

Transportation Analysis

Strategic West Logistics Center IV – Douglas Hills DRI #3515

Douglas County, Georgia

January 2022

Prepared for:

GC Fairlane, LLC

Strategic Real Estate Partners, LLC

Prepared by:

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EXECUTIVE SUMMARY

This report presents the analysis of the anticipated traffic impacts of the proposed *Strategic West Logistics Center IV - Douglas Hills* development located in unincorporated Douglas County, Georgia. The approximate 134.5-acre site is located along Douglas Hill Road and Bullard Road. The site is currently vacant.

The proposed development will consist of the following land uses and densities contained in **Table 1**. The project is expected to be completed by 2024 (approximately 3 years).

Table 1: Proposed Land Use and Density	
Warehousing	964,440 SF

The DRI analysis includes an estimation of the overall vehicle trips projected to be generated by the development, also known as gross trips. Mixed-use and pass-by reductions to gross trips are not included in the trip generation, as outlined in the Georgia Regional Transportation Authority (GRTA) Letter of Understanding (dated December 13, 2021).

Capacity analyses were performed for the study intersections under the Estimated 2021 conditions, the Projected 2024 No-Build conditions, and the Projected 2024 Build conditions.

- Estimated 2021 conditions represent current traffic volumes that were collected in November of 2021. Traffic counts were collected at the intersections of Thornton Road (SR 6) at Factory Shoals Road, Thornton Road (SR 6) at Douglas Hill Road, and Douglas Hill Road at Factory Shoals Road in November 2021.
- Projected 2024 No-Build conditions represent the Estimated 2021 traffic volumes grown for three (3) years using a 1.5% per year growth rate, plus the addition of the project trips associated with the *DCT Douglas Hill Distribution Center DRI #2701* development, and the *JDA Factory Shoals* development.
- Projected 2024 Build conditions represent the Projected 2024 No-Build conditions plus the addition of the project trips that are anticipated to be generated by the *Strategic West Logistics Center IV - Douglas Hills* development.

No-Build 2024 (System Improvements)

The signalized intersections of Thornton Road (SR 6) at Factory Shoals Road (Intersection 1) and Thornton Road (SR 6) at Douglas Hill Road (Intersection 2) are projected to operate at an acceptable overall LOS under the Projected No-Build 2024 conditions. However, the eastbound and westbound approaches operate at LOS E or F under Projected 2024 No-Build conditions at both intersections. Under Projected 2024 No-Build conditions, the programmed Quick Response project at Thornton Road (SR 6) at Factory Shoals Road (Intersection 1) was incorporated into the analysis including the modified laneage along eastbound Factory Shoals Road.

At Intersection 1, GDOT has a currently programmed quick response project to be implemented prior to the build-out of the development. The project calls for the addition of exclusive westbound left and right-turn lanes, and the restriping of the eastbound lanes to an exclusive left-turn lane and a shared through/right-turn lane. The Quick Response laneage was implemented in the No-Build and Build 2024 scenarios (shown in green on **Figure 18** and **Figure 19**):

Per GRTA's DRI guidelines, an improvement should be considered if either the overall intersection, or an individual approach operates at a failing LOS.

In order to improve the approach LOS under the No-Build 2024 conditions, and in addition to the programmed Quick Response project, Kimley-Horn recommends the following system improvements (shown in red on **Figure 18** and **Figure 19**):

- Thornton Road (SR 6) at Factory Shoals Road (Intersection 1)
 - Install an eastbound right-turn lane along Factory Shoals Road.
 - Reconfigure the eastbound approach of Factory Shoals Road to include one (1) exclusive left-turn lane, one (1) through-lane, and one (1) exclusive right-turn lane.
 - Consider extending the southbound right-turn lane with 250' storage and 100' taper, per GDOT standards.

Build 2024 (Site Access Improvements)

The signalized intersections of Thornton Road (SR 6) at Factory Shoals Road (Intersection 1) and Thornton Road (SR 6) at Douglas Hill Road (Intersection 2) are projected to operate at an acceptable overall LOS under the Projected Build 2024 conditions. However, the eastbound and westbound approaches operate at LOS E or F under Projected 2024 Build conditions at both intersections. Under Projected 2024 Build conditions, with the aforementioned No-Build 2024 improvements, the intersections will operate at an acceptable LOS. Therefore, no additional intersection or site access improvements are needed.

Thornton Road (SR 6) at Factory Shoals Road (Intersection 1)

Overall LOS Standard: D
Approach LOS Standard: D

Overall LOS Standard: D Approach LOS Standard: D			Thornton Road (SR 6)			Thornton Road (SR 6)			Factory Shoals Road			Factory Shoals Road		
			Northbound			Southbound			Eastbound			Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
NO-BUILD IMPROVED (SIGNAL)	AM	Overall LOS	C (34.5)											
		Approach LOS	C (20.6)			C (33.8)			E (75.0)			E (75.9)		
		Storage	270		115	200		125	170		225	170		225
		50th Queue	75	253	43	183	844	102	53	23	168	141	62	0
		95th Queue	127	325	95	259	1,074	175	99	52	276	215	109	23
	PM	Overall LOS	D (43.0)											
		Approach LOS	D (40.0)			C (33.5)			E (77.8)			E (63.6)		
		Storage	270		115	200		125	170		225	170		225
		50th Queue	8	1,121	48	101	320	14	332	67	0	170	29	0
		95th Queue	11	1,286	101	190	492	50	489	116	0	256	62	52
BUILD IMPROVED (SIGNAL)	AM	Overall LOS	D (35.8)											
		Approach LOS	C (20.9)			D (35.1)			E (76.5)			E (77.8)		
		Storage	270		115	200		125	170		225	170		225
		50th Queue	74	254	46	181	888	139	76	24	155	139	67	0
		95th Queue	125	326	95	256	1,094	223	131	54	265	215	115	23
	PM	Overall LOS	D (48.9)											
		Approach LOS	D (44.9)			C (33.2)			E (61.1)			F (103.6)		
		Storage	270		115	200		125	170		225	170		225
		50th Queue	8	1,121	48	101	320	25	463	72	0	170	30	0
		95th Queue	11	1,286	101	190	492	69	683	123	0	256	63	52

It should be noted that per GRTA's DRI guidelines, an improvement should be considered if an approach operates at a failing LOS, even if the overall intersection operates acceptably. Although the eastbound and westbound approaches are projected to operate at LOS E or F, no feasible improvements exist, as the failing LOS is due to the existing signal timing. SR 6 is a high priority freight and commuter corridor between I-20 in Douglas County and I-285/Hartsfield-Jackson International Airport in Fulton County. The intersection operates at an acceptable overall LOS, and existing signal timings and cycle lengths prioritize vehicular progression on the mainline (SR 6) at the expense of sidestreet operations.

Impacted Queue Lengths Exceeding Storage

Intersection	Movement	Storage Length	Projected Build Queue Length (AM / PM)	Recommendation
1. Thornton Road (SR 6) at Factory Shoals Road	SBR*	125	150 / 25 (50 th) 223 / 69 (95 th)	No-Build (System Improvement): Consider extending the southbound right-turn lane with 250' storage and 100' taper, per GDOT standards

* Exceeds available storage in Existing 2021 conditions

Other movements where the projected queueing exceeds the available storage are not impacted by the proposed development traffic.

1.0 PROJECT DESCRIPTION

1.1 Introduction

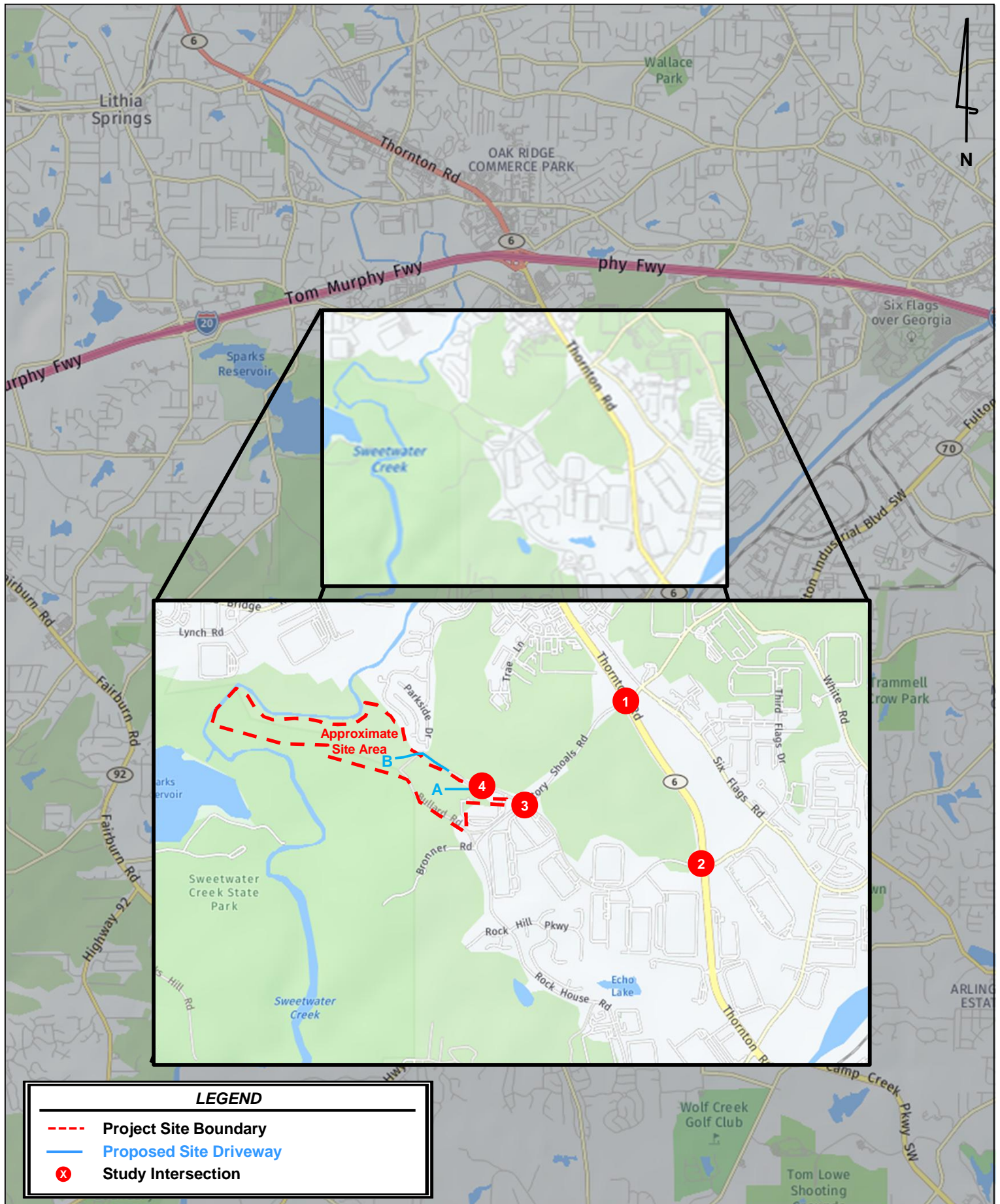
This report presents the analysis of the anticipated traffic impacts of the proposed *Strategic West Logistics Center IV - Douglas Hills* located in unincorporated Douglas County, Georgia. The approximate 134.5-acre site is located along Douglas Hill Road and Bullard Road. The project site is currently zoned R-A (Residential Agricultural). The site is proposed to be rezoned to LI (Light Industrial), and the rezoning application was filed on November 4, 2021. **Figure 1** provides a location map of the project site. **Figure 2** provides an aerial view of the project site and surrounding area.

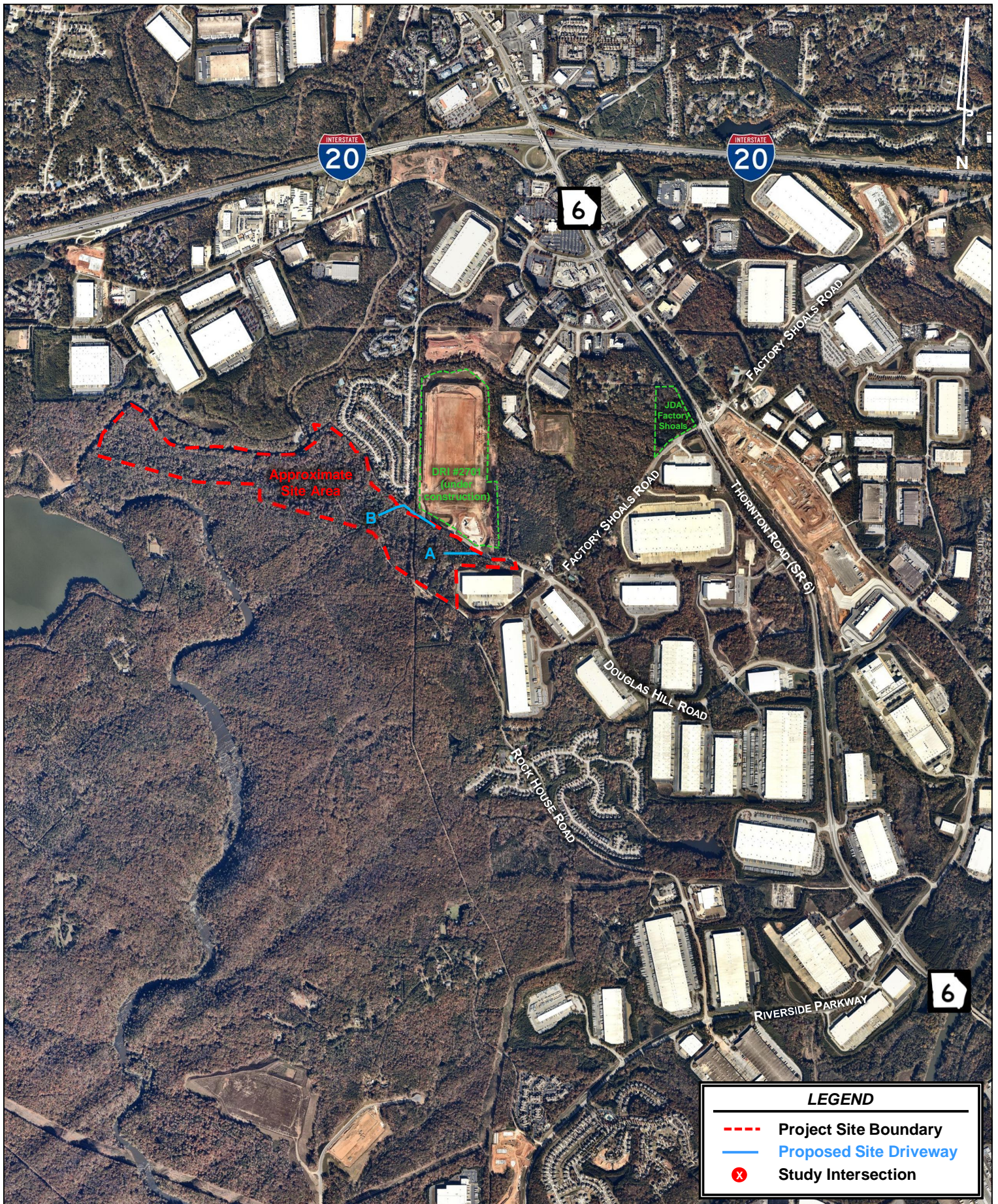
The site is currently undeveloped. The proposed development will consist of the following land uses and densities contained in **Table 2**. The project is expected to be completed by 2024 (approximately 3 years).

Table 2: Proposed Land Use and Density	
Land Use	Proposed
Warehousing	964,440 SF

A reference of the proposed site plan is provided in **Appendix A**. A full-sized site plan consistent with GRTA's Site Plan Guidelines is also being submitted as part of the review package.

The project is considered a Development of Regional Impact (DRI) and is subject to Georgia Regional Transportation Authority (GRTA) and Atlanta Regional Commission (ARC) review due to the project size exceeding 500,000 SF in a new industrial development. The DRI was formally triggered with the filing of the Initial DRI Information (Form 1) on November 12, 2021 by Douglas County. This transportation analysis includes all inputs and methodologies discussed at the DRI Methodology Meeting with GRTA, ARC, and other stakeholders. The inputs and methodologies are outlined in the GRTA Letter of Understanding (LOU) dated December 13, 2021.





1.2 Site Access

As currently envisioned, the proposed development will be accessible via two (2) new access points:

1. **Site Driveway A** – a proposed, full-movement driveway located along Douglas Hill Road that will operate under side-street stop control. Site Driveway A will provide vehicular access to one (1) of four (4) buildings in the development.
2. **Site Driveway B** – a proposed, full-movement driveway located along Douglas Hill Road that will operate under side-street stop control. Site Driveway B will provide vehicular access to three (3) of four (4) buildings in the development. Internal, private roadways throughout the site provide access to the building and parking facilities.

1.3 Internal Circulation Analysis

The site consists of two (2) areas, divided by a colonial pipeline easement. 121,500 SF building is being served by Site Driveway A. The remaining 842,940 SF is served by Site Driveway B. Internal roadways provide connections between the three (3) industrial buildings served by Site Driveway B. No connections are provided across the pipeline easement between Site Driveways A and B.

1.4 Parking

The current number of total site parking spaces to be provided are listed below in **Table 3**.

Table 3: Proposed Parking			
Land Use	Minimum	Maximum	Proposed
Warehousing	386-482 0.5 per 1,000 SF of GFA	N/A	461 employee spaces 148 trailer spaces

Additional parking details are provided on the proposed site plan in Appendix A.

1.5 Alternative Transportation Facilities

There are no dedicated pedestrian or bicycle facilities along the site frontage. Similarly, there are no transit stops in the vicinity of the site.

1.6 Dense Urban Environments Enhanced Focus Area

Per Section 3.2.4.2 of the GRTA *Development of Regional Impact Review Procedures* the *Strategic West Logistics Center IV - Douglas Hills* development does not qualify for a “Dense Urban Environment Enhanced Focus Area” review, due to its location in the City of Grantville.

1.7 Heavy Vehicle Enhanced Focus Area

Per Section 3.2.4.1 of the GRTA *Development of Regional Impact Review Procedures*, the *Strategic West Logistics Center IV - Douglas Hills* development qualifies for a “Heavy Vehicle Enhanced Focus Area” review, due to the development generating heavy vehicles.

1.7.1 Heavy Vehicle Routing

Figure 3 depicts the proposed truck routes that will serve project traffic (highlighted blue). The following segments are included in the Enhanced Focus Area (highlighted yellow):

- Factory Shoals Road from Thornton Road (SR 6) to Douglas Hills Road
- Douglas Hill Road from Thornton Road (SR 6) to Factory Shoals Road

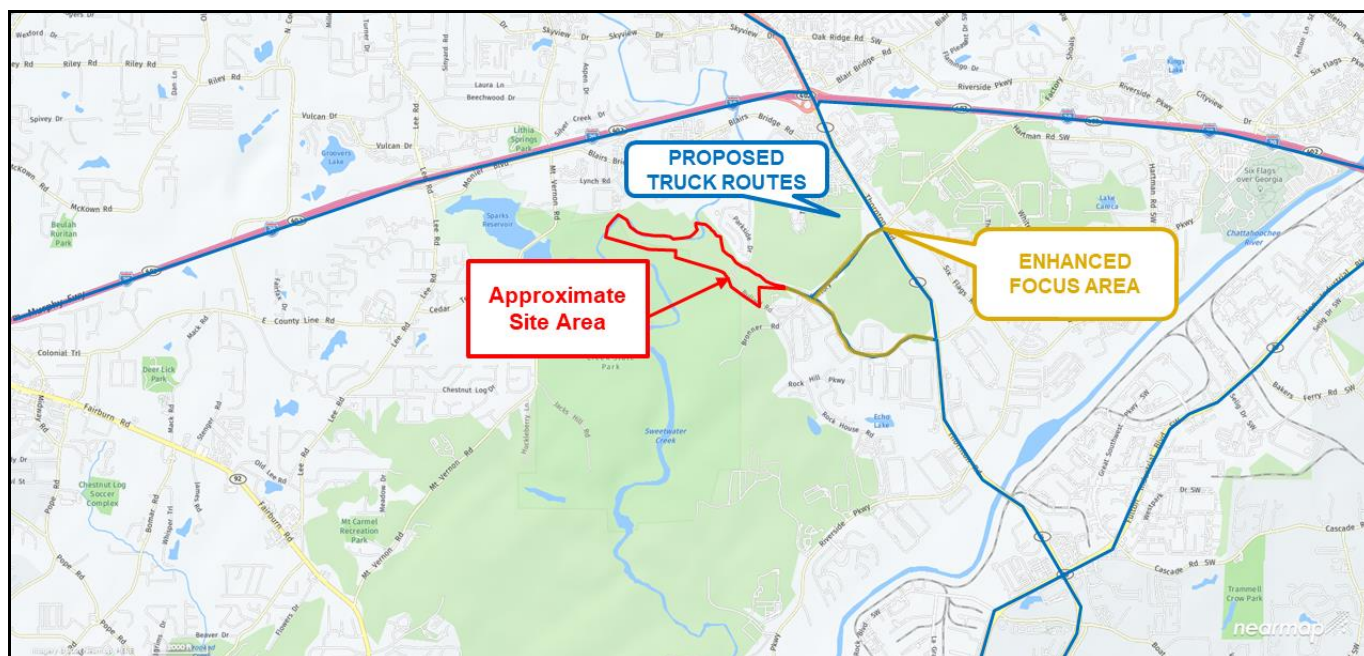


Figure 3: Heavy Vehicle Routing

Heavy vehicles heading west on Douglas Hill Road (towards the site from Thornton Road (SR 6)) are prohibited from turning right onto Factory Shoals Road and are required to make a U-Turn approximately 1,800 feet west of the intersection of Douglas Hill Road at Factory Shoals Road. Heavy vehicles heading east on Douglas Hills Road are prohibited from turning right onto Factory Shoals Road but are permitted to turn left at the intersection of Douglas Hill Road at Factory Shoals Road.

1.7.2 Pavement Condition

A site visit was conducted on December 28, 2021. Pavement conditions within the Enhanced Focus Area were noted during the site visit. Pavement in the Heavy Vehicle focus area is generally in good condition. Pavement distress was observed in two (2) locations, as outlined in **Table 4**. **Figure 4** shows the potholes along Eastbound Douglas Hill Road, approximately 510 feet west of Thornton Road (SR 6). **Figure 5** shows the potholes along Westbound Douglas Hill Road, approximately 450 feet west of Thornton Road (SR 6) at Douglas Hills Road.

Table 4: Pavement Condition Observations

Number	Roadway	Location	Observed Distress
1	Eastbound Douglas Hills Road	510 feet west of Thornton Road (SR 6)	Potholes
2	Westbound Douglas Hills Road	450 feet west of Thornton Road (SR 6)	Potholes



Figure 4: Eastbound Douglas Hills Road Potholing



Figure 5: Westbound Douglas Hills Road Potholing

1.7.3 Roadway Width

The lane widths for the Enhanced Focus Area are shown in **Table 5**. The Douglas County roadway width standards were taken from the [Douglas County Unified Development Code](#) document, which notes that “the minimum pavement width, measured from edge of pavement to edge of pavement, shall widths for non-residential roads shall be as required for the street type on Table 10.3.” A Local Commercial or Industrial Street has a minimum pavement width of 24 feet, while a Local Residential Street has a minimum pavement width of 20 feet. Factory Shoals Road transitions from an industrial road to a local road approximately 1,070 feet north of the intersection of Douglas Hill Road at Factory Shoals Road resulting in a 10 – 12 foot lane width variance in the vicinity of the site.

Lane width dimensions were measured on NearMap.

Table 5: Roadway Widths		
Roadway	Lane Width	Lane Width Standard (Douglas County)
Douglas Hills Road	12 ft	12 ft desirable
Factory Shoals Road	10 - 12 ft	12 ft min (industrial), 10 ft min (local residential)
Thornton Road (SR 6)	12 ft	12 ft desirable

1.7.4 Corner Radii

The corner radii of three (3) study intersections were analyzed along the Enhanced Focus Area:

1. Thornton Road (SR 6) at Factory Shoals Road
2. Thornton Road (SR 6) at Douglas Hill Road
3. Douglas Hill Road at Factory Shoals Road

Note: The *GDOT Regulations for Driveway and Encroachment Control* outlines minimum corner radii for trucks as 75 feet.

1. Thornton Road (SR 6) at Factory Shoals Road

Figure 6 outlines the anticipated wheel-path for a WB-67 vehicle entering the site by making a southbound right-turn from Thornton Road (SR 6) onto Factory Shoals Road. The existing curb radius is approximately 51 feet. The WB-67 truck must impede slightly with the eastbound traffic along Factory Shoals Road to make the maneuver. During the site visit, it was observed that the heavy vehicle wheel paths have created rutting beyond the pavement, as shown in **Figure 7**. It should be noted that there is a planned GDOT Quick Response project to improve the intersection.

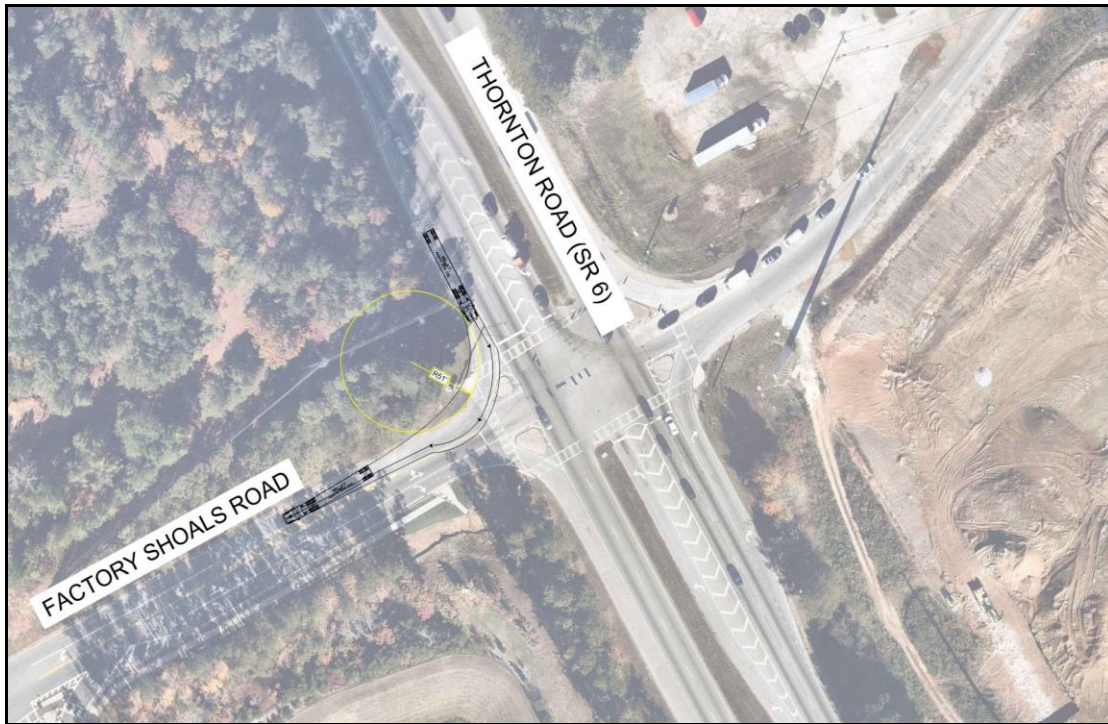


Figure 6: Thornton Road (SR 6) at Factory Shoals Road – Southbound Right (Entering Truck)



Figure 7: Thornton Road (SR 6) at Factory Shoals Road – Wheelpath

2. Thornton Road (SR 6) at Douglas Hills Road

Figure 8 outlines the anticipated wheel-path for a WB-67 vehicle exiting the site by making an eastbound right-turn from Douglas Hill Road onto Thornton Road (SR 6). The existing curb radius is approximately 76 feet. The WB-67 truck will not impede with traffic along Thornton Road (SR 6) to make the maneuver. During the site visit, it was observed that the heavy vehicle wheel paths have created rutting beyond the pavement, cracking the sidewalk, as shown in **Figure 9**.



Figure 8: Thornton Road (SR 6) at Douglas Hill Road – Eastbound Right (Exiting Truck)



Figure 9: Thornton Road (SR 6) at Douglas Hill Road – Wheelpath

3. Factory Shoals Road at Douglas Hills Road

Figure 10 outlines the anticipated wheel-path for a WB-67 vehicle entering the site by making a southbound right-turn from Factory Shoals Road onto Douglas Hill Road. The existing curb radius is approximately 60 feet. The WB-67 truck has adequate clearance through the turn, though the wheel path slightly impedes into the eastbound traffic. The intersection is all-way stop controlled, so trucks should only attempt the maneuver when the intersection is clear. During the site visit, it was observed that the heavy vehicle wheel paths have loosened the shoulder along Factory Shoals Road, as shown in **Figure 11**.



Figure 10: Factory Shoals Road at Douglas Hill Road – Southbound Right (Entering Truck)



Figure 11: Factory Shoals Road at Douglas Hill Road – Loosened Shoulder

1.7.5 Heavy Vehicle Staging

The site plan includes a designated truck court to accommodate heavy vehicle queueing, staging, and overflow. **Figure 12** indicates the designated truck staging/overflow areas on the site plan.

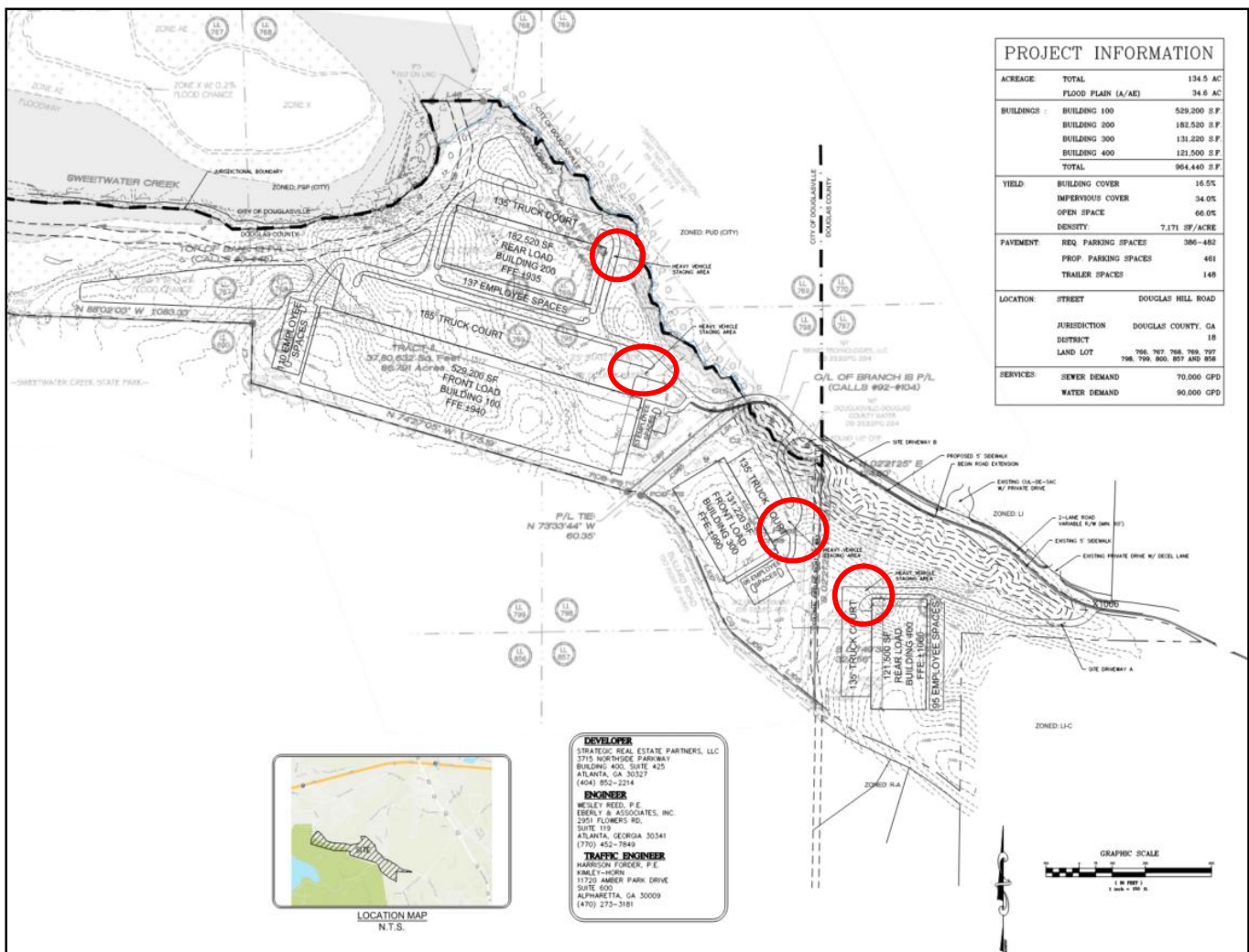


Figure 12: Heavy Vehicle Staging

1.7.6 Pedestrian Safety

The proposed development will include a minimum 5' sidewalk along Douglas Hill Road, per Douglas County Code. ADA compliant curb ramps with detectable warning strips will be located on either side of the driveway at the crosswalk. Sidewalks will also be provided adjacent to the buildings and will connect both accessible and non-accessible spaces to the building entrances.

2.0 TRAFFIC ANALYSES, METHODOLOGY AND ASSUMPTIONS

2.1 Study Network Determination

The study area was determined at the methodology meeting with input from GRTA, ARC, and other local agency stakeholders. The study includes the following three (3) off-site intersections described in **Table 6** and shown visually in **Figure 13**.

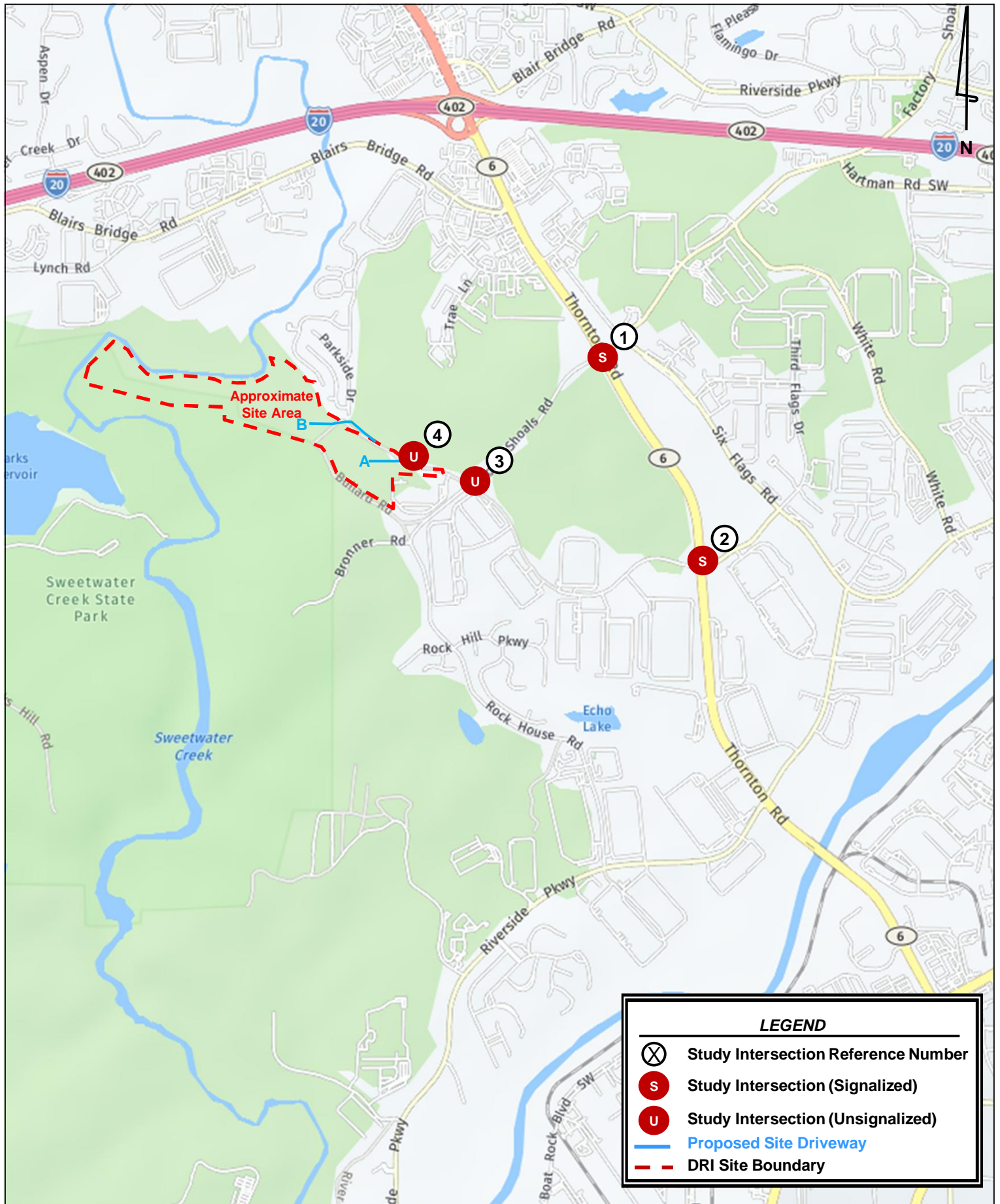
Table 6: Intersection Control Summary		
Intersection	Jurisdiction	Control
1. Thornton Road (SR 6) at Factory Shoals Road	GDOT	Signalized
2. Thornton Road (SR 6) at Douglas Hill Road	GDOT	Signalized
3. Douglas Hill at Road Factory Shoals Road	Douglas County	Unsignalized (AWSC)

Note: AWSC = All Way Stop Control

2.2 Existing Roadway Facilities

Roadway classification descriptions and estimated Annual Average Daily Traffic (AADT) for roadway segments within the study network are provided in **Table 7** (bolded roadways are adjacent to the site).

Table 7: Roadway Classifications				
Roadway	Lanes	Posted Speed Limit	AADT (GDOT, 2019)	GDOT Functional Classification
Douglas Hill Road	2	35 MPH	-	Local
Thornton Road (SR 6)	4	55 MPH	33,800	Principal Arterial
Factory Shoals Road	2	35 MPH	1,110	Local



2.3 Traffic Data Collection and Calibration

Traffic counts were collected at all three (3) existing study intersections on Tuesday, November 9, 2021. The collected counts were then calibrated using calibration factors to account for the potential impacts of COVID-19 to typical traffic volumes and patterns.

The peak hour adjustment factors were determined by comparing the 2018 AM and PM peak hour volumes collected along Thornton Road (SR 6) south of Douglas Hill Road (to align with the GDOT TADA count station 097-0323) to the collected 2021 AM and PM peak hour volumes in the same location. As a result of this comparison, it was determined that a COVID adjustment factor of 1.10 for the AM peak hour and 1.07 for the PM peak hour should be used at all intersections. The methodologies used in this analysis for traffic count calibration were approved by GRTA and ARC.

Traffic count peak hours for all the study intersections are shown in **Table 8**.

Table 8: Traffic Count Summary				
Intersection		Count Date	AM Peak Hour	PM Peak Hour
1.	Thornton Road (SR 6) at Factory Shoals Road	11/2021	7:00 AM – 8:00 AM	4:30 PM – 5:30 PM
2.	Thornton Road (SR 6) at Douglas Hill Road	11/2021	6:45 AM – 7:45 AM	5:00 PM – 6:00 PM
3.	Douglas Hill Road at Factory Shoals Road	11/2021	7:00 AM – 8:00 AM	4:15 PM – 5:15 PM

The collected peak hour turning movement traffic counts are available upon request.

2.4 Background Growth

Background traffic is defined as expected traffic on the roadway network in future year(s) absent the construction and opening of the proposed *Strategic West Logistics Center IV - Douglas Hills* development. Background traffic can include a base growth rate based on historical count data and population growth data as well as trips anticipated from nearby or adjacent other projects.

Based on methodology outlined in the GRTA Letter of Understanding (LOU), a 1.5% per year background traffic growth rate from 2021 to 2024 (3 years) was used for all roadways.

The Projected 2024 No-Build conditions represent the Estimated 2021 traffic volumes grown for three (3) years at 1.5% per year throughout the study network, plus project trips associated with *DCT Douglas Hills Distribution Center DRI #2701* and the *JDA Factory Shoals development*.

The Projected 2024 Build conditions represent the project trips generated by the *Strategic West Logistics Center IV - Douglas Hills* development (discussed in Section 3.0 and 4.0) added to the Projected 2024 No-Build Conditions.

2.5 Programmed and Planned Projects

Programmed and planned projects near the project site were researched to account for any improvements or modifications within the study network before or by the build-out year of the development. The programmed and planned projects were discussed in the methodology meeting with GRTA, ARC, and other local stakeholders.

The following projects shown in **Table 9** are programmed or planned to occur near the development.

Table 9: Programmed Projects							
Project Name	From / To Points:	Sponsor	GDOT PI #	ARC ID # (TIP)	Design FY	ROW / UTL FY	CST FY
Thornton Road (SR 6) Truck Friendly Lanes	I-20 to Garrett Road (SR 6 Spur)	GDOT	0010821	DO-299	2017	2024 / 2029	2029
SR 5/US 78 at SR 6/US 278 Intersection Improvements	Single Intersection	GDOT	0013733	N/A	2018	2022 / 2024	2026
Thornton Road (SR 6) at Factory Shoals Road Intersection Improvements	Install WB RT, restripe to provide exclusive EB/WB LTs	GDOT	N/A	N/A	N/A	N/A	2022
Thornton Road (SR 6) at Riverside Parkway Intersection Improvements	Improved turning radii for heavy vehicles	GDOT / Douglas County SPLOST	N/A	N/A	N/A	N/A	2022
I-20 West Express Lanes	I-285 West / Fairburn Road (SR 92)	GDOT	0013916	AR-ML-800	N/A	N/A	2040

*Project information was obtained from GeoPI (GDOT), the Atlanta Region's Plan (ARC), Douglas County Comprehensive Transportation Plan, and the Sweetwater Master Plan.

GDOT has a currently programmed quick response project (highlighted in yellow) to be implemented prior to the build-out of the development. The project calls for the addition of exclusive westbound left and right-turn lanes, and the restriping of the eastbound lanes to an exclusive left-turn lane and a shared through/right-turn lane. The remaining non-highlighted projects are beyond the build-out year of the proposed development or are not anticipated to affect the study network. Available fact sheets for projects listed in the table above can be found in **Appendix D**.

2.6 Level-of-Service Overview

Level-of-service (LOS) is used to describe the operating characteristics of a road segment or intersection in relation to its capacity. LOS is defined as a qualitative measure that describes operational conditions and motorists' perceptions within a traffic stream. The *Highway Capacity Manual* defines six levels-of-service, LOS A through LOS F, with A being the best and F being the worst. LOS analyses were conducted at all intersections within the study network using *Synchro 11*.

LOS for unsignalized intersections, with stop control on the minor street only, is reported for the side street approaches and the major street left-turn movements. Low LOS for side street approaches is not uncommon, as vehicles may experience delays in turning onto a major roadway.

2.7 Level-of-Service Standards

For the purposes of this traffic analysis, a LOS standard of D was assumed for all study intersections per section 3.2.2.1 of the GRTA *Development of Regional Impact Review Procedures* as specified in the LOU.

3.0 TRIP GENERATION

Gross trips associated with the proposed development were estimated using the *Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition, 2017*, using equations where available. Reductions to gross trips including mixed-use reductions and alternative transportation mode reductions are not considered in the analysis based on methodology outlined in the GRTA Letter of Understanding (LOU).

Mixed-use reductions occur when a site has a combination of different land uses that interact with one another. For example, people living in a residential development may walk to the restaurants and retail instead of driving off-site or to the site. This reduces the number of vehicle trips that will be made on the roadway, thus reducing traffic congestion. No mixed-use reductions were taken in this analysis per the LOU.

Alternative modes reductions are taken when a site can be accessed by modes other than vehicles (walking, bicycling, transit, etc.). No alternative modes reductions were taken in this analysis per the LOU.

Pass-by reductions are taken for a site when traffic normally traveling along a roadway may choose to visit a retail or restaurant establishment that is along the vehicle's path. These trips were already on the road and would therefore only be new trips on the driveways. No pass-by trips were taken for this analysis per the LOU.

Table 10 summarizes the gross trip generation, reductions, net trip generation, and driveway volumes for the proposed *Strategic West Logistics Center IV - Douglas Hills* development.

Table 10: Trip Generation								
Land Use	Density	Daily Traffic			AM Peak Hour		PM Peak Hour	
		Total	Enter	Exit	Enter	Exit	Enter	Exit
150 – Warehousing	964,440 SF	1,570	785	785	109	32	39	105
Gross Project Trips		1,570	785	785	109	32	39	105
<i>Mixed-Use Reductions</i>		0	0	0	0	0	0	0
<i>Alternative Mode Reductions</i>		0	0	0	0	0	0	0
<i>Pass-By Reductions</i>		0	0	0	0	0	0	0
New Trips		1,570	785	785	109	32	39	105
<i>Employee (Car Trips)</i>		1,042	521	521	99	23	24	91
<i>Heavy Vehicle (Trucks)</i>		528	264	264	10	9	15	14

A more detailed trip generation analysis summary table is provided in **Appendix B**.

4.0 TRIP DISTRIBUTION AND ASSIGNMENT

The distribution of new project trips was based on the project land uses, a review of land use densities and road facilities in the area, engineering judgement, and methodology discussions with GRTA, ARC, and other local stakeholders.

The anticipated distribution and assignment of the trips throughout the study roadway network is shown for non-residential land uses in **Figure 14**. The anticipated distribution and assignment of the trips throughout the study roadway network is shown for residential land uses in **Figure 15**. These trip assignment percentages were applied to the net project trips expected to be generated by the development, and the volumes were assigned to the roadway network. The peak hour project trips are shown by turning movement throughout the study network in **Figure 16**.

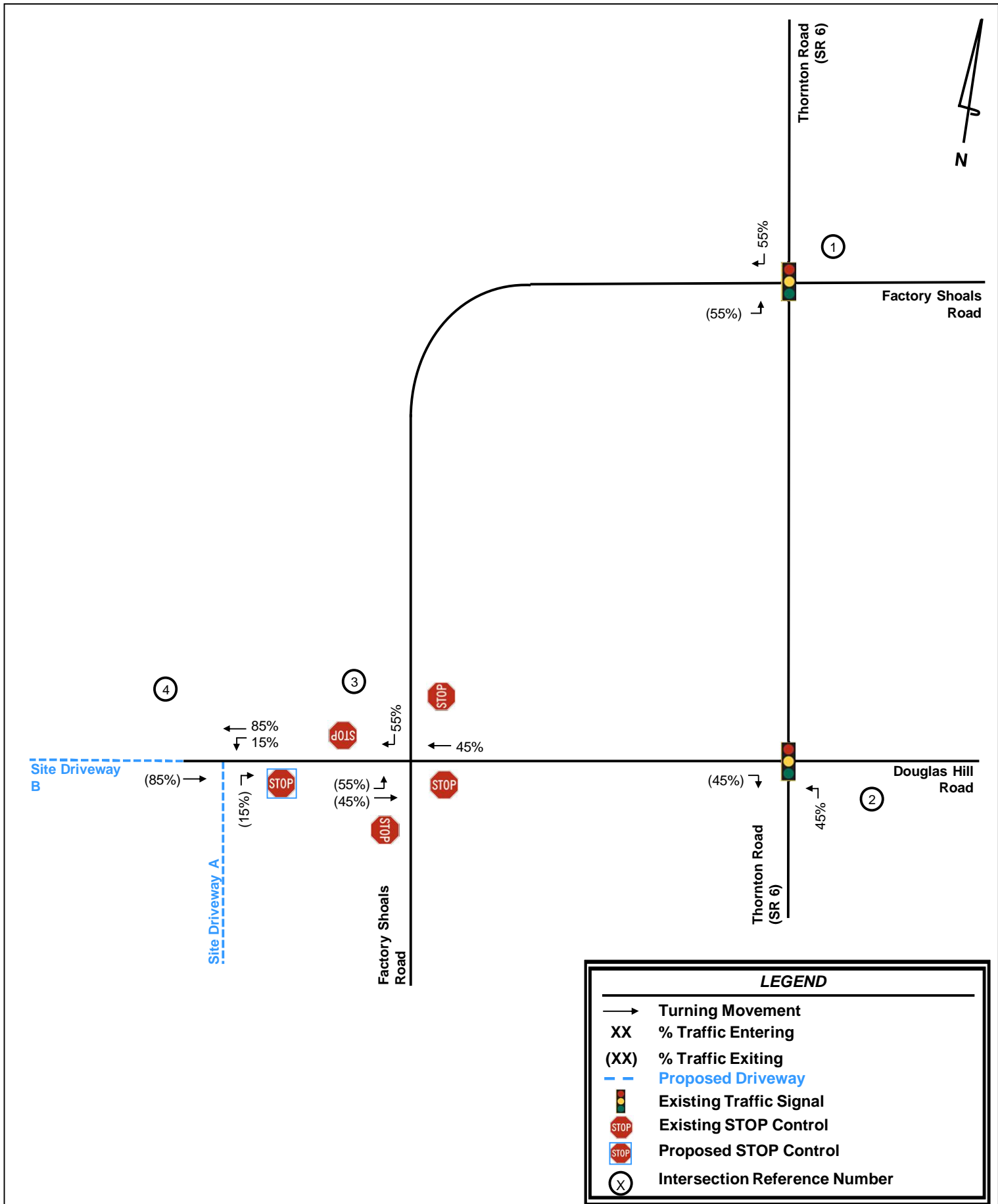
Detailed intersection volume worksheets are provided in Appendix C.

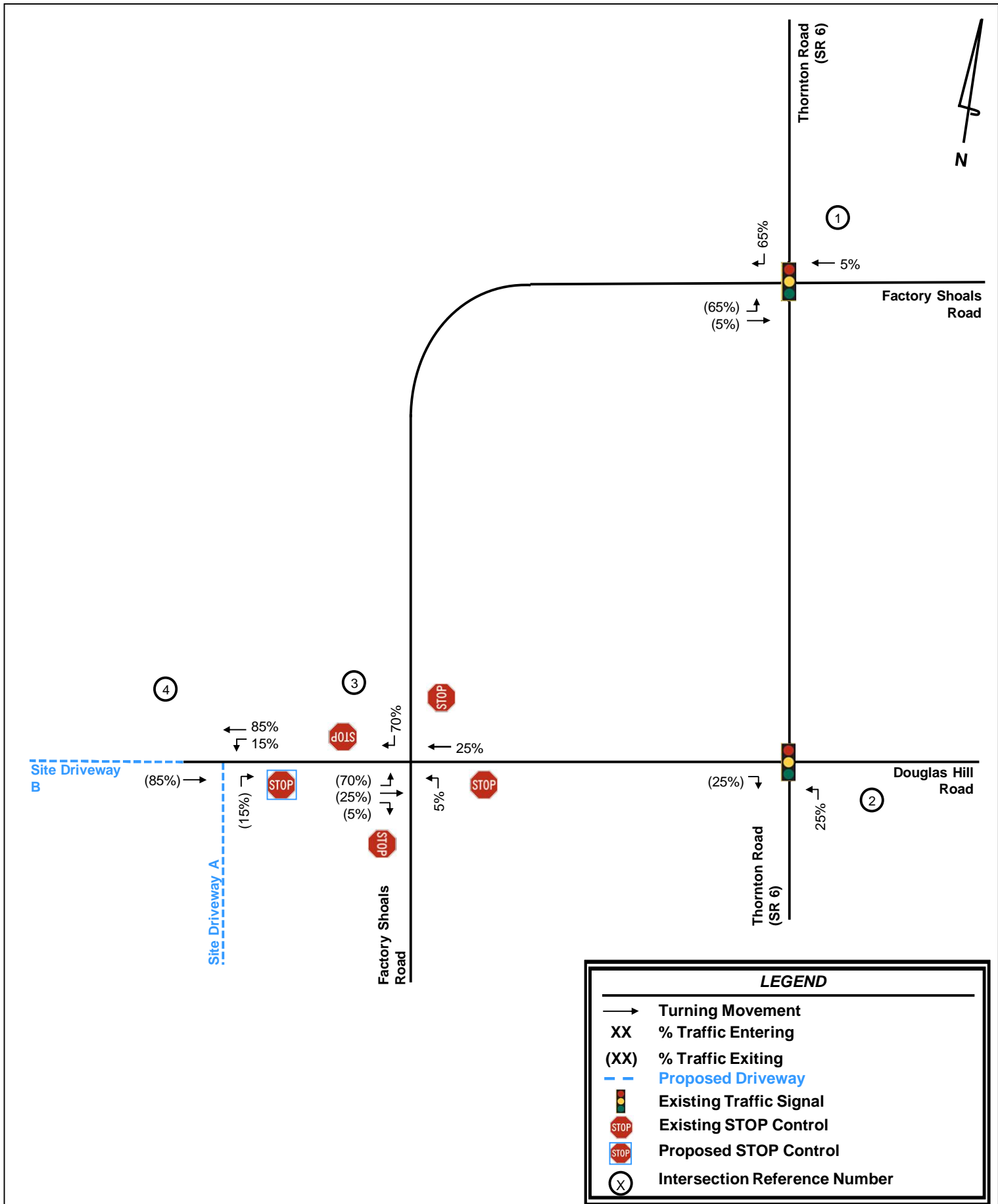
5.0 TRAFFIC ANALYSIS

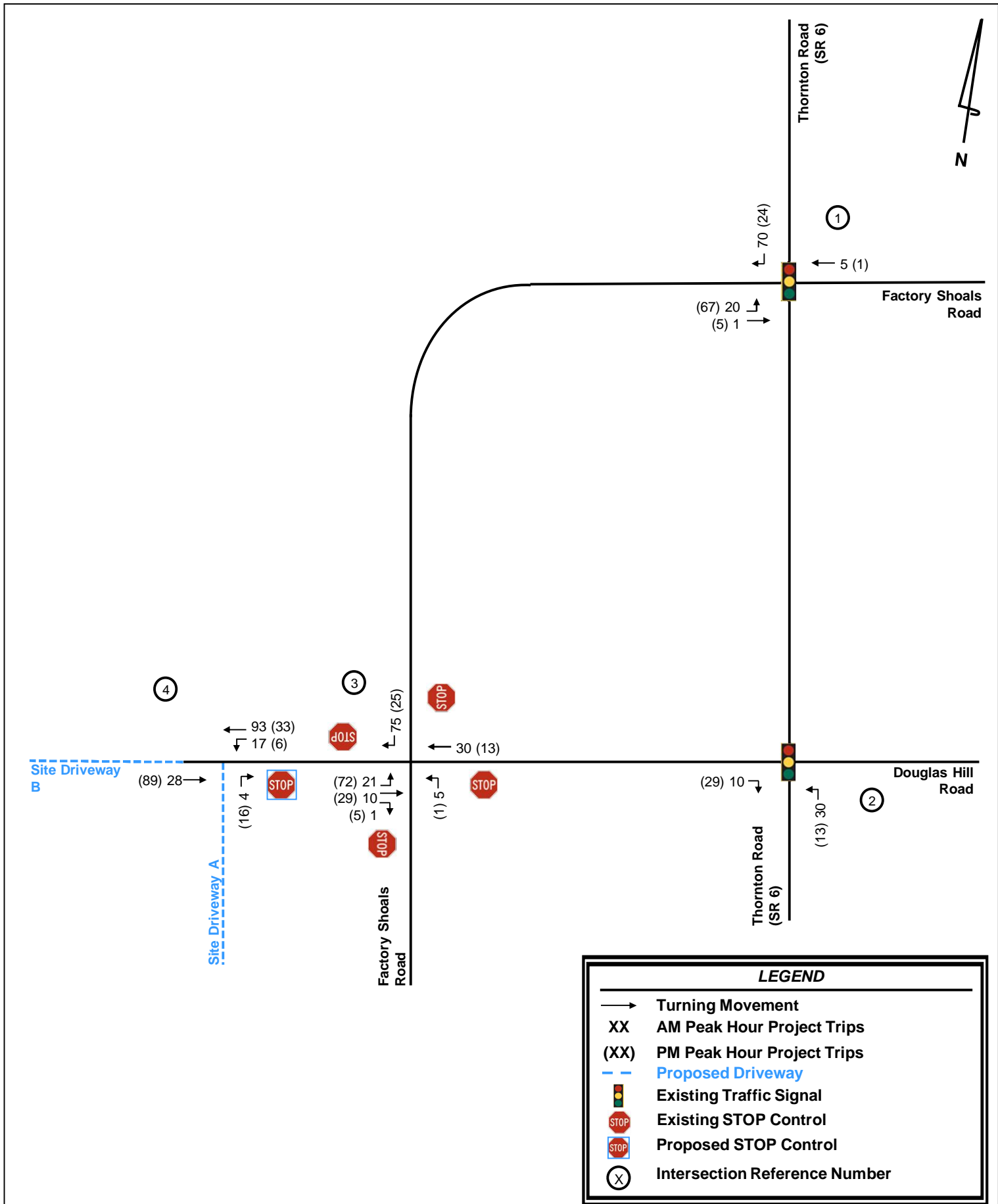
Capacity analyses were performed using *Synchro 11* for the AM and PM peak hours under the Estimated 2021 conditions, Projected 2024 No-Build conditions, and Projected 2024 Build conditions. The capacity analyses were performed using methodologies from the *Highway Capacity Manual (HCM)*, 6th Edition unless otherwise noted.

These analyses included existing roadway laneage for each of the scenarios. The traffic volumes and roadway laneage used for each scenario are shown visually in **Figure 17** for Estimated 2021 conditions, **Figure 18** for Projected 2024 No-Build conditions, and **Figure 19** for Projected 2024 Build conditions.

Sections 5.1 – 5.4 provide the results of the capacity analyses are presented for each study intersection and include projected LOS, delay, and queue lengths.







5.1 Thornton Road (SR 6) at Factory Shoals Road (Intersection 1)

Overall LOS Standard: D
Approach LOS Standard: D

Overall LOS Standard: D Approach LOS Standard: D			Thornton Road (SR 6)			Thornton Road (SR 6)			Factory Shoals Road			Factory Shoals Road		
			Northbound			Southbound			Eastbound			Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
ESTIMATED (SIGNAL)	AM	Overall LOS	C (31.3)											
		Approach LOS	C (20.2)			C (31.2)			E (65.7)			F (86.8)		
		Storage	270		115	200		125			260			
		50th Queue	59	250	44	174	824	86		48	137		321	
		95th Queue	111	310	91	247	943	137		95	246		517	
	PM	Overall LOS	D (37.1)											
		Approach LOS	C (29.4)			C (32.9)			F (82.9)			E (68.8)		
		Storage	270		115	200		125			260			
		50th Queue	3	988	45	96	295	4		367	0		460	
		95th Queue	4	915	72	177	455	32		572	0		668	
NO-BUILD (SIGNAL)	AM	Overall LOS	D (49.0)											
		Approach LOS	C (23.5)			C (33.8)			F (90.2)			F (328.3)		
		Storage	270		115	200		125				170		225
		50th Queue	75	260	47	183	938	114	51	191		242	60	0
		95th Queue	127	325	95	259	1,074	175	99	339		392	109	23
	PM	Overall LOS	D (43.4)											
		Approach LOS	D (40.2)			C (33.5)			E (76.6)			E (67.8)		
		Storage	270		115	200		125				170		225
		50th Queue	8	1,121	48	101	320	14	332	101		173	29	0
		95th Queue	11	1,286	101	190	492	50	489	167		263	62	52
BUILD (SIGNAL)	AM	Overall LOS	D (49.5)											
		Approach LOS	C (23.6)			D (35.1)			F (90.0)			F (316.0)		
		Storage	270		115	200		125				170		225
		50th Queue	74	272	49	181	956	150	74	182		243	65	0
		95th Queue	125	326	95	256	1,094	223	131	323		393	115	23
	PM	Overall LOS	D (49.2)											
		Approach LOS	D (44.9)			C (33.2)			F (101.2)			E (65.1)		
		Storage	270		115	200		125				170		225
		50th Queue	8	1,121	48	101	320	25	463	107		173	30	0
		95th Queue	11	1,286	101	190	492	69	683	175		263	63	52

The signalized intersection of Thornton Road (SR 6) at Factory Shoals Road (Intersection 1) is projected to operate at an acceptable overall LOS under the Estimated 2021, No-Build 2024 and Build 2024 conditions. Additionally, the eastbound and westbound approaches operate at LOS E or F under Estimated 2021, Projected 2024 No-Build and Projected 2024 Build conditions. GDOT has a currently programmed quick response project to be implemented prior to the build-out of the development. The project calls for the addition of exclusive westbound left and right-turn lanes, and the restriping of the eastbound lanes to an exclusive left-turn lane and a shared through/right-turn lane. The Quick Response laneage was implemented in the No-Build and Build 2024 scenarios (shown in green on **Figure 18** and **Figure 19**):

Per GRTA's DRI guidelines, an improvement should be considered if either the overall intersection, or an individual approach operates at a failing LOS. In order to improve the approach LOS under the No-Build 2024 and Build 2024 conditions, and in addition to the programmed Quick Response project, Kimley-Horn recommends the following system improvements (shown in red on **Figure 18** and **Figure 19**):

- Thornton Road (SR 6) at Factory Shoals Road (Intersection 1)
 - Install an eastbound right-turn lane along Factory Shoals Road.
 - Reconfigure the eastbound approach of Factory Shoals Road to include one (1) exclusive left-turn lane, one (1) through-lane, and one (1) exclusive right-turn lane.
 - Consider extending the southbound right-turn lane with 250' storage and 100' taper, per GDOT standards.

The analysis results shown in the table below are for the improved conditions at Thornton Road (SR 6) at Factory Shoals Road (Intersection 1), which assume the noted geometric changes.

Overall LOS Standard: D
Approach LOS Standard: D

Overall LOS Standard: D Approach LOS Standard: D			Thornton Road (SR 6)			Thornton Road (SR 6)			Factory Shoals Road			Factory Shoals Road		
			Northbound			Southbound			Eastbound			Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
NO-BUILD IMPROVED (SIGNAL)	AM	Overall LOS	C (34.5)											
		Approach LOS	C (20.6)			C (33.8)			E (75.0)			E (75.9)		
		Storage	270		115	200		125	170		225	170		225
		50th Queue	75	253	43	183	844	102	53	23	168	141	62	0
		95th Queue	127	325	95	259	1,074	175	99	52	276	215	109	23
	PM	Overall LOS	D (43.0)											
		Approach LOS	D (40.0)			C (33.5)			E (77.8)			E (63.6)		
		Storage	270		115	200		125	170		225	170		225
		50th Queue	8	1,121	48	101	320	14	332	67	0	170	29	0
		95th Queue	11	1,286	101	190	492	50	489	116	0	256	62	52
BUILD IMPROVED (SIGNAL)	AM	Overall LOS	D (35.8)											
		Approach LOS	C (20.9)			D (35.1)			E (76.5)			E (77.8)		
		Storage	270		115	200		125	170		225	170		225
		50th Queue	74	254	46	181	888	139	76	24	155	139	67	0
		95th Queue	125	326	95	256	1,094	223	131	54	265	215	115	23
	PM	Overall LOS	D (48.9)											
		Approach LOS	D (44.9)			C (33.2)			E (61.1)			F (103.6)		
		Storage	270		115	200		125	170		225	170		225
		50th Queue	8	1,121	48	101	320	25	463	72	0	170	30	0
		95th Queue	11	1,286	101	190	492	69	683	123	0	256	63	52

Although the westbound approach is projected to operate at LOS F, no feasible improvements exist, as the failing LOS is due to the existing signal timing. SR 6 is a high priority freight and commuter corridor between I-20 in Douglas County and I-285/Hartsfield-Jackson International Airport in Fulton County. The intersection operates at an acceptable overall LOS, and existing signal timings and cycle lengths prioritize vehicular progression on the mainline (SR 6) at the expense of sidestreet operations.

5.2 Thornton Road (SR 6) at Douglas Hill Road (Intersection 2)

Overall LOS Standard: D
Approach LOS Standard: D

		Thornton Road (SR 6)			Thornton Road (SR 6)			Douglas Hill Road			Douglas Hill Road		
		Northbound			Southbound			Eastbound			Westbound		
		L	T	R	L	T	R	L	T	R	L	T	R
ESTIMATED (SIGNAL)	AM	Overall LOS	A (10.0)										
		Approach LOS	A (6.5)			A (8.1)			F (83.0)			E (78.1)	
		Storage	280		110	290		150	180			210	
		50th Queue	12	176	0	16	141	12	50	19		16	32
		95th Queue	26	255	9	27	302	31	94	60		42	74
	PM	Overall LOS	B (11.6)										
		Approach LOS	A (9.4)			A (6.5)			F (87.9)			F (86.4)	
		Storage	280		110	290		150	180			210	
		50th Queue	4	512	0	5	202	0	72	21		50	4
		95th Queue	11	708	0	19	211	0	124	81		95	47
NO-BUILD (SIGNAL)	AM	Overall LOS	B (11.6)										
		Approach LOS	A (9.5)			A (8.9)			F (82.2)			E (76.0)	
		Storage	280		110	290		150	180			210	
		50th Queue	33	201	0	17	248	13	57	20		17	34
		95th Queue	110	295	11	28	517	36	105	68		42	76
	PM	Overall LOS	B (14.1)										
		Approach LOS	B (12.2)			A (8.3)			F (85.9)			F (81.4)	
		Storage	280		110	290		150	180			210	
		50th Queue	8	631	0	6	228	0	90	22		52	4
		95th Queue	21	911	0	38	240	0	148	92		96	46
BUILD (SIGNAL)	AM	Overall LOS	B (12.9)										
		Approach LOS	B (13.0)			A (9.2)			F (82.2)			E (76.0)	
		Storage	280		110	290		150	180			210	
		50th Queue	86	201	0	16	254	13	57	20		17	34
		95th Queue	174	295	11	26	546	34	105	73		42	76
	PM	Overall LOS	B (14.2)										
		Approach LOS	B (12.2)			A (8.3)			F (85.7)			F (81.8)	
		Storage	280		110	290		150	180			210	
		50th Queue	11	631	0	6	231	0	90	22		53	4
		95th Queue	26	911	0	36	240	0	148	99		100	46

The intersection of Thornton Road (SR 6) at Douglas Hill Road (Intersection 2) is projected to operate at an acceptable overall LOS under the Estimated 2021, No-Build 2024 and Build 2024 conditions. Additionally, the eastbound and westbound approaches operate at LOS E or F under Estimated 2021, Projected 2024 No-Build and Projected 2024 Build conditions.

It should be noted that per GRTA's DRI guidelines, an improvement should be considered if an approach operates at a failing LOS, even if the overall intersection operates acceptably. Although the eastbound and westbound approaches are projected to operate at LOS F, no feasible improvements exist, as the failing LOS is due to the existing signal timing. SR 6 is a high priority freight and commuter corridor between I-20 in Douglas County and I-285/Hartsfield-Jackson International Airport in Fulton County. The intersection operates at an acceptable overall LOS, and existing signal timings and cycle lengths prioritize vehicular progression on the mainline (SR 6) at the expense of sidestreet operations.

5.3 Douglas Hill Road at Factory Shoals Road (Intersection 3)

Overall LOS Standard: D
Approach LOS Standard: D

			Factory Shoals Road			Factory Shoals Road			Douglas Hill Road			Douglas Hill Road		
			Northbound			Southbound			Eastbound			Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
ESTIMATED (AWSC)	AM	Overall LOS	A (9.5)											
		Approach LOS	A (9.4)			A (9.4)			A (8.8)			A (9.7)		
		Storage												
		50th Queue												
		95th Queue		23			23			0			40	
	PM	Overall LOS	A (8.5)											
		Approach LOS	A (8.1)			A (9.0)			A (8.0)			A (8.3)		
		Storage												
		50th Queue												
		95th Queue		8			23			0			20	
NO-BUILD (AWSC)	AM	Overall LOS	B (11.3)											
		Approach LOS	B (10.4)			B (10.9)			A (9.3)			B (12.3)		
		Storage												
		50th Queue												
		95th Queue		28			38			8			68	
	PM	Overall LOS	A (9.5)											
		Approach LOS	A (8.7)			B (10.2)			A (9.3)			A (9.4)		
		Storage												
		50th Queue												
		95th Queue		10			30			18			28	
BUILD (AWSC)	AM	Overall LOS	B (14.1)											
		Approach LOS	B (11.7)			B (14.1)			B (11.0)			C (15.9)		
		Storage												
		50th Queue												
		95th Queue		35			73			15			100	
	PM	Overall LOS	B (11.6)											
		Approach LOS	A (9.7)			B (12.0)			B (12.6)			B (10.7)		
		Storage												
		50th Queue												
		95th Queue		13			45			55			38	

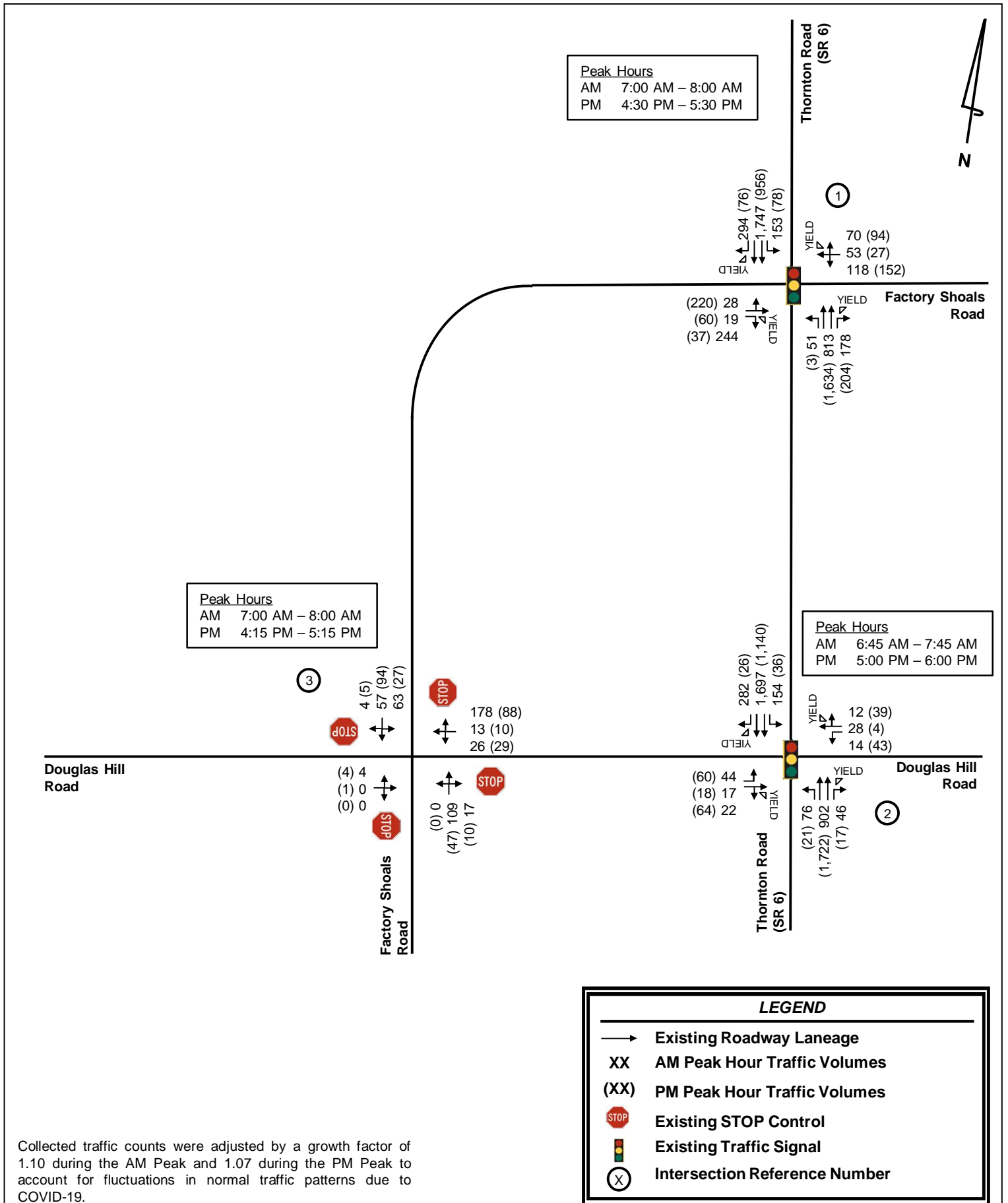
The intersection of Douglas Hill Road at Factory Shoals Road (Intersection 3) is projected to operate at an acceptable overall LOS under the Estimated 2021, No-Build 2024, and Build 2024 conditions. Each approach of the intersection is projected to operate acceptably under all studied scenarios. No improvements are recommended to be conditioned.

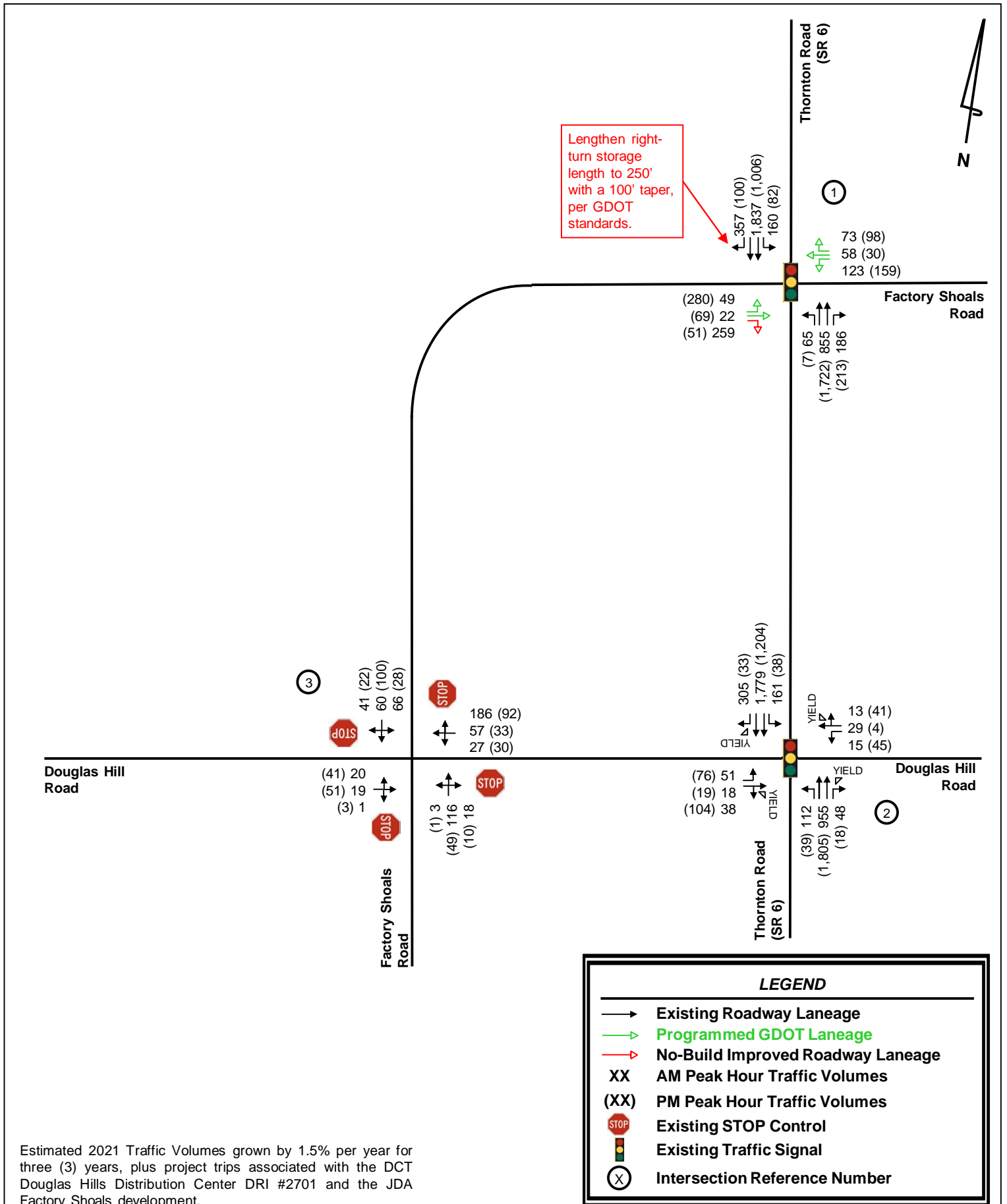
5.4 Douglas Hill Road at Site Driveway A (Intersection 4)

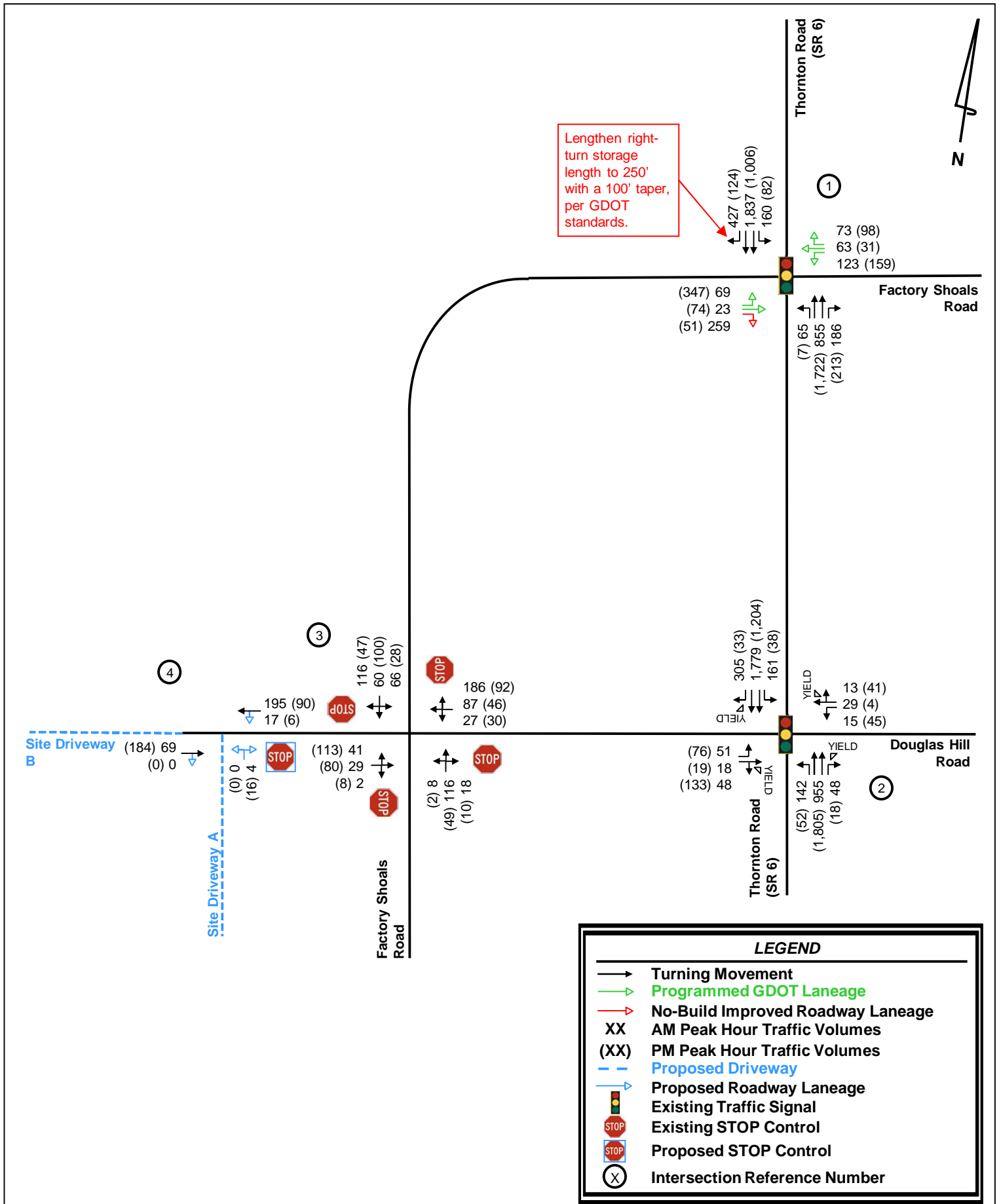
Overall LOS Standard: D
Approach LOS Standard: D

		Site Driveway A						Douglas Hill Road/ Site Driveway B			Douglas Hill Road		
		Northbound			Southbound			Eastbound			Westbound		
		L	T	R				L	T	R	L	T	R
BUILD (TWSC)	AM	Overall LOS	(0.6)										
		Approach LOS	A (9.0)						A (0.0)			A (7.5)	
		Storage											
		50th Queue											
		95th Queue		0							0		
	PM	Overall LOS	(0.7)										
		Approach LOS	B (10.0)						A (0.0)			A (8.2)	
		Storage											
		50th Queue											
		95th Queue		3							0		

The intersection of Douglas Hill Road at Site Driveway A (Intersection 4) is projected to operate at an acceptable LOS under the Build 2024 scenario. Each approach of the intersection is projected to operate acceptably under all studied scenarios. The recommended lane configuration for Site Driveway A is one lane entering the site and one lane exiting the site. Douglas Hill Road / Site Driveway B enter the site as a through lane, as shown in the site plan. The recommended build improvements are shown in **Figure 19**.







Proposed Site Plan

Trip Generation Analysis

Trip Generation Analysis (10th Ed. with *2nd Edition Handbook Daily IC & 3rd Edition AM/PM IC*)
Strategic West Logistics Center IV - Douglas Hills DRI #3515
Douglas County, GA

Land Use	Intensity	Daily Trips	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Proposed Site Traffic								
150 Warehousing	964,440 s.f.	1,570	141	109	32	144	39	105
Gross Trips		1,570	141	109	32	144	39	105
Truck Trips (ITE 10th Edition Supplement)		528	19	10	9	29	15	14
Mixed-Use Reductions		0	0	0	0	0	0	0
Alternative Mode Reductions		0	0	0	0	0	0	0
Adjusted Truck Trips		528	19	10	9	29	15	14
Car Trips (Total Non-Truck Trips)		1,042	122	99	23	115	24	91
Mixed-Use Reductions		0	0	0	0	0	0	0
Alternative Mode Reductions		0	0	0	0	0	0	0
Adjusted Car Trips		1,042	122	99	23	115	24	91
Mixed-Use Reductions - TOTAL		0	0	0	0	0	0	0
Alternative Mode Reductions - TOTAL		0	0	0	0	0	0	0
Pass-By Reductions - TOTAL		0	0	0	0	0	0	0
New Trips		1,570	141	109	32	144	39	105
Driveway Volumes		1,570	141	109	32	144	39	105

\\kimley-horn.com\se_alp1\alp_tpto\013805006_strategic douglas hill industrial dri - douglas county - november 2021\2_phase ii\analysis\[strategic west analysis.xls]trip generation (10th edition)

Intersection Volume Worksheets

INTERSECTION VOLUME DEVELOPMENT

Intersection #1: Thornton Road (SR 6) @ Factory Shoals Road AM PEAK HOUR

Description	Thornton Road (SR 6) <u>Northbound</u>			Thornton Road (SR 6) <u>Southbound</u>			Factory Shoals Road <u>Eastbound</u>			Factory Shoals Road <u>Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2021 Traffic Volumes	46	739	162	139	1,588	267	25	17	222	107	48	64
Pedestrians		0			0			0			0	
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	1	125	11	20	144	5	2	4	2	9	7	18
Heavy Vehicle %	2%	17%	7%	14%	9%	2%	8%	24%	2%	8%	15%	28%
Peak Hour Factor		0.95			0.95			0.95			0.95	
Covid Calibration Factor	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Adjusted 2021 Volumes	51	813	178	153	1747	294	28	19	244	118	53	70
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046
DCT Douglas Hills DRI #2701		0			0	34	15	1			3	
DCT Douglas Hills DRI #2701 (Truck)		5			10							
JDA Factory Shoals	11					15	1	0	1		3	
JDA Factory Shoals (Truck)	1					1	4	1	3			
2024 Background Traffic	65	855	186	160	1,837	357	49	22	259	123	61	73
2024 No-Build Heavy Vehicle %	2%	17%	7%	14%	10%	2%	13%	26%	2%	8%	13%	28%
Project Trips												
Trip Distribution IN						55%						
Trip Distribution OUT							55%					
Truck Trips	0	0	0	0	0	6	5	0	0	0	0	0
Trip Distribution IN						65%					5%	
Trip Distribution OUT							65%	5%				
Car Trips	0	0	0	0	0	64	15	1	0	0	5	0
Total Project Trips	0	0	0	0	0	70	20	1	0	0	5	0
2024 Buildout Total	65	855	186	160	1,837	427	69	23	259	123	66	73
2024 Build Heavy Vehicle %	2%	17%	7%	14%	10%	3%	16%	25%	2%	8%	12%	28%

PM PEAK HOUR

Description	Thornton Road (SR 6) <u>Northbound</u>			Thornton Road (SR 6) <u>Southbound</u>			Factory Shoals Road <u>Eastbound</u>			Factory Shoals Road <u>Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2021 Traffic Volumes	3	1,527	191	73	893	71	206	56	35	142	25	88
Pedestrians		0			0			2			0	
Conflicting Pedestrians	2		0	0		2	0		0	0		0
Heavy Vehicles	1	124	34	8	98	1	1	5	0	10	5	9
Heavy Vehicle %	33%	8%	18%	11%	11%	2%	2%	9%	2%	7%	20%	10%
Peak Hour Factor		0.95			0.95			0.95			0.95	
Covid Calibration Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Adjusted 2021 Volumes	3	1634	204	78	956	76	220	60	37	152	27	94
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046
DCT Douglas Hills DRI #2701						15	34	3			1	
DCT Douglas Hills DRI #2701 (Truck)		13			6							
JDA Factory Shoals	3					5	15	3	11		1	
JDA Factory Shoals (Truck)	1					1	1	0	1		0	
2024 Background Traffic	7	1,722	213	82	1,006	100	280	69	51	159	30	98
2024 No-Build Heavy Vehicle %	29%	9%	18%	11%	12%	2%	2%	8%	2%	7%	19%	10%
Project Trips												
Trip Distribution IN						55%						
Trip Distribution OUT							55%					
Truck Trips	0	0	0	0	0	8	8	0	0	0	0	0
Trip Distribution IN						65%					5%	
Trip Distribution OUT							65%	5%				
Car Trips	0	0	0	0	0	16	59	5	0	0	1	0
Total Project Trips	0	0	0	0	0	24	67	5	0	0	1	0
2024 Buildout Total	7	1,722	213	82	1,006	124	347	74	51	159	31	98
2024 Build Heavy Vehicle %	29%	9%	18%	11%	12%	8%	4%	8%	2%	7%	18%	10%

INTERSECTION VOLUME DEVELOPMENT

Intersection #2: Thornton Road (SR 6) @ Douglas Hill Road AM PEAK HOUR

Description	Thornton Road (SR 6) <u>Northbound</u>			Thornton Road (SR 6) <u>Southbound</u>			Douglas Hill Road <u>Eastbound</u>			Douglas Hill Road <u>Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2021 Traffic Volumes	69	820	42	140	1,543	256	40	15	20	13	25	11
Pedestrians		1			0			0			0	
Conflicting Pedestrians	0		0	0		0	0		1	1		0
Heavy Vehicles	7	108	11	8	117	7	8	4	6	8	3	3
Heavy Vehicle %	10%	13%	26%	6%	8%	3%	20%	27%	30%	62%	12%	27%
Peak Hour Factor		0.96			0.96			0.96			0.96	
Covid Calibration Factor	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Adjusted 2021 Volumes	76	902	46	154	1697	282	44	17	22	14	28	12
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046
DCT Douglas Hills DRI #2701	21								9			
DCT Douglas Hills DRI #2701 (Truck)	12					10	5		6			
JDA Factory Shoals		12			4							
JDA Factory Shoals (Truck)												
2024 Background Traffic	112	955	48	161	1,779	305	51	18	38	15	29	13
2024 No-Build Heavy Vehicle %	18%	13%	26%	6%	8%	6%	28%	26%	34%	60%	12%	26%
Project Trips												
Trip Distribution IN	45%											
Trip Distribution OUT									45%			
Truck Trips	5	0	0	0	0	0	0	0	4	0	0	0
Trip Distribution IN	25%											
Trip Distribution OUT									25%			
Car Trips	25	0	0	0	0	0	0	0	6	0	0	0
Total Project Trips	30	0	0	0	0	0	0	0	10	0	0	0
2024 Buildout Total	142	955	48	161	1,779	305	51	18	48	15	29	13
2024 Build Heavy Vehicle %	18%	13%	26%	6%	8%	6%	28%	26%	35%	60%	12%	26%

PM PEAK HOUR

Description	Thornton Road (SR 6) <u>Northbound</u>			Thornton Road (SR 6) <u>Southbound</u>			Douglas Hill Road <u>Eastbound</u>			Douglas Hill Road <u>Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2021 Traffic Volumes	20	1,609	16	34	1,065	24	56	17	60	40	4	36
Pedestrians		0			0			0			0	
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	9	134	6	13	98	6	11	2	20	4	1	2
Heavy Vehicle %	45%	8%	38%	38%	9%	25%	20%	12%	33%	10%	25%	6%
Peak Hour Factor		0.97			0.97			0.97			0.97	
Covid Calibration Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Adjusted 2021 Volumes	21	1722	17	36	1140	26	60	18	64	43	4	39
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046
DCT Douglas Hills DRI #2701	10								21			
DCT Douglas Hills DRI #2701 (Truck)	7					6	13		16			
JDA Factory Shoals		4			12							
JDA Factory Shoals (Truck)												
2024 Background Traffic	39	1,805	18	38	1,204	33	76	19	104	45	4	41
2024 No-Build Heavy Vehicle %	43%	8%	37%	38%	9%	39%	33%	12%	37%	10%	26%	6%
Project Trips												
Trip Distribution IN	45%											
Trip Distribution OUT									45%			
Truck Trips	7	0	0	0	0	0	0	0	6	0	0	0
Trip Distribution IN	25%											
Trip Distribution OUT									25%			
Car Trips	6	0	0	0	0	0	0	0	23	0	0	0
Total Project Trips	13	0	0	0	0	0	0	0	29	0	0	0
2024 Buildout Total	52	1,805	18	38	1,204	33	76	19	133	45	4	41
2024 Build Heavy Vehicle %	46%	8%	37%	38%	9%	39%	33%	12%	33%	10%	26%	6%

INTERSECTION VOLUME DEVELOPMENT

Intersection #3: Factory Shoals Road @ Douglas Hill Road AM PEAK HOUR

Description	Factory Shoals Road Northbound			Factory Shoals Road Southbound			Douglas Hill Road Eastbound			Douglas Hill Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2021 Traffic Volumes	0	99	15	57	52	4	4	0	0	24	12	162
Pedestrians		0			0			0			0	
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	0	8	1	1	7	0	1	0	0	0	2	1
Heavy Vehicle %	0%	8%	7%	2%	13%	2%	25%	0%	0%	2%	17%	2%
Peak Hour Factor		0.73			0.73			0.73			0.73	
Covid Calibration Factor	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Adjusted 2021 Volumes	0	109	17	63	57	4	4	0	0	26	13	178
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046
DCT Douglas Hills DRI #2701	3					37	16	9	1		21	
DCT Douglas Hills DRI #2701 (Truck)								10			22	
JDA Factory Shoals		2										
JDA Factory Shoals (Truck)												
2024 Background Traffic	3	116	18	66	60	41	20	19	1	27	57	186
2024 No-Build Heavy Vehicle %	2%	8%	7%	2%	13%	2%	5%	53%	2%	2%	43%	2%
Project Trips												
Trip Distribution IN						55%					45%	
Trip Distribution OUT							55%	45%				
Truck Trips	0	0	0	0	0	6	5	4	0	0	5	0
Trip Distribution IN	5%					70%					25%	
Trip Distribution OUT							70%	25%	5%			
Car Trips	5	0	0	0	0	69	16	6	1	0	25	0
Total Project Trips	5	0	0	0	0	75	21	10	1	0	30	0
2024 Buildout Total	8	116	18	66	60	116	41	29	2	27	87	186
2024 Build Heavy Vehicle %	2%	8%	7%	2%	13%	6%	15%	48%	2%	2%	34%	2%

PM PEAK HOUR

Description	Factory Shoals Road Northbound			Factory Shoals Road Southbound			Douglas Hill Road Eastbound			Douglas Hill Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2021 Traffic Volumes	0	44	9	25	88	5	4	1	0	27	9	82
Pedestrians		0			0			0			0	
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	0	3	1	3	9	0	0	0	0	0	0	1
Heavy Vehicle %	0%	7%	11%	12%	10%	2%	2%	2%	0%	2%	2%	2%
Peak Hour Factor		0.70			0.70			0.70			0.70	
Covid Calibration Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Adjusted 2021 Volumes	0	47	10	27	94	5	4	1	0	29	10	88
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046
DCT Douglas Hills DRI #2701	1					17	37	21	3		13	
DCT Douglas Hills DRI #2701 (Truck)								29			10	
JDA Factory Shoals					2							
JDA Factory Shoals (Truck)												
2024 Background Traffic	1	49	10	28	100	22	41	51	3	30	33	92
2024 No-Build Heavy Vehicle %	2%	7%	12%	12%	10%	2%	2%	57%	2%	2%	31%	2%
Project Trips												
Trip Distribution IN						55%					45%	
Trip Distribution OUT							55%	45%				
Truck Trips	0	0	0	0	0	8	8	6	0	0	7	0
Trip Distribution IN	5%					70%					25%	
Trip Distribution OUT							70%	25%	5%			
Car Trips	1	0	0	0	0	17	64	23	5	0	6	0
Total Project Trips	1	0	0	0	0	25	72	29	5	0	13	0
2024 Buildout Total	2	49	10	28	100	47	113	80	8	30	46	92
2024 Build Heavy Vehicle %	2%	7%	12%	12%	10%	18%	8%	44%	2%	2%	37%	2%

INTERSECTION VOLUME DEVELOPMENT

Intersection #4: Douglas Hill Road @ Site Driveway A AM PEAK HOUR

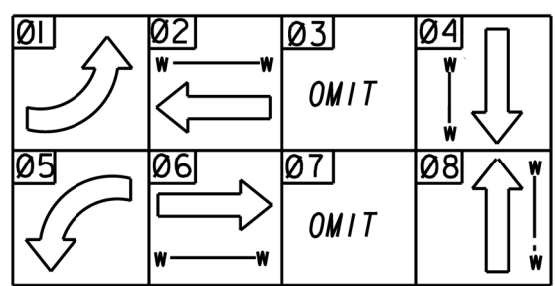
Description	Site Driveway A Northbound			Southbound			Douglas Hill Road Eastbound			Douglas Hill Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2021 Traffic Volumes	0	0	0	0	0	0	0	4	0	0	16	0
Pedestrians		0			0			0			0	
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	0	0	0	0	0	0	0	1	0	0	2	0
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	13%	0%
Peak Hour Factor		0.73			0.73			0.73			0.73	
Covid Calibration Factor	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Adjusted 2021 Volumes	0	0	0	0	0	0	0	4	0	0	18	0
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046
DCT Douglas Hills DRI #2701								27			61	
DCT Douglas Hills DRI #2701 (Truck)								10			22	
JDA Factory Shoals												
JDA Factory Shoals (Truck)												
2024 Background Traffic	0	0	0	0	0	0	0	41	0	0	102	0
2024 No-Build Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	27%	0%	0%	24%	0%
Project Trips												
Trip Distribution IN										15%	85%	
Trip Distribution OUT			15%					85%				
Truck Trips	0	0	1	0	0	0	0	8	0	2	9	0
Trip Distribution IN										15%	85%	
Trip Distribution OUT			15%					85%				
Car Trips	0	0	3	0	0	0	0	20	0	15	84	0
Total Project Trips	0	0	4	0	0	0	0	28	0	17	93	0
2024 Buildout Total	0	0	4	0	0	0	0	69	0	17	195	0
2024 Build Heavy Vehicle %	0%	0%	25%	0%	0%	0%	0%	28%	0%	12%	17%	0%

PM PEAK HOUR

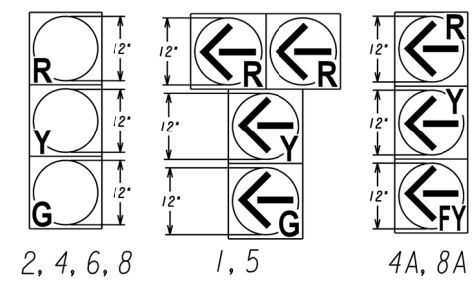
Description	Site Driveway A Northbound			Southbound			Douglas Hill Road Eastbound			Douglas Hill Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 2021 Traffic Volumes	0	0	0	0	0	0	0	5	0	0	14	0
Pedestrians		0			0			0			0	
Conflicting Pedestrians	0		0	0		0	0		0	0		0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	2%	0%
Peak Hour Factor		0.70			0.70			0.70			0.70	
Covid Calibration Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Adjusted 2021 Volumes	0	0	0	0	0	0	0	5	0	0	15	0
Annual Growth Rate	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Growth Factor	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046
DCT Douglas Hills DRI #2701								61			28	
DCT Douglas Hills DRI #2701 (Truck)								29			13	
JDA Factory Shoals												
JDA Factory Shoals (Truck)												
2024 Background Traffic	0	0	0	0	0	0	0	95	0	0	57	0
2024 No-Build Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	31%	0%	0%	23%	0%
Project Trips												
Trip Distribution IN										15%	85%	
Trip Distribution OUT			15%					85%				
Truck Trips	0	0	2	0	0	0	0	12	0	2	13	0
Trip Distribution IN										15%	85%	
Trip Distribution OUT			15%					85%				
Car Trips	0	0	14	0	0	0	0	77	0	4	20	0
Total Project Trips	0	0	16	0	0	0	0	89	0	6	33	0
2024 Buildout Total	0	0	16	0	0	0	0	184	0	6	90	0
2024 Build Heavy Vehicle %	0%	0%	13%	0%	0%	0%	0%	22%	0%	33%	29%	0%

Programmed Project Fact Sheets

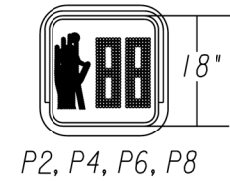
PHASING DIAGRAM



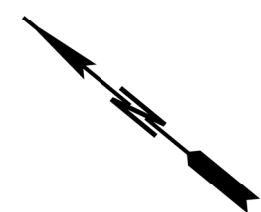
VEHICULAR SIGNALS WITH RETRO REFLECTIVE BACKPLATES



PEDESTRIAN SIGNALS COUNTDOWN



P2, P4, P6, P8

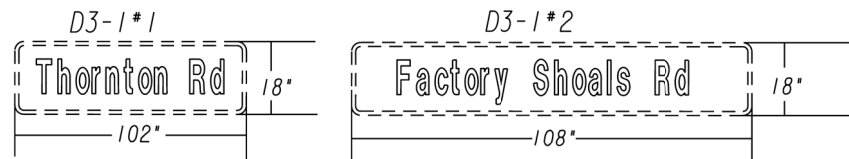


STATE ROUTE 6 (THORNTON RD) - 55 MPH

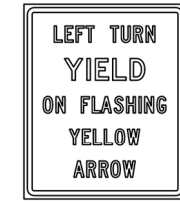
STATE ROUTE 6 (THORNTON RD) - 55 MPH

FACTORY SHOALS RD
35 MPH - ROW VARIES 80-120

OVERHEAD STREET NAME SIGNS



REGULATORY SIGNS

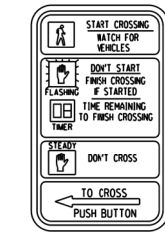


R10-5A
24" x 36"

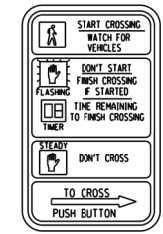


R10-5
24" x 36"

PEDESTRIAN SIGNS



R10-3E(L)
9" x 15"



R10-3E(R)
9" x 15"

SIGNAL LEGEND

- PROPOSED SIGNAL HEAD
- EXISTING SIGNAL HEAD
- RELOCATED SIGNAL HEAD
- PROPOSED 4-SECTION SIGNAL HEAD
- PROPOSED 5-SECTION (CLUSTER) SIGNAL HEAD
- PEDESTRIAN SIGNAL HEAD

DETECTION LEGEND

- PROPOSED VIRTUAL DETECTION ZONE
- PROPOSED INDUCTIVE LOOP
- PROPOSED VIDEO DETECTION CAMERA
- PROPOSED MAGNETOMETER
- PROPOSED RADAR

DOUGLAS COUNTY
GEORGIA



REVISION DATES

TRAFFIC SIGNAL PLAN

SR 6 (THORNTON RD) AT FACTORY SHOALS RD
INTERSECTION IMPROVEMENT

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	27-0001
CORRECTED:	DATE:	
VERIFIED:	DATE:	

Short Title

I-20 WEST EXPRESS LANES FROM I-285 WEST TO SR 92 (FAIRBURN ROAD)

GDOT Project No.

0013916

Federal ID No.

N/A

Status

Long Range

Service Type

Roadway / Express Lanes

Sponsor

GDOT

Jurisdiction

Regional - West

Analysis Level

In the Region's Air Quality Conformity Analysis

Existing Thru Lane

0

LCI

☐

Planned Thru Lane

2

Flex

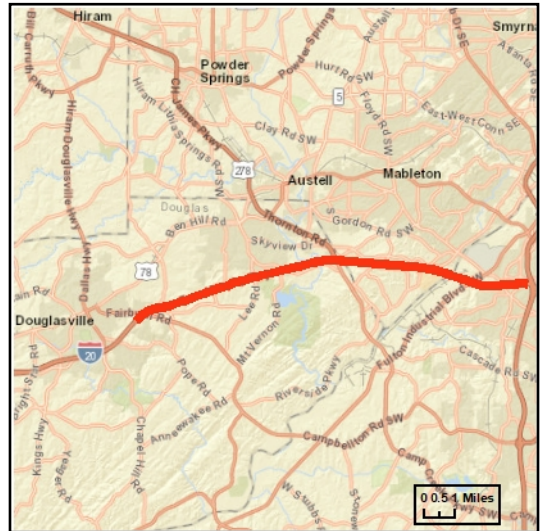
☐

Network Year

2040

Corridor Length

10.5 miles



Detailed Description and Justification

This is an express lanes project along I-20 West from I-285 West to SR 92 (Fairburn Road).

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	National Highway Performance Program (NHPP)	AUTH	2018	\$1,000,000	\$800,000	\$200,000	\$0,000	\$0,000
PE	General Federal Aid - 2026-2050		LR 2026-2030	\$41,610,000	\$33,288,000	\$8,322,000	\$0,000	\$0,000
ROW	General Federal Aid - 2026-2050		LR 2026-2030	\$9,670,000	\$7,736,000	\$1,934,000	\$0,000	\$0,000
ROW	General Federal Aid - 2026-2050		LR 2031-2040	\$9,670,000	\$7,736,000	\$1,934,000	\$0,000	\$0,000
CST	General Federal Aid - 2026-2050		LR 2031-2040	\$714,630,000	\$571,704,000	\$142,926,000	\$0,000	\$0,000
CST	General Federal Aid - 2026-2050		LR 2041-2050	\$289,872,691	\$231,898,153	\$57,974,538	\$0,000	\$0,000
				\$1,066,452,691	\$853,162,153	\$213,290,538	\$0,000	\$0,000

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquisition
 UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases



For additional information about this project, please call (404) 463-3100 or email transportation@atlantaregional.com.



Short Title

SR 6 (THORNTON ROAD) TRUCK FRIENDLY LANES
FROM I-20 WEST IN DOUGLAS COUNTY TO SR 6 SPUR
(GARRETT ROAD) IN COBB COUNTY

GDOT Project No.

0010821

Federal ID No.

N/A

Status

Programmed

Service Type

Roadway / Operations & Safety

Sponsor

GDOT

Jurisdiction

Cobb County, Douglas County

Analysis Level

In the Region's Air Quality Conformity Analysis

Existing Thru Lane

Var

LCI

☐

Planned Thru Lane

Var

Flex

☐

Network Year

2030

Corridor Length

5.2 miles



Detailed Description and Justification

This project will implement truck friendly lanes along SR 6 (Thornton Road). The project will begin at I-20 West in Douglas County and terminate at the SR 6 Spur (Garrett Road) in Cobb County.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
SCP	National Highway System	AUTH	2015	\$1,000,000	\$800,000	\$200,000	\$0,000	\$0,000
PE	National Highway Performance Program (NHPP)	AUTH	2017	\$1,649,794	\$1,319,835	\$329,959	\$0,000	\$0,000
ROW	Transportation Funding Act (HB 170)		2024	\$6,000,000	\$0,000	\$6,000,000	\$0,000	\$0,000
UTL	Transportation Funding Act (HB 170)		LR 2026-2030	\$2,000,000	\$0,000	\$2,000,000	\$0,000	\$0,000
CST	Transportation Funding Act (HB 170)		LR 2026-2030	\$35,654,850	\$0,000	\$35,654,850	\$0,000	\$0,000
				\$46,304,644	\$2,119,835	\$44,184,809	\$0,000	\$0,000

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquisition
UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases



For additional information about this project, please call (404) 463-3100 or email transportation@atlantaregional.com.



PI 0013733
DOUGLAS COUNTY
SR 5 @ SR 6
CONCEPT LAYOUT
QUADRANT ALTERNATIVE

END PROJECT
SR 5

BEGIN PROJECT SR 6

END PROJECT
SR 6

BEGIN BRIDGE
SR 6 / THORNTON
STA. 37+26.00

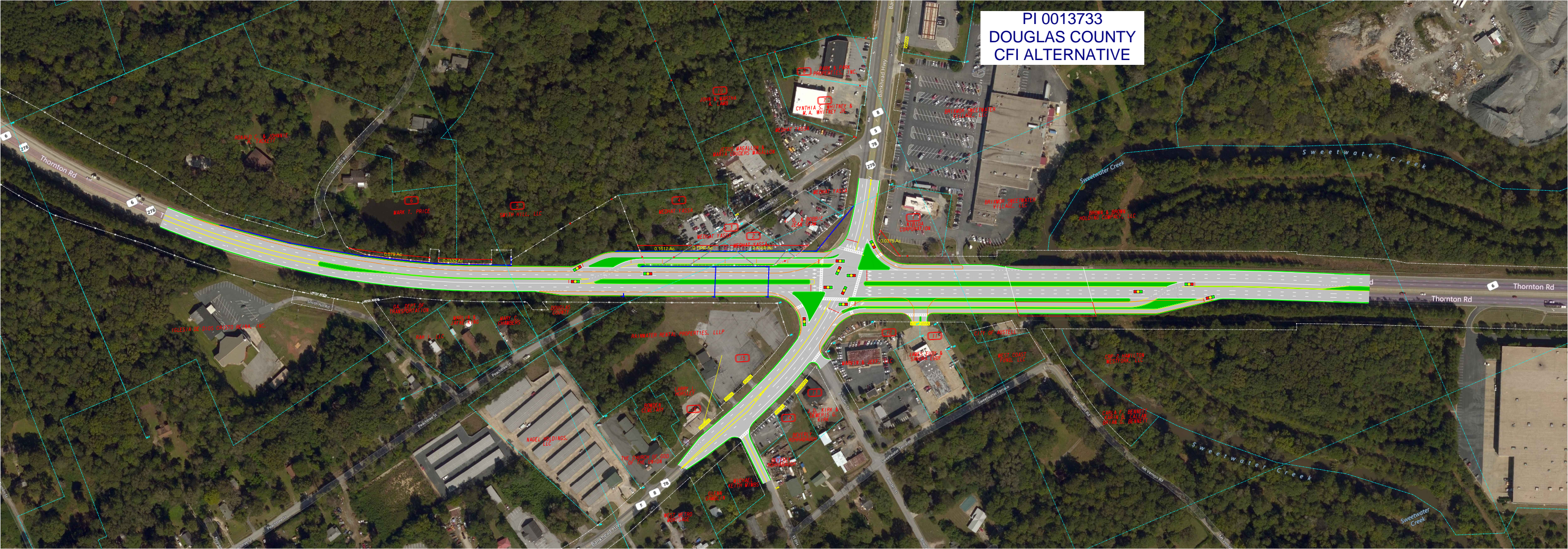
END BRIDGE ➤
SR 6 / THORNTON RD
STA. 39+73.50

BEGIN PROJECT
SR 5

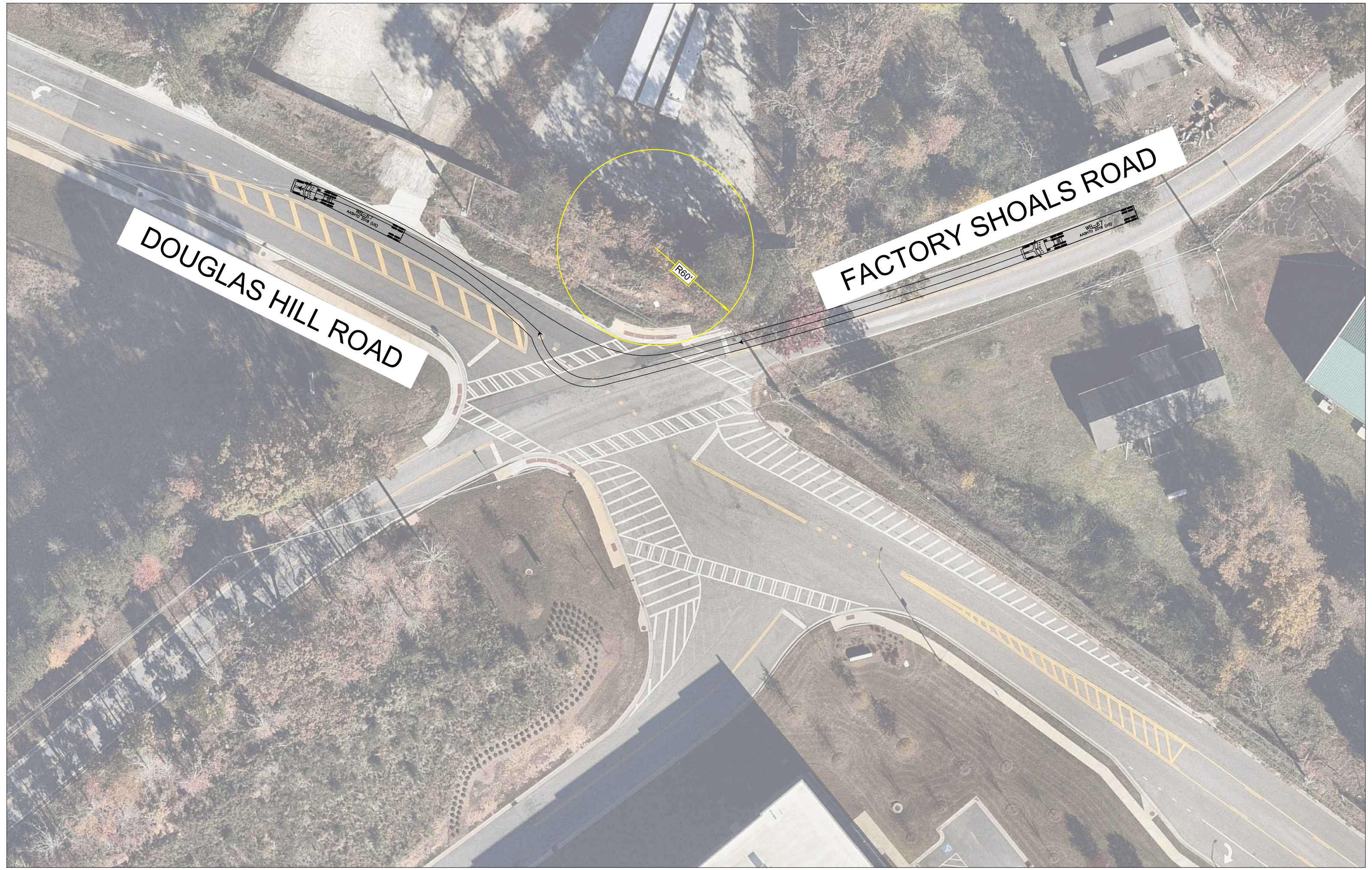
SCALE IN FEET



PI 0013733
DOUGLAS COUNTY
CFI ALTERNATIVE



Full Page Truck Exhibits



DOUGLAS HILL ROAD

FACTORY SHOALS ROAD

R601

WB-67
AUG10 2018 (US)

WB-67
AUG10 2018 (US)

THORNTON ROAD (SR 6)

DOUGLAS HILL ROAD

R76'





THORNTON ROAD (SR 6)

FACTORY SHOALS ROAD

R51'

WB-57
AUG 10 2016 1:00

WB-57
AUG 10 2016 1:00