISION DATES

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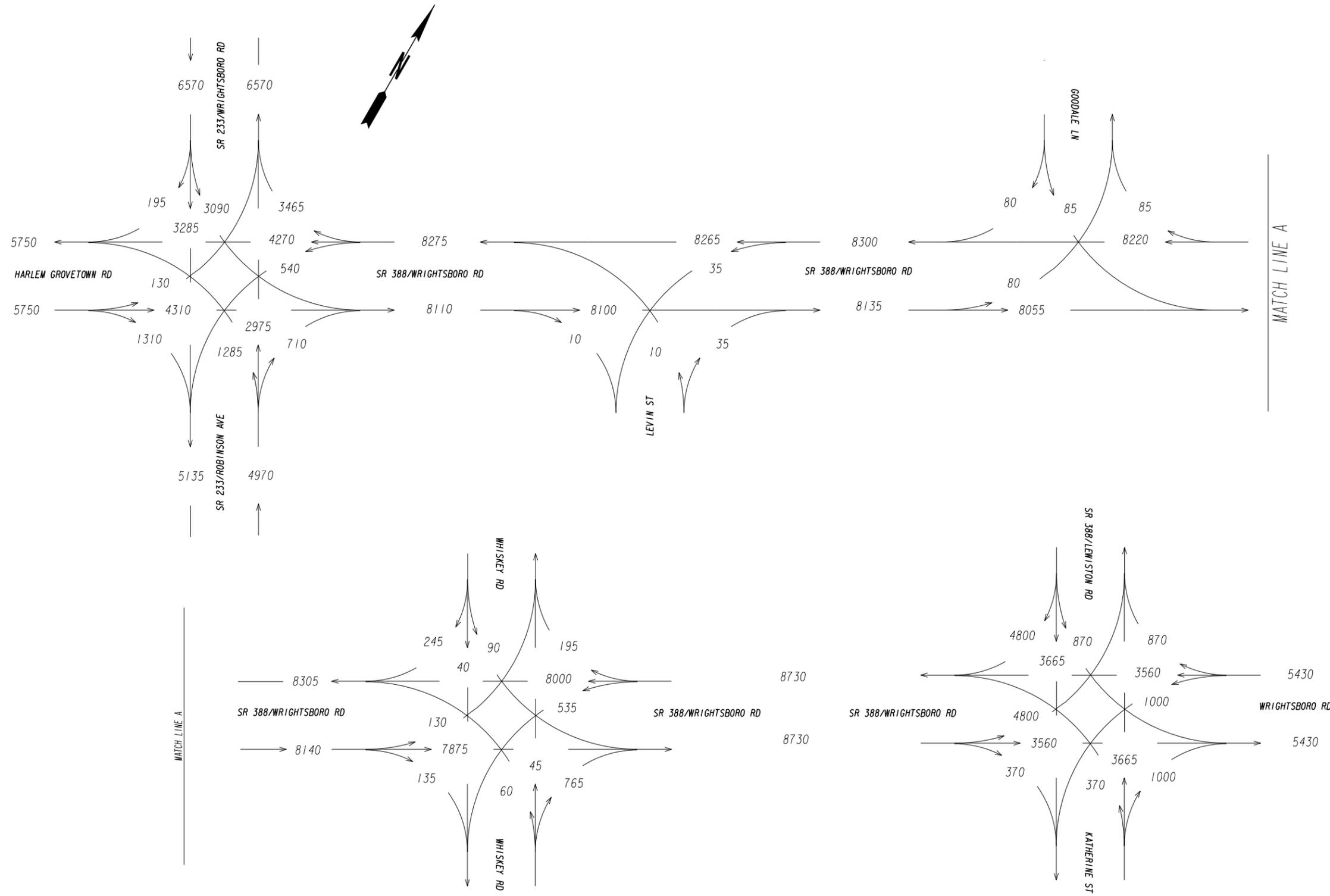
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

TYPICAL SECTIONS

SR 388/Wrightsboro Rd
From Harlem Grovetown Rd
To Horizon S Pkwy

DRAWING No.
05-003



PI# 0008347
COLUMBIA COUNTY

NO BUILD
EXISTING ADT
2014 ADT = 000

24 HR. T = 11.6%
COMB. = 1.1%
S. U. = 10.5%

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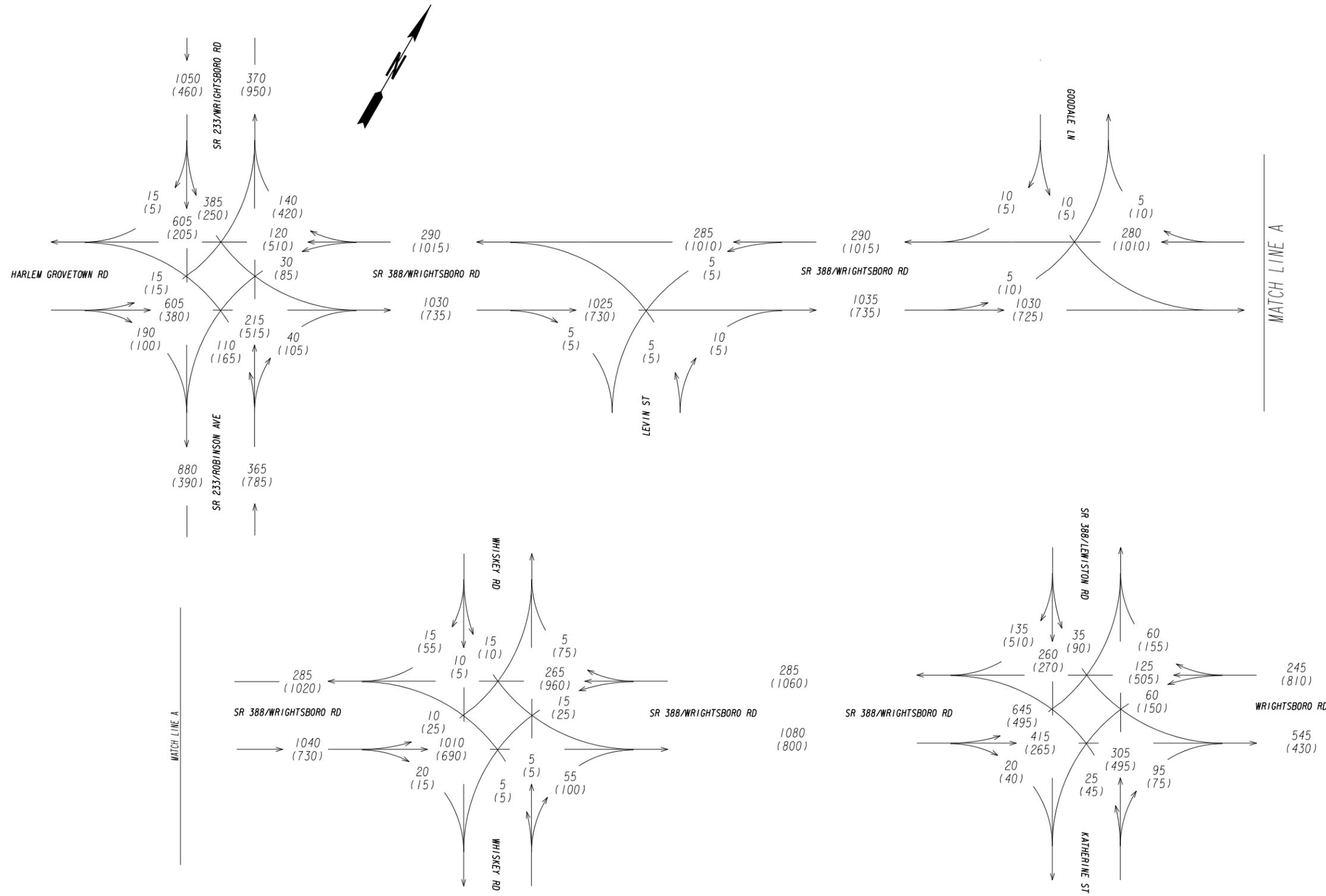
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

TRAFFIC DIAGRAM

SR 388/WRIGHTSBORO ROAD
FROM HARLEM GROVETOWN RD
TO SR 388/LEWISTON RD

DRAWING No.
10-001



PI# 0008347
COLUMBIA COUNTY

NO BUILD
EXISTING DHV
2014 DHV AM = 000
2014 DHV PM = (000)

T = 13.1% (10.2%)
COMB. = 2.0% (0.7%)
S.U. = 11.1% (9.5%)

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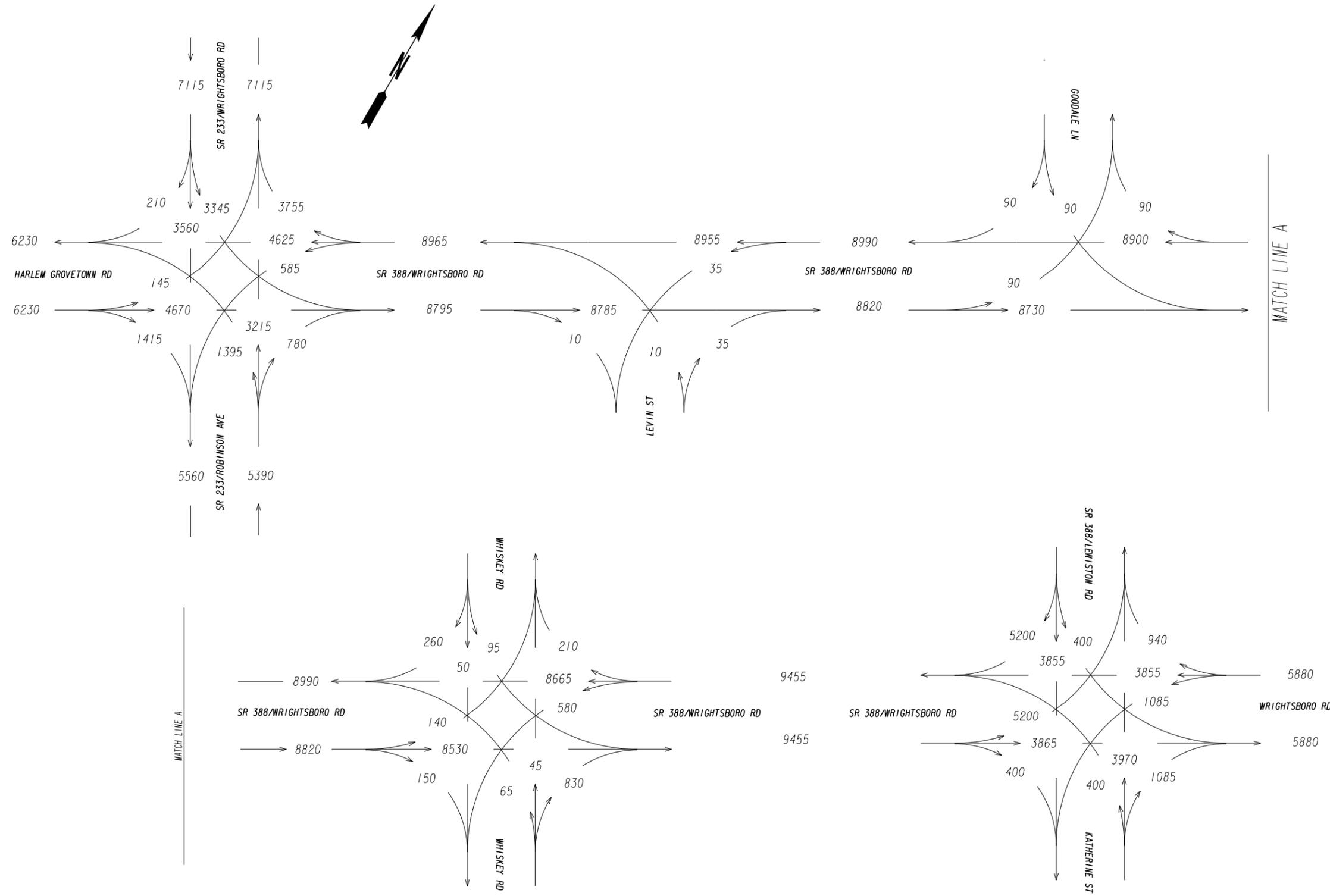
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

TRAFFIC DIAGRAM

SR 388/WRIGHTSBORO ROAD
FROM HARLEM GROVETOWN RD
TO SR 388/LEWISTON RD

DRAWING No.
10-002



PI# 0008347
COLUMBIA COUNTY

NO BUILD
BASE ADT
2017 ADT = 000

24 HR. T = 11.6%
COMB. = 1.1%
S. U. = 10.5%



| REVISION DATES | |
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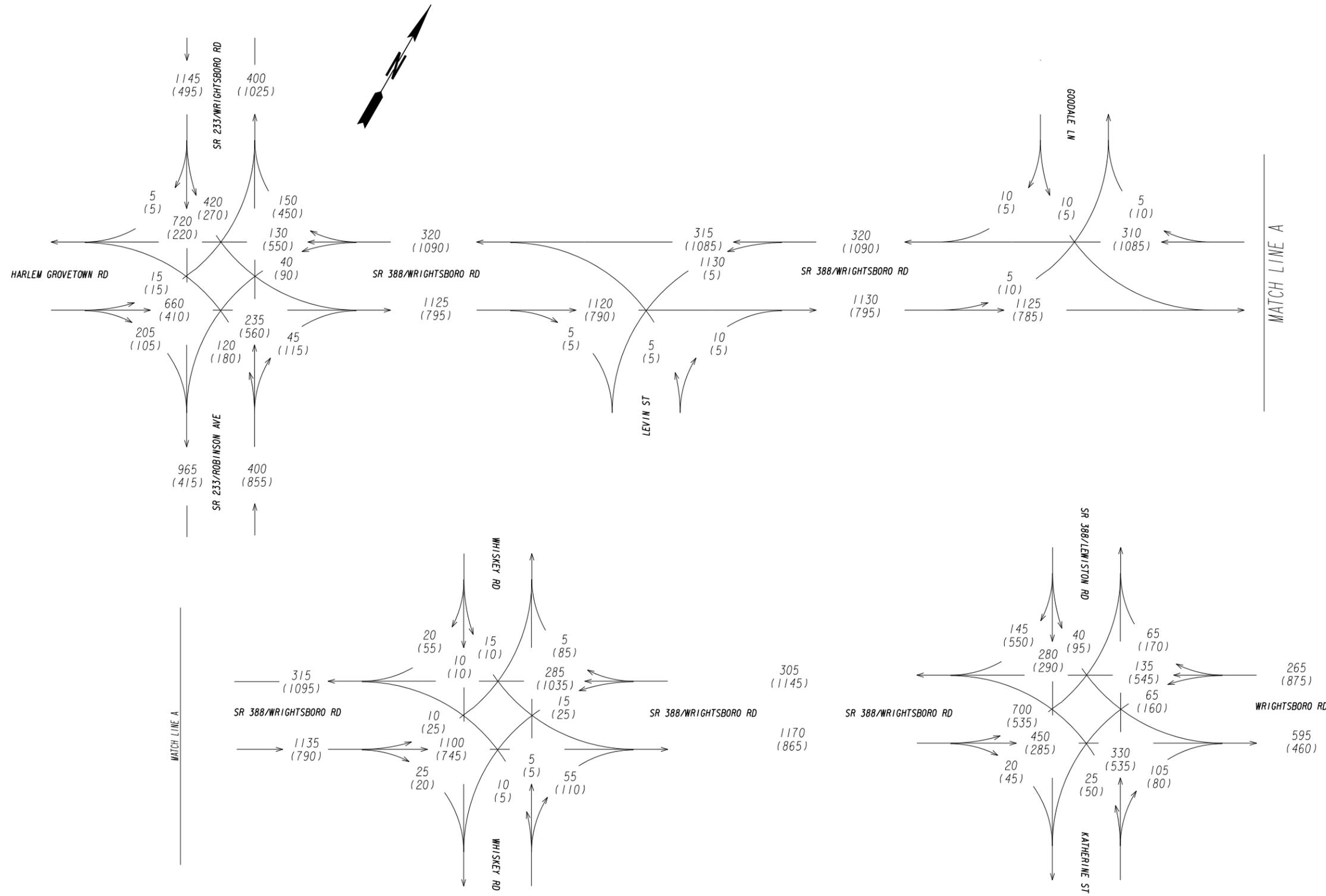
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

TRAFFIC DIAGRAM

SR 388/WRIGHTSBORO ROAD
FROM HARLEM GROVETOWN RD
TO SR 388/LEWISTON RD

DRAWING No.
10-003



PI# 0008347
COLUMBIA COUNTY

NO BUILD
BASE DHV
2017 DHV AM = 000
2017 DHV PM = (000)

T = 13.1% (10.2%)
COMB. = 2.0% (0.7%)
S.U. = 11.1% (9.5%)

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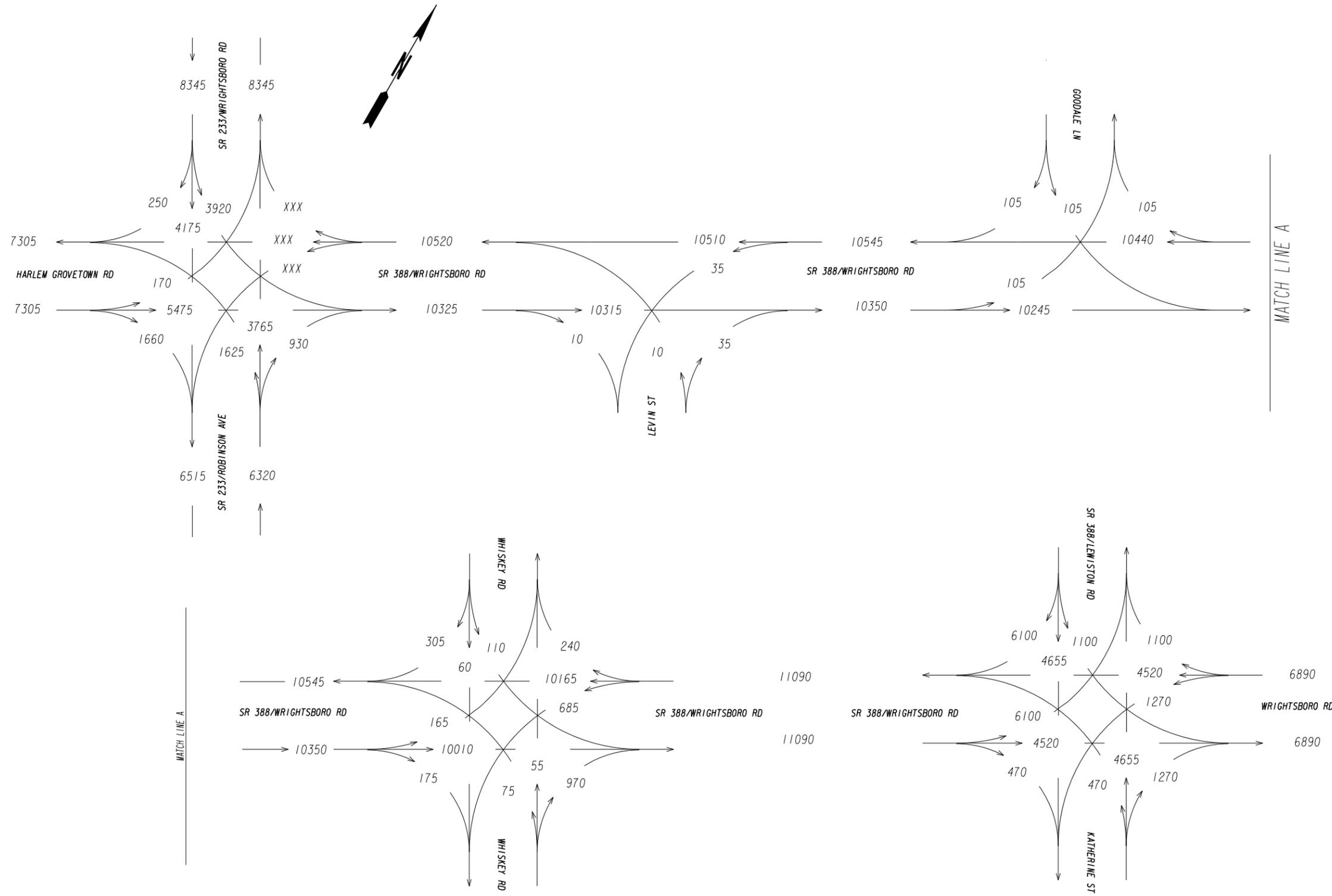
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

TRAFFIC DIAGRAM

SR 388/WRIGHTSBORO ROAD
FROM HARLEM GROVETOWN RD
TO SR 388/LEWISTON RD

DRAWING No.
10-004



PI# 0008347
COLUMBIA COUNTY

NO BUILD
DESIGN ADT
2037 ADT = 000

24 HR. T = 11.6%
COMB. = 1.1%
S. U. = 10.5%

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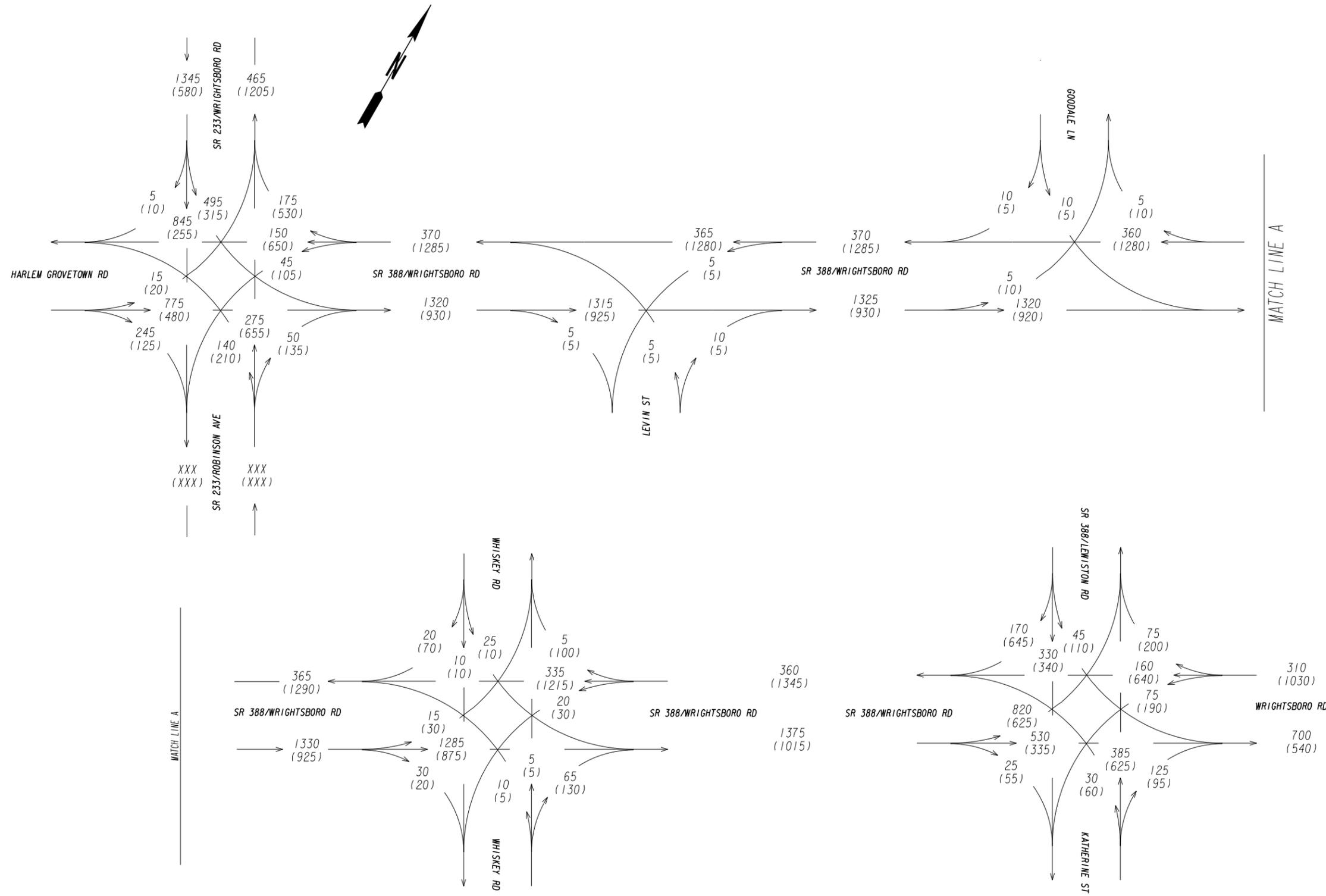
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

TRAFFIC DIAGRAM

SR 388/WRIGHTSBORO ROAD
FROM HARLEM GROVETOWN RD
TO SR 388/LEWISTON RD

DRAWING No.
10-005



PI# 0008347
COLUMBIA COUNTY

NO BUILD
DESIGN DHV
2037 DHV AM = 000
2037 DHV PM = (000)

T = 13.1% (10.2%)
COMB. = 2.0% (0.7%)
S.U. = 11.1% (9.5%)

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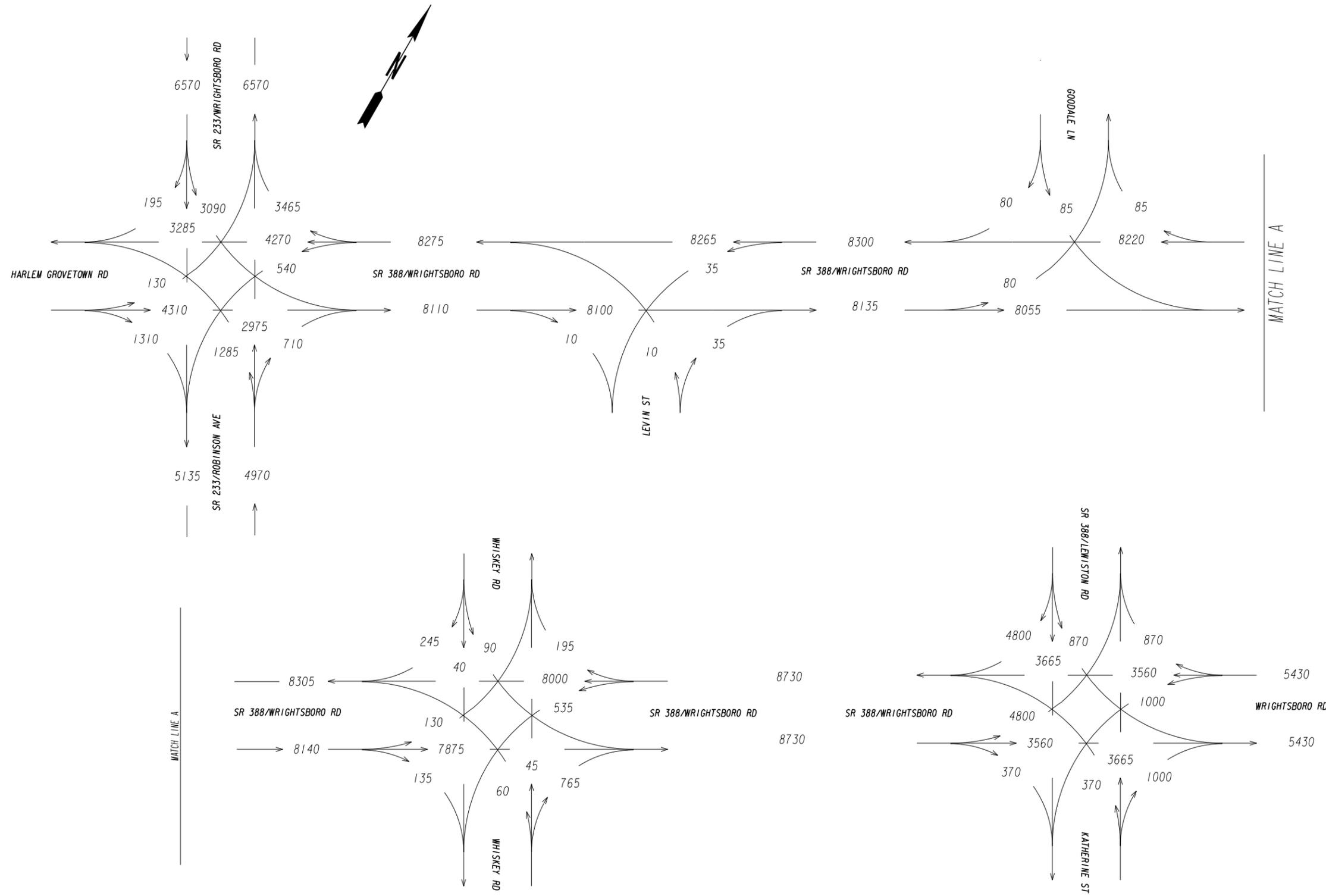
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

TRAFFIC DIAGRAM

SR 388/WRIGHTSBORO ROAD
FROM HARLEM GROVETOWN RD
TO SR 388/LEWISTON RD

DRAWING No.
10-006



PI# 0008347
COLUMBIA COUNTY

BUILD
EXISTING ADT
2014 ADT = 000

24 HR. T = 11.6%
COMB. = 1.1%
S. U. = 10.5%

LOWE
ENGINEERS

990 HAMMOND DRIVE, SUITE 900, ATLANTA, GA 30328
PHONE 770.857.8400 FAX 770.857.8401

| REVISION DATES | |
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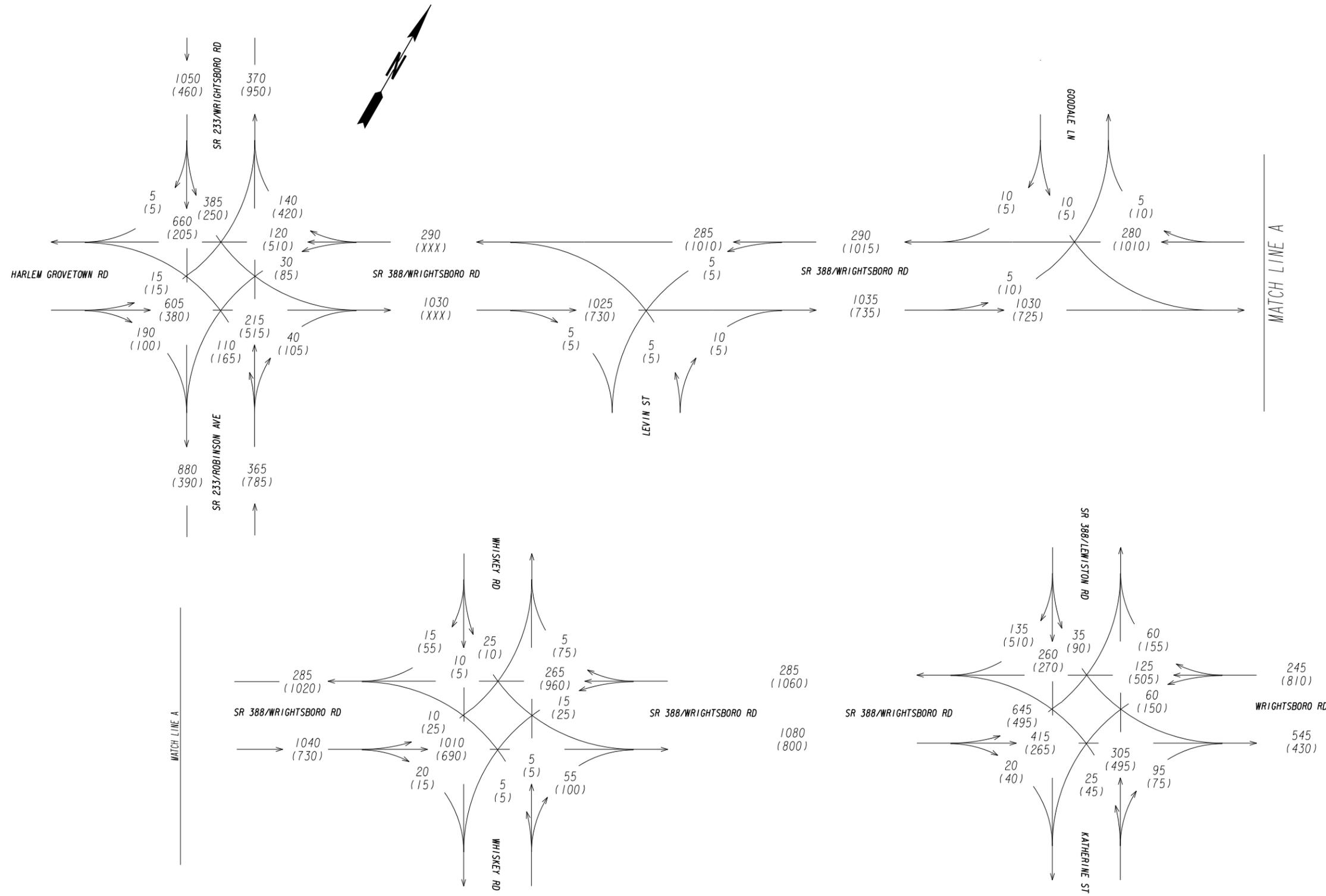
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

TRAFFIC DIAGRAM

SR 388/WRIGHTSBORO ROAD
FROM HARLEM GROVETOWN RD
TO SR 388/LEWISTON RD

DRAWING No.
10-007



PI# 0008347
COLUMBIA COUNTY

BUILD
EXISTING DHV
2014 DHV AM = 000
2014 DHV PM = (000)

T = 13.1% (10.2%)
COMB. = 2.0% (0.7%)
S.U. = 11.1% (9.5%)

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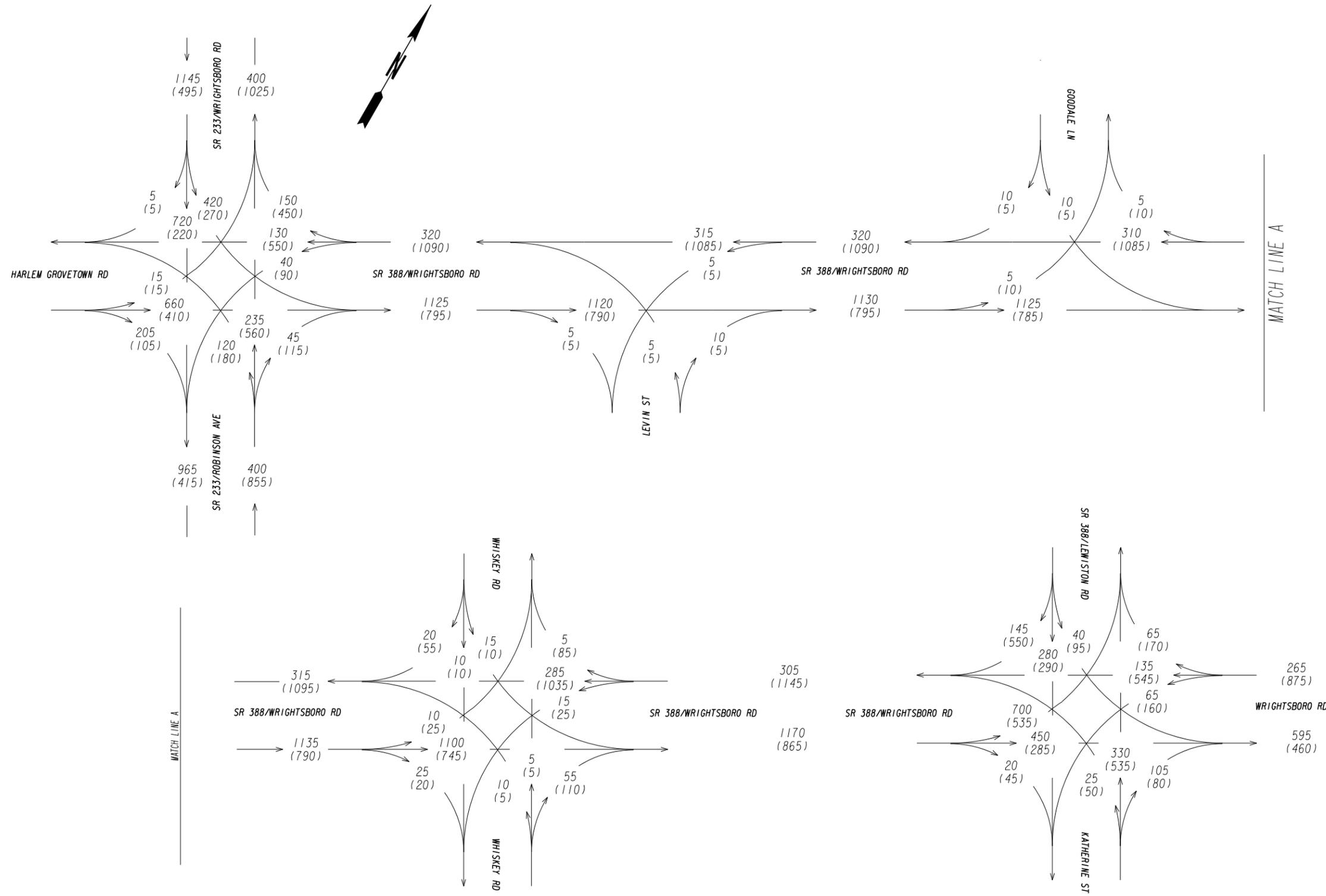
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

TRAFFIC DIAGRAM

SR 388/WRIGHTSBORO ROAD
FROM HARLEM GROVETOWN RD
TO SR 388/LEWISTON RD

DRAWING No.
10-008



PI# 0008347
COLUMBIA COUNTY

BUILD
BASE DHV
2017 DHV AM = 000
2017 DHV PM = (000)

T = 13.1% (10.2%)
COMB. = 2.0% (0.7%)
S.U. = 11.1% (9.5%)

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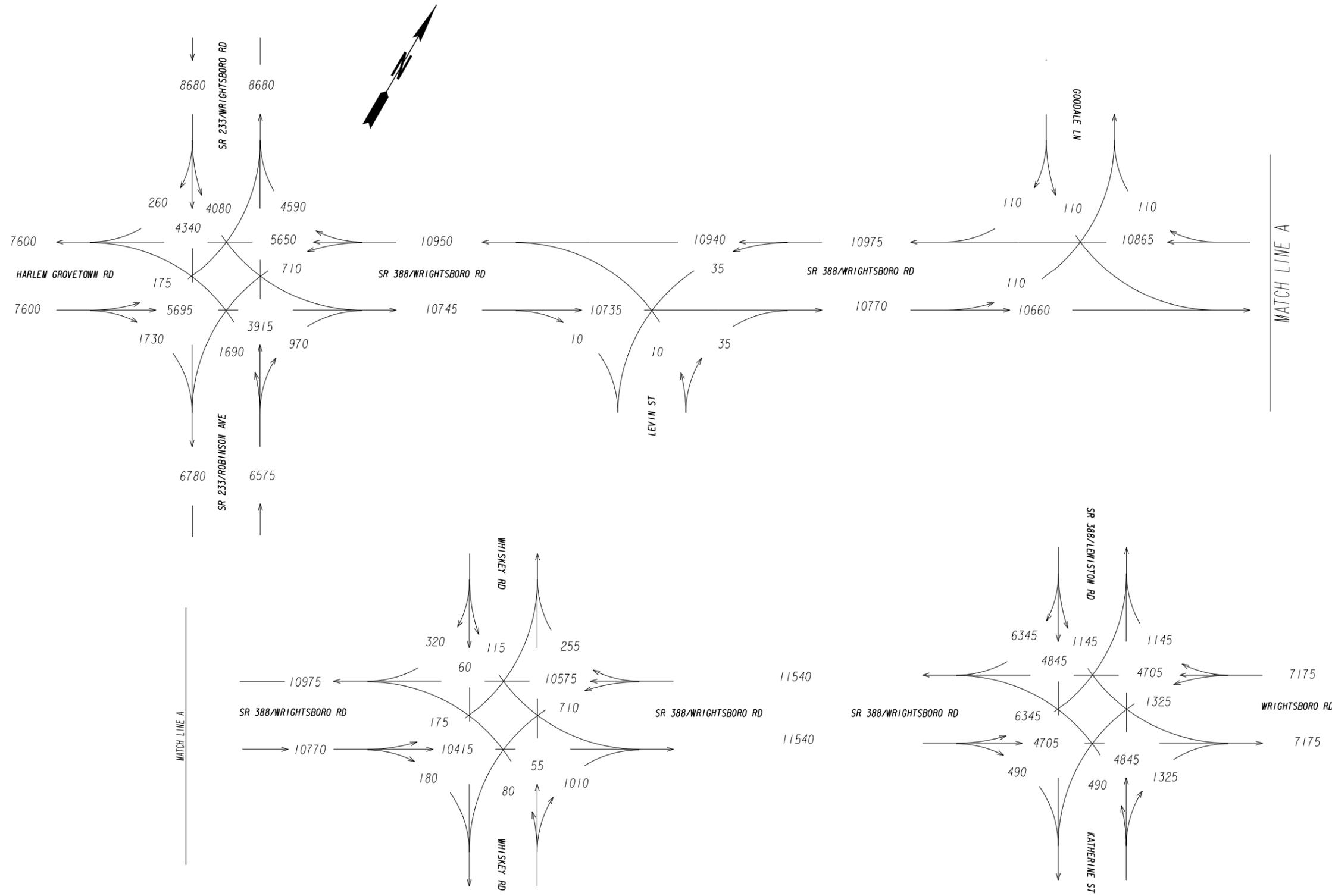
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

TRAFFIC DIAGRAM

SR 388/WRIGHTSBORO ROAD
FROM HARLEM GROVETOWN RD
TO SR 388/LEWISTON RD

DRAWING No.
10-010



PI# 0008347
COLUMBIA COUNTY

BUILD
DESIGN ADT
2037 ADT = 000

24 HR. T = 11.6%
COMB. = 1.1%
S. U. = 10.5%

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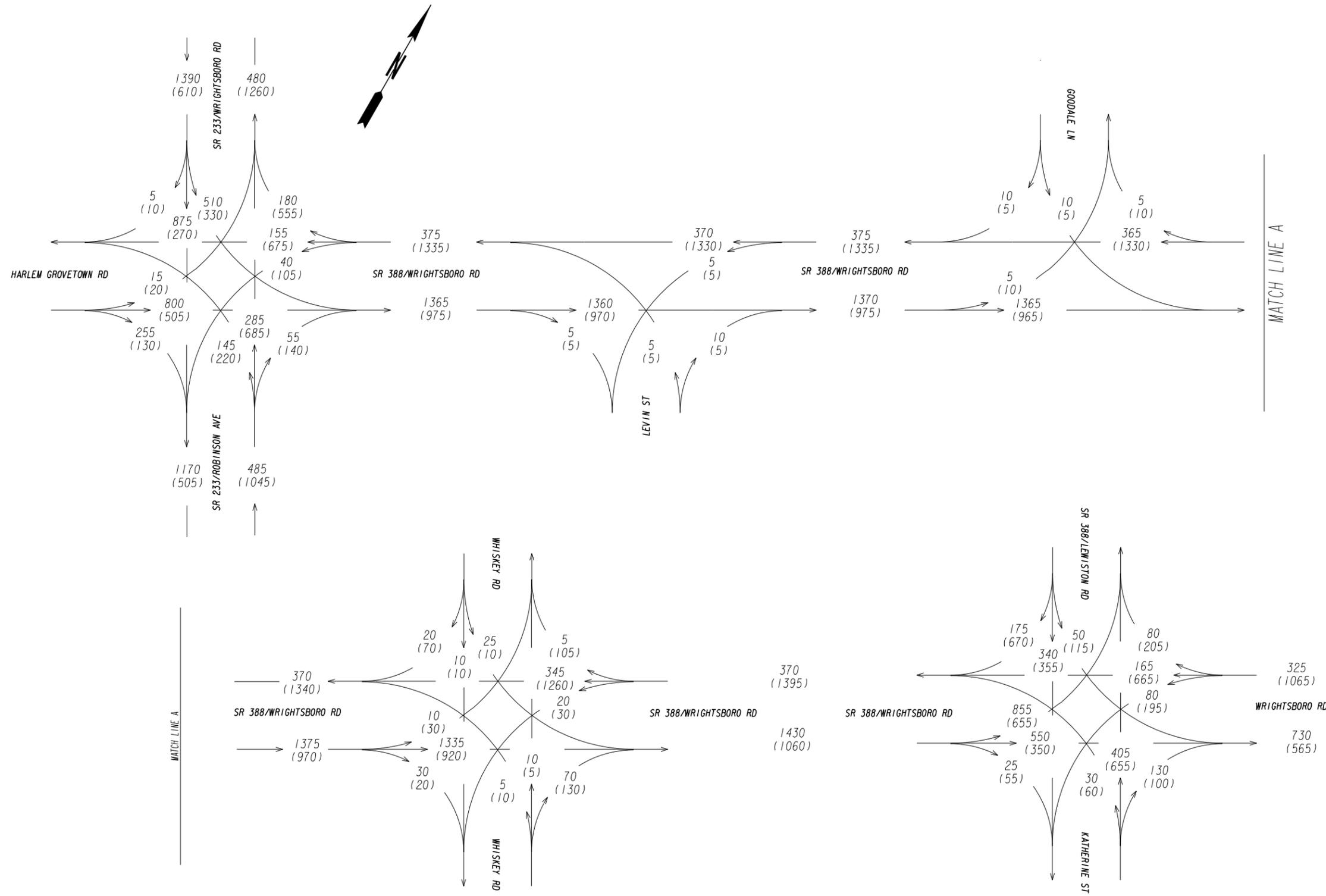
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

TRAFFIC DIAGRAM

SR 388/WRIGHTSBORO ROAD
FROM HARLEM GROVETOWN RD
TO SR 388/LEWISTON RD

DRAWING No.
10-011



PI# 0008347
COLUMBIA COUNTY

BUILD
DESIGN DHV
2037 DHV AM = 000
2037 DHV PM = (000)

T = 13.1% (10.2%)
COMB. = 2.0% (0.7%)
S.U. = 11.1% (9.5%)

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STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE:

TRAFFIC DIAGRAM

SR 388/WRIGHTSBORO ROAD
FROM HARLEM GROVETOWN RD
TO SR 388/LEWISTON RD

DRAWING No.
10-012

Traffic Analysis

The purpose of this study is to evaluate existing, build year, and design year traffic conditions for the no-build and build conditions on SR 388/Wrightsboro Road within the project limits from SR 223/W Robinson Avenue/Wrightsboro Road to Horizon South Parkway/Katherine Street, and to provide recommendations for intersection improvements at both of these intersections.

The existing SR 388/Wrightsboro Road is a two-lane undivided roadway. Both of the intersections at either end of the project corridor are signalized and have existing left turn lanes on all approaches and right turn lanes on some approaches. There are several minor side roads that intersect SR 388/Wrightsboro Road between the two signalized intersections that are controlled by stop signs on the minor approach only. There are currently no turn lanes on SR 388/Wrightsboro Road at these intersections.

The proposed project is for geometric and operational intersection improvements to the signalized intersections at SR 223/W Robinson Avenue/Wrightsboro Road and at Horizon South Parkway/Katherine Street. No widening of SR 233/Wrightsboro Road between these intersections or improvements to the minor intersections is proposed under this project.

Existing and Projected Traffic Volumes

Existing traffic volumes for SR 388/Wrightsboro Road were collected from turning movement counts and 24-hour AADT counts taken in January, 2014. Traffic growth rates were determined from analysis of GDOT historical traffic counts for the years 1995 to 2012. Regression of this data suggests a current annual growth rate of approximately 2.7% per year for traffic volumes in the area. This growth rates was applied to the existing traffic volumes and turning movements to project AADT and AM/PM DHV for the 2017 Base Year. However, since the proposed project does not include the widening of SR 388/Wrightsboro Road, future traffic growth would be constrained by the two-lane undivided section. A growth rate of 1.0% per year was applied to the base year traffic volumes to project AADT and AM/PM DHV for the Build Condition for the 2037 Design Year. Since in the No-Build condition, traffic growth would be further constrained by the existing intersections, a growth rate of 0.8% per year was applied to the base year traffic volumes to project AADT and AM/PM DHV for the No-Build Condition for the 2037 Design Year.

Level of Service Analysis

A capacity analysis of the intersections SR 388/Wrightsboro Road with SR 223/W Robinson Avenue/Wrightsboro Road and with Horizon South Parkway/Katherine Street was conducted for the No-Build and Build conditions for the Existing (2014), Base(2017), and Design(2037) projected volumes utilizing the methodology of the 2010 Highway Capacity Manual (HCM) and the Synchro, Version 8 software. The results of the intersection capacity analysis consisting of the AM and PM Peak-Hour Levels of Service and delay is provided in the table below.

**Table 1
Intersection Capacity Analysis**

| Intersection | Approach/ Movement | Existing Year (2014) | | | | Build Year (2017) | | | | | | | | Design Year (2037) | | | | | | | |
|--|--|----------------------|----------|------|----------|-------------------|----------|------|----------|-------|----------|------|----------|--------------------|----------|------|----------|-------|----------|------|------|
| | | Condition | | | | Condition | | | | | | | | Condition | | | | | | | |
| | | No Build | | | | No Build | | | | Build | | | | No Build | | | | Build | | | |
| | | AM | | PM | | AM | | PM | | AM | | PM | | AM | | PM | | AM | | PM | |
| LOS | Delay(s) | LOS | Delay(s) | LOS | Delay(s) | LOS | Delay(s) | LOS | Delay(s) | LOS | Delay(s) | LOS | Delay(s) | LOS | Delay(s) | LOS | Delay(s) | LOS | Delay(s) | | |
| SR 388/Wrightsboro Rd & Harlem Grovetown Rd @ SR 233/W Robinson Ave & SR 233/Wrightsboro Rd | Overall | C | 34.5 | C | 23.4 | E | 61.4 | D | 37.2 | C | 25.6 | C | 28.7 | F | 191.8 | F | 136.5 | D | 53.4 | D | 53.6 |
| | Eastbound | D | 46.3 | B | 18.7 | F | 81.1 | C | 24.9 | C | 22.0 | B | 17.3 | F | 253.2 | C | 33.9 | D | 36.6 | C | 24.6 |
| | Lt | B | 18.7 | C | 26.2 | C | 21.5 | D | 37.8 | B | 19.9 | C | 32.1 | C | 31.1 | E | 67.5 | C | 32.8 | D | 54.0 |
| | Th | D | 47.6 | B | 18.3 | F | 83.5 | C | 24.2 | C | 22.1 | B | 16.5 | F | 260.7 | C | 32.3 | D | 36.8 | C | 22.9 |
| | Westbound | C | 21.2 | C | 28.2 | C | 27.8 | D | 40.9 | B | 19.9 | C | 33.8 | E | 66.4 | F | 93.8 | C | 32.7 | E | 64.9 |
| | Lt | D | 40.6 | C | 25.8 | E | 60.6 | D | 41.9 | C | 27.9 | C | 23.0 | F | 217.7 | F | 176.6 | D | 50.9 | D | 36.5 |
| | Th | B | 16.7 | C | 28.8 | B | 18.9 | D | 40.6 | B | 17.8 | D | 36.5 | C | 26.1 | F | 73.3 | C | 28.5 | F | 71.7 |
| | Southbound | C | 31.1 | B | 19.6 | D | 54.5 | D | 44.0 | C | 31.4 | C | 33.2 | F | 194.4 | F | 201.0 | E | 62.7 | E | 55.5 |
| | Lt | B | 18.7 | C | 23.9 | C | 27.0 | E | 65.2 | C | 30.4 | D | 47.3 | F | 160.9 | F | 334.2 | D | 52.6 | F | 82.4 |
| | Th | D | 38.3 | B | 14.3 | F | 70.5 | B | 18.0 | C | 32.0 | B | 15.9 | F | 214.0 | D | 36.3 | F | 68.6 | C | 22.5 |
| | Northbound | C | 30.2 | C | 24.4 | E | 63.2 | D | 36.3 | B | 19.3 | C | 27.7 | F | 143.4 | F | 190.0 | E | 65.9 | E | 58.9 |
| | Lt | D | 40.4 | B | 10.6 | F | 116.2 | B | 13.5 | C | 23.9 | B | 11.6 | F | 277.3 | C | 28.3 | F | 131.6 | B | 16.3 |
| | Th | C | 24.2 | C | 29.1 | C | 31.7 | D | 44.2 | B | 16.6 | C | 33.3 | F | 64.1 | F | 246.3 | C | 27.0 | F | 73.7 |
| | SR 388/Wrightsboro RD @ SR 388/Horizon S Pkwy & Katherine St | Overall | C | 21.3 | E | 60.7 | C | 30.7 | F | 102.2 | C | 30.7 | C | 26.7 | F | 98.5 | F | 245.0 | C | 30.9 | D |
| Eastbound | | C | 20.9 | E | 68.0 | C | 31.3 | F | 149.4 | D | 41.3 | C | 34.0 | F | 131.8 | F | 364.5 | D | 38.0 | D | 52.0 |
| Lt | | C | 24.9 | F | 100.9 | D | 39.8 | F | 231.3 | D | 53.5 | D | 37.9 | F | 201.4 | F | 574.7 | D | 45.7 | E | 56.7 |
| Th | | B | 15.7 | B | 16.3 | B | 19.8 | C | 20.7 | C | 25.7 | C | 29.1 | D | 39.2 | D | 39.1 | C | 28.7 | D | 46.6 |
| Westbound | | C | 25.1 | E | 76.0 | D | 35.4 | F | 111.8 | C | 23.6 | C | 26.9 | E | 79.0 | F | 246.3 | C | 26.2 | D | 41.6 |
| Lt | | C | 21.8 | B | 16.3 | C | 30.0 | B | 17.0 | C | 27.4 | C | 20.7 | D | 45.7 | C | 30.9 | C | 30.4 | C | 34.0 |
| Th | | C | 26.7 | F | 95.7 | D | 38.0 | F | 142.7 | C | 21.8 | C | 28.9 | F | 94.5 | F | 317.0 | C | 24.1 | D | 44.0 |
| Southbound | | B | 19.9 | D | 38.2 | C | 27.2 | E | 60.1 | B | 13.6 | B | 15.9 | D | 45.7 | F | 118.1 | B | 18.7 | C | 28.9 |
| Lt | | C | 24.2 | F | 85.6 | D | 35.6 | F | 176.9 | B | 12.3 | B | 15.5 | F | 83.7 | F | 407.2 | B | 15.8 | C | 32.7 |
| Th | | B | 19.3 | C | 22.8 | C | 25.8 | C | 22.8 | B | 13.8 | B | 16.0 | D | 39.6 | C | 26.7 | B | 19.2 | C | 27.7 |
| Northbound | | C | 21.6 | D | 46.1 | C | 29.4 | D | 52.9 | B | 16.8 | B | 23.4 | D | 51.4 | F | 161.2 | C | 22.3 | C | 34.4 |
| Lt | | C | 21.2 | C | 26.7 | C | 29.8 | C | 27.9 | B | 15.6 | C | 19.0 | D | 51.4 | D | 37.1 | C | 22.3 | D | 36.8 |
| Th | | C | 21.6 | D | 48.0 | C | 29.4 | E | 55.4 | B | 16.9 | C | 23.8 | D | 51.4 | F | 173.9 | C | 22.3 | C | 34.2 |

Crash Analysis

Crash data along the section of SR 388 within the project limits was obtained from GDOT for the period between January 1, 2009 and December 31, 2012. The crash data summarized by year, by intersection, and by type for the section of SR 388 is provided in Tables 2, 3 and 4 respectively.

As shown in Table 1, there were a total of 164 crashes reported in this 0.84 mile section of roadway for the six (4) year period, which included 65 injury crashes. No fatal crashes were reported. Based on the crash data gathered, crash rates for the section of SR 388 were calculated. SR 388 within the project limits is classified as a urban minor arterial according to GDOT. Therefore the crash rates calculated for the section of SR 388 analyzed here were compared to the statewide average crash rates for urban minor arterials. As shown in Table 1, the total crash rates calculated for the section of SR 388 within the project limits are higher than the statewide average crash rates for urban major collectors for all 4 years and the injury rates were higher than the statewide average were higher for 3 of the 4 years.

As shown in Table 4, 95 of the 164 accidents recorded within the project limits between 2009 and 2012 were rear end accidents (58%). 38 (23%) of the accidents were an angle accident, 12 (7.3%) were run-off the road, and 9 (5.5%) were head on accidents.

Table 2
Accident Summary and Rates By Year

| Year | Accidents | | | Injuries | | |
|------|-----------|------|-----------|----------|------|-----------|
| | Total | Rate | Statewide | Total | Rate | Statewide |
| 2009 | 37 | 928 | 463 | 18 | 451 | 173 |
| 2010 | 48 | 1202 | 464 | 27 | 676 | 172 |
| 2011 | 46 | 1057 | 482 | 14 | 322 | 166 |
| 2012 | 33 | 768 | 476 | 6 | 140 | 178 |

Table 3
Accident Summary by Intersection

| Mainline | Intersection | 2009 | | 2010 | | 2011 | | 2012 | |
|-----------------------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|
| | | Accidents | Injuries | Accidents | Injuries | Accidents | Injuries | Accidents | Injuries |
| SR 388/Wrightsboro Rd | SR 223/W Robinson Rd & Harlem Grovetown Rd | 4 | 5 | 21 | 14 | 15 | 6 | 0 | 0 |
| SR 388/Wrightsboro Rd | Leven St | 4 | 0 | 6 | 1 | 4 | 1 | 0 | 0 |
| SR 388/Wrightsboro Rd | Goodale Ln | 5 | 2 | 3 | 2 | 5 | 2 | 0 | 0 |
| SR 388/Wrightsboro Rd | Whiskey Rd | 5 | 7 | 3 | 1 | 4 | 0 | 0 | 0 |
| SR 388/Wrightsboro Rd | S. Horizon Pkwy/Katherine St | 12 | 1 | 14 | 7 | 17 | 5 | 3 | 1 |
| SR 388/Wrightsboro Rd | Other Driveways | 7 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| SR 388/Wrightsboro Rd | Undefined | 0 | 0 | 1 | 2 | 1 | 0 | 30 | 5 |
| Total | | 37 | 18 | 48 | 27 | 46 | 14 | 33 | 6 |

Table 4
Accident Summary by Type

| Mainline | Intersection | Angle | Head on | Run Off | Rear End | Sideswipe | | Undefined |
|-----------------------|--|-----------|----------|-----------|-----------|-----------|----------|-----------|
| | | | | | | Same Dir | Opp Dir | |
| SR 388/Wrightsboro Rd | SR 223/W Robinson Rd & Harlem Grovetown Rd | 10 | 1 | 3 | 23 | 1 | 0 | 2 |
| SR 388/Wrightsboro Rd | Leven St | 0 | 0 | 1 | 13 | 0 | 0 | 0 |
| SR 388/Wrightsboro Rd | Goodale Ln | 2 | 2 | 2 | 7 | 0 | 0 | 0 |
| SR 388/Wrightsboro Rd | Whiskey Rd | 3 | 1 | 2 | 2 | 2 | 1 | 1 |
| SR 388/Wrightsboro Rd | S. Horizon Pkwy/Katherine St | 14 | 3 | 2 | 26 | 0 | 1 | 0 |
| SR 388/Wrightsboro Rd | Other Driveways | 1 | 0 | 0 | 6 | 0 | 0 | 0 |
| SR 388/Wrightsboro Rd | Undefined | 8 | 2 | 2 | 18 | 1 | 1 | 0 |
| Total | | 38 | 9 | 12 | 95 | 4 | 3 | 3 |



Meeting Minutes

Meeting: Concept Team Meeting
Project: ***Wrightsboro Rd Improvements from SR 388/ Lewiston Rd to SR 223/ Robinson Ave.***
TIA Project ID: ***RC07-000032, PI 0008347***
Date: June 11th, 2014
Location: 19th Floor, Conference Room #2
Attendees: Tim Matthews GDOT TIA Regional Coordinator
Steve Tiedemann RPM (AECOM)
Scott Athey Lowe Engineers – Consultant PM
Nathan Laird Lowe Engineers – Lead Engineer
Jonathan Cox Jacobs – Environmental Lead

The purpose of the meeting was to view the Concept Design and discuss project details as it relates to completing the Concept Report and finalizing the Concept phase.

Discussion:

Mr. Athey led the meeting and opened with a brief statement and recommended a quick discussion on the adjacent projects.

Tiedemann: Confirmed that the project along Robinson Avenue would end south and east of the intersection with Wrightsboro Road and should not affect this project.

Tiedemann: For the intersection of Wrightsboro Road and Lewiston Road, the adjacent project along Lewiston/ SR/388/ Horizon South is a Band 3 project. The concept has been completed, but that full design will not be completed until later in the program.

Athey: Stated that coordination had been practiced with the URS team for traffic at the intersection with Wrightsboro to ensure warranted improvements and balancing of traffic between the two project reports.

Athey: Confirmed that the improvements under this project (PI 0008347) will not affect the adjacent project's future design. Construction activities will simply proposed re-striping of the existing route along Lewiston Road/ SR 388/ Horizon South for the modified lane configuration along Wrightsboro Road.

Tiedemann: The CES program will be used for cost tracking during the project. Steve said he has a cost estimate worksheet that he has not sent us yet that has assigned contingencies. No fuel price adjustments need to be added to the project cost because the construction will be quick.

Project Summary:

Athey: The basic functions, existing conditions, and characteristics of the project corridor/ route were reviewed (attached).

Athey: The stated benefit of the project would be to improve congestion with operational improvements, manage access, and incorporate measures to support pedestrians and bicyclists (Fact Sheet attached).

Athey: Mr. Athey introduced the concept map for the project. The concept design was completed by implementing all the operational improvements warranted by the draft traffic report. The list or recommended improvements was reviewed (attached).

Athey: It was explained that the final traffic report would be completed after the Concept Meeting. The meeting would serve as validation for the concept design and the elements to be eliminated. The traffic report would then address any elements which had to be eliminated based off total construction costs.

Athey: The traffic report revealed that by the Design Year, with the growth rates used by Lowe and the adjacent URS project, the corridor would justify a four-lane divided. However, the construction costs for this project do not allow such a major improvement.

Athey: The concept design was discussed for each of the intersections along the corridor beginning in the west with Robinson Avenue.

Improvements for Wrightsboro Road/ Robinson Avenue/ Harlem Grovetown Road:

1. Southbound Wrightsboro Rd (SR 233)
 - a. Add Double Left Turn Lane (Storage 230')
 - b. Make outside lane a shared Through/Right
 - c. Requires 2nd Receiving Lane on Wrightsboro Rd EB
 - d. Requires Protected only left turn phase
2. Eastbound Harlem Grovetown Rd
 - a. Current Left + Through + Right
 - b. Convert to Left + Through + Through/Right
 - c. Extend right lane to min 250 ft storage + 100 taper
 - d. Requires 2nd Receiving Lane on Wrightsboro Rd EB
 - e. Upgrade left to Flashing Yellow Arrow (FYA)(permitted only)
3. Westbound Wrightsboro Rd
 - a. Extend right lane to min 500 ft storage + 100 Taper
 - b. Extend Left turn lane to 150 ft storage/100' taper
 - c. Upgrade left to FYA (permitted only)

Tiedemann: Pointed out that we may need to be sensitive to the commercial property on the northeast corner of the intersection with Robinson.

Tiedemann: Recommended that we evaluate the potential of placing any new signal poles to accommodate future widening.



Tiedemann: Confirmed acceptance of 11' lanes, but would like to be consistent throughout the corridor on lane widths.

Athey: Discussed the improvements at the project end point with Wrightsboro Road/ Horizon South/ SR 388.

Improvements for Wrightsboro Road/ SR 388/ Horizon South:

1. Eastbound Wrightsboro Rd
 - a. Add Double Left Turn Lane (Storage 400')
 - b. Add narrow median back to "new" drive to prevent turns in/out of commercial drives
 - c. Add right turn lane (Storage 100') – Allows for RR Preemption for right turns while still allowing left/through lanes to move.
 - d. Requires 2nd Receiving lane on Horizon S NB (To be built by adjacent project)
 - e. Requires Protected only left turn phase
2. Southbound Horizon South
 - a. Add Protected/Permitted Left turn Phase (FYA)
3. Westbound Wrightsboro Rd
 - a. Current Left + Through + Right
 - b. Convert to Left + Through + Through/Right
 - c. Requires 2nd Receiving lane on Wrightsboro Rd WB (possible trap right to commercial)
 - d. Upgrade Left to FYA (Prot/Perm)
4. Northbound Katherine Rd
 - a. Current Left + Through/Right
 - b. Convert to Left + Through + Through/Right (By adjacent project)
 - c. Convert Left to FYA (permitted only)

Tiedemann: Confirmed that we wouldn't want to do any work on the south side of Wrightsboro Road, adjacent to the Rail line. The adjacent project is doing work in this area and this project did not anticipate RR coordination and delay.

Athey: Discussed the median width and the efforts to keep the width as small as possible to lessen impacts to the tightest part of the corridor with Gas Stations on both sides of the corridor.

Athey: Discussed the last two intersections, along the mid-point of the project – Whiskey Road and Goodnale Road.

Athey: Discussed the need for access control and that a 4' raised conc. Median is used on the west leg of the intersection.

Improvements for Whiskey Road:

1. Wrightsboro Rd Eastbound
 - a. Add EB Left Turn Lane (150' storage)
2. Whiskey Rd Northbound
 - a. Add Northbound Right Turn Lane (Yield w/raised Island)(min 150' storage)
3. Whiskey Rd Southbound



- a. Add Southbound Right Turn Lane (Yield w/raised Island)(min 150' storage)

Tiedemann: Recommended coordination with the locals. Previous discussion had revealed that the City may have plans to signalize this intersection.

Athey: A phone call will be made to Neil Frank of the City.

Tiedemann: Recommended checking the accident reports on whether the proposed left turn (EB) was needed for safety or not.

Athey: The improvements were reviewed for Goodnale Road, which warranted similar improvements to Whiskey Road.

Cox: Because this is GEPA, there would be no 4f issues with impacts to the Park.

Improvements for Goodnale Road:

1. Wrightsboro Rd Eastbound
 - a. Add EB Left Turn Lane (150' storage)

Multi-Use Trail:

Athey: The final element of the project was discussed, a multi-use trail traveling the length of the corridor. The multi-use path would meet the stated benefit of the project for pedestrians and bicyclist.

Tiedemann: How was the location chosen?

Athey: The multi-use path was placed along the north side based off the ARTS Regional Bicycle and Pedestrian Plan. The planning was for the path to be along the north side of the roadway. Furthermore, the park along Whiskey was a logical destination that needed connectivity.

Tiedemann: Inquired on the overall effects on the stream crossing?

Athey: At the stream crossing, the widening for improvements along Wrightsboro Road is proposed to the south to avoid the longitudinal stream along the north shoulder.

Athey: Numerous alternatives have been studied for the multi-use path crossing with the recommended solutions being:

1. A 90 degree crossing where the multi-use path diverges from the shoulder for a more direct crossing angle. This would likely be accomplished with a small culvert, potentially bottomless.
2. Spanning the entire buffered area or at least the channel with a pre-cast bridge structure.

Tiedemann: Recommended raised the parapet on the culvert, if the width exists, and potentially having enough shoulder for the multi-use path. Handrail would be required.

Athey: Clear zone would need to be confirmed for the parapet option.



Cox: A 404 will likely be required regardless of the alternative in traversing the stream. A SBV may be needed as well. Mitigation costs would be relatively small, if applicable.

Tiedemann: Recommended contacting the locals and Mr. Frank again to discuss the plan for the trail and how that fits with their overall plans or expectations.

Matthews: Emphasized that the TIA team would welcome "outside the box" solutions to conserve costs. If a pedestrian bridge option were used, there would be no GDOT Bridge involvement or review.

Cost Estimate:

Athey: Discussed the overall costs for the project. One iteration was completed of all the improvements and a second iteration was completed with the recommended reduction in scope.

Tiedemann: Informed the team that the fuel adjustment factors can be taken out.

Athey: Inquired on whether the CES system would be used moving forward for the cost estimates (answer – yes).

Tiedemann: Informed the team that the procedure for TIA projects is utilizing a 1% contingency across the board for costs.

Athey: The recommended improvements from the traffic report would exceed the construction budget. However, the team would recommend that the following improvements be removed to adhere to the budget:

- Improvements at Whiskey Road
- Improvements at Goodnale Road

Athey: The multi-use path would still be implemented.

Athey: Further discussed the overall revised construction estimate that stays under the construction budget. Along with removal of scope items, the cost estimate also included contingencies of 10% for each overall improvement which should provide a little flexibility for meeting budget. The costs also included the "fuel adjustment" costs which can now be removed.

Tiedemann: Mentioned that the official r/w estimate will be developed internally by the TIA team and plans/ right of way limits should be furnished as soon as we are able.

Athey: Mentioned that utility estimate has not been completed. The utility (SUE Level D) lead is lacking a little information from the utility companies and was seeking assistance from the GDOT SUE office with contacts to expedite.

MS4:

Athey: The last item not included in the construction cost estimate is the implementation of MS4. Because of the number of basins (10) and the segmented operational improvements along the corridor, the project will likely meet the infeasibilities requirements for the GDOT MS4 permit.



Athey: Discussed the MS4 estimate developed by the Lowe team (attached). This cost breaks down the cost for implementing MS4 for each basin. The cost almost doubles the construction costs for the project.

Matthews: Recommended looking at the project more from a local perspective in regards to MS4 guidelines and speaking with Brad McManus of Design Policy and Support for guidance on the issue as it relates to TIA project.

Tiedemann: Also passed along a few of his other PM's for TIA projects that are just ahead of our design and recommending discussing any feedback they had received from Design Policy and Support.

Athey: Discussed the follow up items necessary with the locals, MS4, and design and cost iterations.

Athey: Stated that he will follow up with the PM (Mr. Tiedemann) after he returns the week of the 16th to discuss coordination items and the schedule for finalizing the Concept phase.

Meeting adjourned.
SMA

Attachments

AGENDA

DATE:

June 6, 2014

SUBJECT:

Wrightsboro Road Improvements
Robinson Avenue to Lewiston Road
P.I. # 00048347
CSSTP-0008-00(347)
Concept Team Meeting

- I. WELCOME
- II. INTRODUCTION OF EACH ATTENDEE
- III. PROJECT IDENTIFICATION
- IV. FUNCTIONAL CLASSIFICATION
- V. TIA PROJECT INTENDED BENEFIT
- VI. TRAFFIC PROJECTIONS
- VII. EXISTING TYPICAL SECTION
- VIII. DESIGN CRITERIA
- IX. PROPOSED PROJECT DESCRIPTION
- X. MAJOR STRUCTURES
- XI. DESIGN VARIANCES/EXCEPTIONS
- XII. RIGHT OF WAY IMPACTS/DISPLACEMENTS
- XIII. UTILITIES
- XIV. ALTERNATES CONSIDERED AND REASONS FOR REJECTION
- XV. LEVEL OF ENVIRONMENTAL ANALYSIS AND CONCERNS
- XVI. PROJECT DEVELOPMENT SCHEDULE
- XVII. PUBLIC HEARING
- XVIII. COMMENTS FROM ATTENDEES

Project Sheet

Project Number: RC07-000032 **Project Name:** Wrightsboro Road Improvements from SR 388/Lewiston Road to SR 223/Robinson Avenue

GDOT ID: 0008347

Project Description: Improve the level of service of Wrightsboro Road through the use of facilities that support increased motor vehicle capacity, and manage access to and from the corridor; and, incorporate measures throughout the corridor to safely support pedestrians and bicyclists.

Regional Commission: Central Savannah River Area

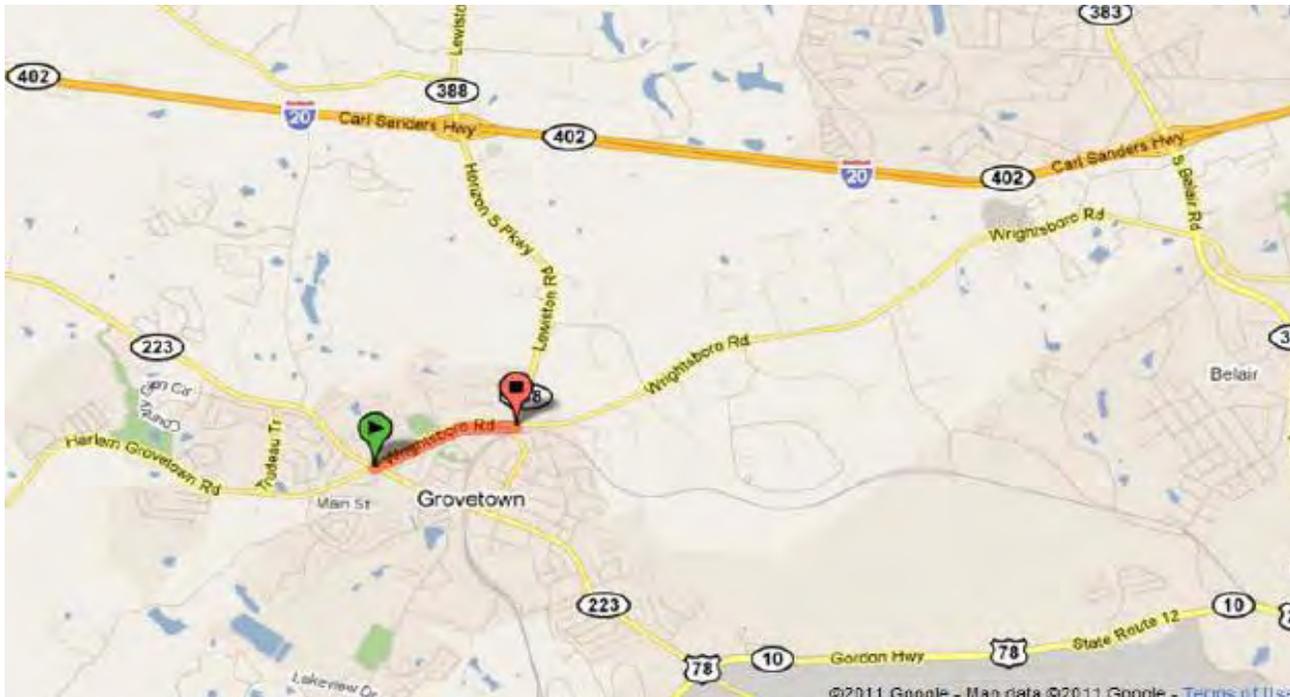
County: Columbia County

| Phase | Total Project Cost | Total TIA Amount | Comments (Please note all cost estimates are in 2011 dollars and actual costs for all phases at year of expenditure will be higher): |
|--------------|--------------------|--------------------|--|
| PE | \$160,000 | \$160,000 | |
| ROW | \$540,000 | \$540,000 | |
| CST | \$2,000,000 | \$2,000,000 | |
| UTL | \$300,000 | \$300,000 | |
| Total | \$3,000,000 | \$3,000,000 | |

| Public Benefit | Notes |
|--|---|
| Maximizing the value of Georgia's Assets | This project could potentially maximize the full utility of an existing transportation facility(s). In some cases, bypasses will be necessary. Example benefits could be: mitigating congestion (e.g. operational improvements) and optimizing capital asset management (e.g. resurfacing, rehabilitation). The impacts would apply to this roadway segment, corridor, and/or intersection. |

| | |
|------------------------------|---|
| Ensuring Safety and Security | This project would benefit the public by potentially reducing the incidence of crashes along this roadway segment, corridor, and/or intersection. |
|------------------------------|---|

Project Location





Meeting Minutes

Meeting: Concept Coordination Meeting (City of Grovetown)
Project: ***Wrightsboro Rd Improvements from SR 388/ Lewiston Rd to SR 223/ Robinson Ave.***
TIA Project ID: ***RC07-000032, PI 0008347***
Date: July 11th, 2014
Location: City of Grovetown City Hall
Attendees: Steve Tiedemann RPM (AECOM)
Scott Athey Lowe Engineers – Consultant PM
Michael Woods City of Grovetown, Utilities
Frank Neal City of Grovetown, Planning
Honorable George James City of Grovetown Mayor
Honorable Dennis Trudeau City of Grovetown, Councilmember

The purpose of the meeting was to view the Concept Design and discuss project details with the locals.

Discussion:

Mr. Athey led the meeting and opened with a brief statement and introduction of attendees and then gave a quick summary of the project and concept design completed thus far.

Project Summary:

Athey: The basic functions, existing conditions, and characteristics of the project corridor/ route were reviewed (attached).

Athey: The stated benefit of the project would be to improve congestion with operational improvements, manage access, and incorporate measures to support pedestrians and bicyclists (Fact Sheet attached).

Athey: Mr. Athey introduced the concept map for the project. The concept design was completed by implementing all the operational improvements warranted by the draft traffic report. The list or recommended improvements was reviewed (attached).

Athey: It was explained that the final traffic report is being completed and the Concept Report will be submitted.

Athey: The traffic report revealed that by the Design Year, with the growth rates used by Lowe and the adjacent URS project, the corridor would justify a four-lane divided. However, the construction costs for this project do not allow such a major improvement.

Athey: The concept design was discussed for each of the intersections along the corridor beginning in the west with Robinson Avenue.

Improvements for Wrightsboro Road/ Robinson Avenue/ Harlem Grovetown Road:

1. Southbound Wrightsboro Rd (SR 233)
 - a. Add Double Left Turn Lane (Storage 230')
 - b. Make outside lane a shared Through/Right
 - c. Requires 2nd Receiving Lane on Wrightsboro Rd EB
 - d. Requires Protected only left turn phase
2. Eastbound Harlem Grovetown Rd
 - a. Current Left + Through + Right
 - b. Convert to Left + Through + Through/Right
 - c. Extend right lane to min 250 ft storage + 100 taper
 - d. Requires 2nd Receiving Lane on Wrightsboro Rd EB
 - e. Upgrade left to Flashing Yellow Arrow (FYA)(permitted only)
3. Westbound Wrightsboro Rd
 - a. Extend right lane to min 500 ft storage + 100 Taper
 - b. Extend Left turn lane to 150 ft storage/100' taper
 - c. Upgrade left to FYA (permitted only)

Improvements for Wrightsboro Road/ SR 388/ Horizon South:

1. Eastbound Wrightsboro Rd
 - a. Add Double Left Turn Lane (Storage 400')
 - b. Add narrow median back to "new" drive to prevent turns in/out of commercial drives
 - c. Add right turn lane (Storage 100') – Allows for RR Preemption for right turns while still allowing left/through lanes to move.
 - d. Requires 2nd Receiving lane on Horizon S NB (To be built by adjacent project)
 - e. Requires Protected only left turn phase
2. Southbound Horizon South
 - a. Add Protected/Permitted Left turn Phase (FYA)
3. Westbound Wrightsboro Rd
 - a. Current Left + Through + Right
 - b. Convert to Left + Through + Through/Right
 - c. Requires 2nd Receiving lane on Wrightsboro Rd WB (possible trap right to commercial)
 - d. Upgrade Left to FYA (Prot/Perm)
4. Northbound Katherine Rd
 - a. Current Left + Through/Right
 - b. Convert to Left + Through + Through/Right (By adjacent project)
 - c. Convert Left to FYA (permitted only)

Athey: Explained that the majority of the improvements for the SB, NB, and WB approaches were being coordinated with the adjacent project for future improvements at this location (TIA - Band 3 project).



Neal: Shared that there is a future project that will address Wrightsboro Road to the west of the intersection, but the details of those improvements are not yet fully clear or planned.

James: Inquired on whether the adjacent project would include bike lanes?

Tiedemann: The design team will coordinate with the adjacent project for an answer on the bike lanes and ensure continuity between the planned improvements.

Improvements for Whiskey Road (**eliminated based off costs**)

1. Wrightsboro Rd Eastbound
 - a. Add EB Left Turn Lane (150' storage)
2. Whiskey Rd Northbound
 - a. Add Northbound Right Turn Lane (Yield w/raised Island)(min 150' storage)
3. Whiskey Rd Southbound
 - a. Add Southbound Right Turn Lane (Yield w/raised Island)(min 150' storage)

Athey: Inquired from the City their plans to require a current development and the developer to improve the Whiskey Road intersection. This improvement also factored into the decision to eliminate these improvements from the TIA project.

Neal: Mr. Neal shared with the group the current design plans for improvements at the intersection. The intersection already contains a WB left turn. The design will add an EB left turn, slightly realigned, and construct a signal at the intersection. Hard copy plan sheets were distributed and electronic files will be distributed to the Lowe design team.

Athey: Mr. Athey continued the discussion of the overall improvements.

Improvements for Goodale Road (**eliminated based off costs**):

1. Wrightsboro Rd Eastbound
 - a. Add EB Left Turn Lane (150' storage)

Multi-Use Trail:

Athey: The final element of the project was discussed, a multi-use trail traveling the length of the corridor. The multi-use path would meet the stated benefit of the project for pedestrians and bicyclist.

Athey: The multi-use path was placed along the north side based off the ARTS Regional Bicycle and Pedestrian Plan. The planning was for the path to be along the north side of the roadway. Furthermore, the park along Whiskey was a logical destination that needed connectivity.

MS4:

Athey: The last item not included in the construction cost estimate is the implementation of MS4. Because of the number of basins (10) and the segmented operational improvements along the corridor, the project will likely meet the infeasibilities requirements for the GDOT MS4 permit.



Athey: Discussed the MS4 estimate developed by the Lowe team (attached). This cost breaks down the cost for implementing MS4 for each basin. The cost almost doubles the construction costs for the project.

Athey: Mr. Athey explained that the design team was leaving a contingency for the purpose of implementing MS4 requirements. The constraints of the project budget would not allow the project to be the GDOT criteria for every basin, but the design team would attempt to meet as many as possible.

Athey: On a recommendation from Mr. Tiedemann, Mr. Athey explained the MS4 requirements to the attendees.

Neal: Mr. Neal began explaining other developments in the area that will likely have an effect on the corridor in the future.

Goodale Park:

The Park is currently undergoing development to the back portion of the park. A rendering was distributed to the group. These improvements are driving the City to make the aforementioned improvements. The secondary entrance, which will be gate controlled, will only be opened when an event comes to an end and is warranted. This egress point is located just west of the Whiskey Road intersection.

Wal-Mart:

This store is being developed within the large track (north side) near the intersection of Wrightsboro/ Harlem Grovetown/ Robinson Avenue. The Wal-Mart is the only current facility in design. There are other outparcels and future development planned for the surrounding area. A plan sheet was distributed to the group.

Senior Living Development:

This planned facility is being developed approximately 0.75 mile north of the Wrightsboro Road/ Robinson Avenue intersection on the east side of Wrightsboro Road. Any details of the development were not available in hard copy form for the meeting. Mr. Neal will obtain whatever information he can and distribute to the group.

Residential (Single Family & Multi-Family) Development: This development is being planned/ designed along Katherine Street, south of the current RR crossing. The development will take the place of the current trailer park.

Commercial Development:

The final planned development was for the NW quadrant of the Wrightsboro Road/ Robinson Avenue intersection. The current parcel is being sub-divided into four smaller parcels. The current grocery/ retail facility will be removed and other strip retail developed in its place.

Tiedemann: Restated that the project budget is set and that most of the development would likely have a minimal effect on the proposed design for this project. The project is handling the current operations challenges and the scope cannot really expand.



Tiedemann: Indicated that the design team would need to coordinate with the District for any of the signal modifications as a part of the current proposed project. During this coordination, the team will inquire on any active permits for driveway access for the proposed developments discussed.

Athey: Explained that the facility is really on the cusp of justifying a four-lane widening with today's ADT and that the planned developments would likely further justify such a project.

Tiedemann: Recommended to the group that they go ahead and start coordinating with the GDOT planning office on the needs of the corridor and to begin the groundwork for potentially creating a future project with GDOT.

James: Indicated that the City was excited and happy. The concept design appears to maximize the funding allocated to the project.

Meeting adjourned.
SMA

Attachments