STAFF REPORT
Rezoning #21CZ09 Alderwood PUD
July 27, 2021 Town Council Meeting

All property owners, tenants, and neighborhood associations within 300 feet of this rezoning have been notified per UDO Sec. 2.2.11 *Public Notification*.

BACKGROUND INFORMATION:	
Location:	1533 Wimberly Road and 7912, 8000, and 8016 Jenks Road
Applicant:	Jessie Hardesty, McAdams Co.
Authorized Agent:	Mark Altman, Taylor Morrison
Owners:	Michael & Alison Cleary, Charles & Frances Lewis, Teresa Kirkpatrick, and Richard & Trisha Hinesley
PROJECT DESCRIPTION:	
Acreage:	+/- 14.86 acres
PINs:	0722687241, 0722780191, 0722784193, & 0722788252
Current Zoning:	Rural Residential (RR)
Proposed Zoning:	Planned Unit Development-Conditional Zoning (PUD-CZ)
Current 2045 Land Use Map:	Mixed Use: High Density Residential/Office Employment/Commercial Services
Proposed 2045 Land Use Map:	Mixed Use: Medium/High Density Residential/Office Employment/ Commercial Services
Town Limits:	In ETJ

ADJACENT ZONING & LAND USES:

	Zoning	Land Use
North:	Planned Unit Development-Conditional Zoning (PUD-CZ #16CZ30)	Single-family Residential & Townhomes (The Preserve at White Oak Creek)
South:	Planned Unit Development-Conditional Zoning (PUD-CZ #18CZ31)	Jenks Road; Townhomes (Townes at Westford)
East:	Planned Unit Development-Conditional Zoning (PUD-CZ #16CZ30 & 18CZ31)	Single-family Residential & Townhomes (The Preserve at White Oak Creek & Townes at Westford)
West:	Rural Residential (RR)	Wimberly Road; Single-family Residential

EXISTING CONDITIONS:

The site consists of four (4) parcels totaling +/- 14.86 acres. It is located on the northeast quadrant of the intersection of Jenks Road and Wimberly Road. The site contains single-family dwellings and a few outbuildings. The properties are wooded with a few cleared areas and patches of wetlands. The Cardinal and Colonial pipelines run through a portion of the subject properties.

NEIGHBORHOOD MEETING:

The applicant conducted a neighborhood meeting on March 24, 2021. The meeting report is attached to the staff report.

2045 LAND USE MAP:

The 2045 Land Use Map designates the site as Mixed Use: High Density Residential/Office Employment/Commercial Services. The proposed PUD designates 4.46 acres of the project as non-residential, which complies with the Town's policy for 30% of mixed use sites to be reserved for non-residential development.

The High Density Residential designation has a minimum residential density of 14 dwelling units per acre. The applicant proposes a rezoning to PUD-CZ with a maximum of 78 townhome units at a density of 7.5 dwelling units

per acre, consistent with the Medium/High Density Residential designation (7 to 14 dwelling units per acre). If the property is rezoned as proposed in the PUD-CZ application, the 2045 LUM will automatically be amended to Mixed Use: Medium/High Density Residential/Office Employment/Commercial Services per NCGS 160D-605(a).

WCPSS COORDINATION:

A Letter of Impact from Wake County Public School System (WCPSS) was received for this rezoning and is included in the staff report packet. WCPSS indicates that schools at all grade levels within the current assignment area for the proposed rezoning/development are anticipated to have sufficient capacity for future students.

PLANNED UNIT DEVELOPMENT PLAN:

The applicant is proposing a Planned Unit Development with uses and development standards as follows:

PROPOSED USES:

The Rezoned Lands may be used for, and only for, the uses listed immediately below. The permitted uses are subject to the limitations and regulations stated in the UDO and any additional limitations or regulations stated below. For convenience, some relevant sections of the UDO may be referenced; such references do not imply that other sections of the UDO do not apply.

Residential Area:

- Townhomes
- Utility, minor
- Park, active
- Recreation facility, private
- Accessory apartment
- Greenway
- Park, passive

Non-Residential Area:

- Utility, minor
- Entertainment, indoor
- Church or place of worship
- Day care facility
- Government services
- Medical or dental office or clinic
- Publishing office
- Barber and beauty shop
- Convenience store
- Farmer's market
- Financial institution
- Grocery, general
- Health/fitness center or spa
- Personal service
- Real estate sales
- Retail sales, general
- Tailor shop
- Pet services
- Microdistillery
- Greenway
- Assembly hall, non-profit
- Assembly hall, for-profit
- Drop-in or short-term day care
- Restaurant, general
- Office, business or professional
- Artisan studio
- Book store
- Convenience store with gas sales
- Dry cleaners or laundry service
- Floral shop
- Grocery, specialty
- Newsstand or gift shop
- Pharmacy
- Printing and copying service
- Repair services, limited
- Studio for art
- Upholstery shop
- Microbrewery

PROPOSED CONDITIONS:

A. No covenant prohibiting the accessory apartment use shall encumber the property.
B. The developer will contribute $215 per lot to the Apex Affordable Housing Fund, to be paid at plat.

Architectural Conditions:

The proposed development offers the following architectural controls to ensure a consistency of character throughout the development, while allowing for enough variety to create interest and avoid monotony. Changes to the exterior materials, roof, windows, doors, process, trim, etc. are allowable with administrative approval at the staff level. Further details shall be provided at the time of Site Plan submittal. The following conditions shall apply:

Residential – all types:

1. Vinyl siding is not permitted; however, vinyl windows, decorative elements and trim are permitted.
2. Front-facing garage doors shall have at least one of the following: windows, decorative details or carriage-style adornments.
3. The garage cannot protrude more than 1 foot out from the front façade or front porch, measured from roof of porch.
4. On townhomes, roof line cannot be a single mass; it must be broken up either horizontally and/or vertically between, at minimum, every other unit.
5. House entrances for units with front-facing single-car garages must have a covered porch/stoop area leading to the front door.
6. Rear and side elevations of units that have right-of-way frontage shall have trim around the windows.
7. Four of the following decorative elements shall be used on each building: decorative shake, board and batten siding, decorative porch rails and posts, shutters, decorative functional foundation and roof vents, recessed windows, decorative windows, decorative brick or stone, decorative gables, decorative cornices, or metal roofing.
8. A varied color palette shall be utilized on townhome units throughout the subdivision and shall include siding, trim, shutter, and accent colors complementing the siding colors.

Proposed materials and styles will be of a similar palette to provide consistency of character along with visual interest. Exterior materials that may be incorporated into any of the residential building products include:

- Cementitious lap siding
- Board and batten siding
- Shake and shingle siding
- Wood siding
- Stone or synthetic stone
- Brick

Additional building materials may be included with administrative approval. Substitute materials shall be allowed by staff as long as they are determined by the Planning Director to be substantially similar.

Non-Residential:

1. Architectural treatments such as varying roof forms, façade articulation, breaks in roof, walls with texture materials and ornamental details as well as landscaping shall be incorporated to add visual interest. Large expanses of blank walls, greater than 25' in length or height, shall be broken up with windows or other architectural features to reduce visual impacts.

2. Roof features may include flat roofs with parapet, hip roofs, or awnings with metal or canvas material.

Non-residential exteriors shall incorporate variation in materials. The primary (front) façade and other façades located along a public right-of-way may include:

- Brick and/or stone masonry
- Decorative concrete block (integral color or textured)
- Stone accents
- Aluminum storefronts with anodized or pre-finished colors
- EIFS cornices, and parapet trim
- EIFS or synthetic stucco shall not be used in the first four feet above grade and shall be limited to only 25% of each building façade
- Precast concrete
- Soffit and fascia materials to be considered include EIFS with crown trim elements
- Cementitious siding

Rear elevations of non-residential buildings facing opaque landscape buffers or not visible from vehicular use areas or public rights-of-way may incorporate decorative concrete masonry, metal coping, or EIFS trim.

Exterior materials not allowable as part of the residential or non-residential development are as follows:

- Vinyl siding
- Painted, smooth faced concrete block
- Metal Walls

PROPOSED DESIGN CONTROLS:

	Non-Residential Tract	Residential Tract
Parcel Size:	+/- 4.46 acres	+/- 10.40 acres
Maximum Density:	30,000 ft^2	7.5 units/acre
Maximum Residential Units:	N/A	78
Minimum Lot Width:	N/A	22 ft
Minimum Lot Depth:	N/A	65 ft
Maximum Building Height:	50 ft	3 stories/45 ft
Maximum Built-Upon Area:	70%	70%
Building Setbacks:		
Front:	20 ft	8 ft
To garage door:	N/A	20 ft
Side:	20 ft	N/A
Corner side:	N/A	8 ft
Rear:	20 ft	10 ft
Building separation:	N/A	10 ft
From Buffers/RCA:		
For buildings:	10 ft	10 ft

PROPOSED RCA & BUFFERS:

The proposed Alderwood PUD complies with the required 25% RCA for mixed-use developments. It shall also comply with UDO Section 8.2, with one exception: Landscaping requirements for townhomes shall be permitted on townhome lots and/or HOA owned common areas.

Buffers:	UDO Requirement:	Proposed:
Jenks Road (Thoroughfare):	30-foot Type B	30-foot Type B
Wimberly Road (Thoroughfare):	30-foot Type B	30-foot Type B
North boundary:	20-foot Type B	20-foot Type B
Residential :	15-foot Type A	15-foot Type A
Non-Residential:	20-foot Type A	20-foot Type A

ENVIRONMENTAL ADVISORY BOARD:

The Apex Environmental Advisory Board (EAB) held a pre-application meeting for this rezoning on December 17, 2020. The zoning conditions suggested by the EAB are listed below along with the applicant's response to each condition.

EAB Suggested Condition	Applicant's Response
Install education signage about wetlands.	Included
Install signage near environmental sensitive areas in order to reduce pet waste and eliminate fertilizer.	Included
Install additional landscaping around the edges of the wetland.	Included
Increase biodiversity by planting pollinator-friendly flora and native landscaping	Included
Install pet waste stations.	Included
Attempt to connect park to the nearby greenway system.	Included

The proposed PUD shall provide a public access easement for privately-maintained sidewalk connectivity at the northern end of the subject properties as shown on the PUD plans.

A community park, approximately 1.65 acres, will be designed at the northeast corner of the property. The developer will seek National Wildlife Federation certification, which includes ensuring key habitat elements are incorporated into the landscape, including but not limited to specific plants and supplemental feeders, water, wildlife shelter, and sustainable practices.

The developer will also install educational signage (minimum 2 signs) in the neighborhood near wetland areas and signage near environmentally sensitive areas in order to reduce pet waste and eliminate fertilizer. Similarly, pet waste stations (minimum 2 stations) will be strategically installed throughout the community.

The project will increase biodiversity in perimeter buffers and open space areas by providing a variety of species for the canopy, understory, and shrub levels. Native and adaptive plant species shall be provided within these areas to minimize death from disease and to provide increased habitat and food sources for insects and animals.

- A minimum of 70% of the species provided shall be native or a nativar of North Carolina.
- No invasive species shall be permitted.
- No single species of tree or shrub shall constitute more than 20% of the plant material of its type installed on a single development site.

STORMWATER MANAGEMENT:

This PUD shall meet all stormwater management requirements for quality and quantity treatment in accordance with Section 6.1.7 of the UDO such that:

- Post development peak runoff shall not exceed pre-development peak runoff conditions for the 1 year, 10 year, 25-year, and 24-hour storm events.
- Treatment for the first 1 inch of runoff will provide 85% removal of total suspended solids.

Acceptable stormwater structures shall include detention ponds, constructed wetlands, bio-retention areas, or other approved devices consistent with the NC DEQ Stormwater Design Manual and the Town of Apex UDO.

PUBLIC FACILITIES:

The Jenks and Wimberly Mixed Use PUD will be served by Town of Apex water, sanitary sewer, and electrical systems. The utility design will be finalized at Master Subdivision Plan review. A conceptual plan is included in the PUD Plan for reference. Public water is currently provided by a water main in Wimberly Road and Jenks Road. Two existing sanitary sewer stubs are provided from the Preserve at White Oak Creek to the north.

APEX TRANSPORTATION PLAN/ACCESS AND CIRCULATION:

The proposed development is consistent with the Apex Transportation Plan. Per the Apex Thoroughfare and Collector Street Plan, Wimberly Road is designated as an existing 2-lane Thoroughfare and Jenks Road as a widening 3-lane Thoroughfare. The developer will dedicate right-of-way along their property frontage to meet the minimum right-of-way widths designated in Advance Apex.

The proposed PUD is also in compliance with the Bicycle, Pedestrian and Equestrian Plan. Per the plan, the following conditions are proposed:

- Developer shall construct five-foot wide public sidewalks along both sides of all internal streets;
- Developer shall construct six-foot wide private walking trail(s) in the community park area;
- Developer shall construct a ten-foot wide Side Path along both the Jenks Road and Wimberly Road frontages of the subject properties; and
- Developer shall provide a public access easement for privately-maintained sidewalk connectivity at the northern end of the subject properties as shown on the PUD plans.

Roadway improvements are subject to modification and final approval by the Town of Apex and NCDOT as part of the Master Subdivision Plan review and approval process. A traffic study has been performed as part of this PUD rezoning consistent with the Town's standards for the same. Based upon the traffic study, the following traffic improvements are proposed for this development:

- Developer shall construct full-movement access to Jenks Road across from Hutch Lane and restripe the existing two-way left turn lane to provide 100 feet of eastbound left turn storage;
- Developer shall construct right-in/right-out only access to Jenks Road approximately 500 feet east of the intersection of Wimberly Road, and as generally depicted on PUD Sheet C2.00, including a westbound right turn lane on Jenks Road with 50 feet of full width deceleration and 100 feet of taper, and provide a monolithic concrete median on Jenks Road extending from the east to west ends of the intersection radius and right turn lane to prevent left turns;
- Developer shall provide minimum typical frontage widening on Jenks Road from the centerline based on a 41-foot 3-lane curb and gutter roadway on 80 feet of right-of-way (40 feet from centerline);
- Developer shall construct full-movement access to Wimberly Road approximately 500 feet north of Jenks and as generally depicted on PUD Sheet C2.00;
- Developer shall provide minimum typical frontage widening on Wimberly Road from the centerline based on a 35-foot 2-lane curb and gutter roadway on 60 feet of right-of-way (30 feet from centerline).; and
- No additional points of vehicular access to Jenks Road or Wimberly Road shall be proposed or permitted within the boundaries of the PUD.

PARKS, RECREATION, AND CULTURAL RESOURCES ADVISORY COMMISSION:

The project was reviewed by the PRCR Advisory Commission on May 26th, 2021 meeting. The Advisory Commission unanimously recommended a fee-in-lieu for the project.

78 townhomes	x	$2,354.05	=	$183,615.90

PLANNING STAFF RECOMMENDATION:

Planning staff recommends approval of Rezoning #21CZ09 Alderwood PUD as proposed by the applicant.

PLANNING BOARD RECOMMENDATION:

Planning Board heard this project at their July 12, 2021 meeting and unanimously voted to recommend approval with the addition of one condition offered by the applicant.

> The northern buffer of the residential pod (POD B) shall include supplemental evergreen plantings or a fence in order to meet the opacity requirements offered per the rezoning.

The Board also requested that the following note be included to Town Council:

> The applicant should work with neighbors and staff prior to the Town Council meeting as to what landscaping and/or fencing would be acceptable to the neighbors.

AFTER PLANNING BOARD:

Since Planning Board, the applicant and staff have worked with the adjacent neighbors in the Preserve at White Oak Creek on their concerns about their development and the impacts of the proposed Alderwood PUD. The applicant proposes the following amended language:

> At the time of site/subdivision plan and in order to meet the opacity requirements of the rezoning, the northern buffer of the residential pod (Pod B) adjacent to the existing residential shall include either: (a) a 6-foot tall privacy fence as permitted in UDO Sec. 8.2.6.B.5.a, provided the fence shall not be required adjacent to the private community park, within utility and/or pedestrian access easements, or within the Colonial and Cardinal gas pipeline easements; or (b) supplemental evergreen plantings. In order to minimize damage and impacts to the existing vegetation, any fence installed pursuant to this condition shall be installed along the interior side of the Alderwood buffer.

Staff has exchanged several emails with the residents and met with them on Wednesday July 20, 2021 via Teams. At the time of our meeting, they had not come to a consensus regarding whether they would prefer a fence or evergreens. Prior to the Town Council meeting, staff will continue to coordinate with the developer and the residents and will update Town Council at the meeting.

ANALYSIS STATEMENT OF THE REASONABLENESS OF THE PROPOSED REZONING:

This Statement will address consistency with the Town's comprehensive and other applicable plans, reasonableness, and effect on public interest:

> The 2045 Land Use Map designates the site as Mixed Use: High Density Residential/Office Employment/Commercial Services. The applicant is requesting a rezoning to PUD-CZ with a maximum density of 7.5 dwelling units per acre, consistent with the Medium/High Density Residential designation (7 to 14 dwelling units per acre). Located in close proximity to major commercial areas and transportation corridors, the proposed rezoning to Planned Unit Development-Conditional Zoning will have a maximum of 78 dwelling units and designates approximately 4.46 acres (30%) of the site as non-residential. If the rezoning is approved as proposed, the 2045 Land Use Map designation will automatically be amended to Mixed Use: Medium/High Density Residential/Office Employment/Commercial Services per NCGS 160D-605(a). The proposed rezoning to Planned Unit Development-Conditional Zoning (PUD-CZ) will maintain the character and appearance of the area and provide the flexibility to accommodate the growth in population, economy, and infrastructure consistent with that contemplated by the 2045 Land Use Map.
>
> The proposed rezoning is reasonable and in the public interest because it will allow this property to develop in a way that is consistent with the surrounding areas, to build side paths along Jenks Road and Wimberly

Road, to build sidewalks along both sides of internal streets, and provide improved environmental conditions over the UDO requirements.

PLANNED UNIT DEVELOPMENT DISTRICT AND CONDITIONAL ZONING STANDARDS:

Standards

In return for greater flexibility in site design requirements, Planned Development (PD) Districts are expected to deliver exceptional quality community designs that preserve critical environmental resources; provide high quality community amenities; incorporate creative design in the layout of buildings, Resource Conservation Area and circulation; ensure compatibility with surrounding land uses and neighborhood character; provide high quality architecture; and provide greater efficiency in the layout and provision of roads, utilities, and other infrastructure. The Planned Development (PD) Districts shall not be used as a means of circumventing the Town's adopted land development regulations for routine developments.

1. *Planned Unit Development (PUD-CZ) District*
   In approving a Planned Development (PD) Zoning District designation for a PUD-CZ, the Town Council shall find the PUD-CZ district designation and PD Plan for PUD-CZ demonstrates compliance with the following standards:
   a) *Development parameters*
      (i) The uses proposed to be developed in the PD Plan for PUD-CZ are those uses permitted in Sec. 4.2.2 *Use Table.*
      (ii) The uses proposed in the PD Plan for PUD-CZ can be entirely residential, entirely non-residential, or a mix of residential and non-residential uses, provided a minimum percentage of non-residential land area is included in certain mixed use areas as specified on the 2045 Land Use Map. The location of uses proposed by the PUD-CZ must be shown in the PD Plan with a maximum density for each type of residential use and a maximum square footage for each type of non-residential use.
      (iii) The dimensional standards in Sec. 5.1.3 *Table of Intensity and Dimensional Standards, Planned Development Districts* may be varied in the PD Plan for PUD-CZ. The PUD-CZ shall demonstrate compliance with all other dimensional standards of the UDO, North Carolina Building Code, and North Carolina Fire Code.
      (iv) The development proposed in the PD Plan for PUD-CZ encourages cluster and compact development to the greatest extent possible that is interrelated and linked by pedestrian ways, bikeways and other transportation systems. At a minimum, the PD Plan must show sidewalk improvements as required by the Apex Transportation Plan and the *Town of Apex Standard Specifications and Standard Details*, and greenway improvements as required by the Town of Apex Parks, Recreation, Greenways, and Open Space Plan and the Apex Transportation Plan. In addition, sidewalks shall be provided on both sides of all streets for single-family detached homes.
      (v) The design of development in the PD Plan for PUD-CZ results in land use patterns that promote and expand opportunities for walkability, connectivity, public transportation, and an efficient compact network of streets. Cul-de-sacs shall be avoided unless the design of the subdivision and the existing or proposed street system in the surrounding area indicate that a through street is not essential in the location of the proposed cul-de-sac, or where sensitive environmental areas such as streams, floodplains, and wetlands would be substantially disturbed by making road connections.
      (vi) The development proposed in the PD Plan for PUD-CZ is compatible with the character of surrounding land uses and maintains and enhances the value of surrounding properties.

(vii) The development proposed in the PD Plan for PUD-CZ has architectural and design standards that are exceptional and provide higher quality than routine developments. All residential uses proposed in a PD Plan for PUD-CZ shall provide architectural elevations representative of the residential structures to be built to ensure the Standards of this Section are met.

b) *Off-street parking and loading*. The PD Plan for PUD-CZ shall demonstrate compliance with the standards of Sec. 8.3 *Off-Street Parking and Loading*, except that variations from these standards may be permitted if a comprehensive parking and loading plan for the PUD-CZ is submitted as part of the PD Plan that is determined to be suitable for the PUD-CZ, and generally consistent with the intent and purpose of the off-street parking and loading standards.

c) RCA. The PD Plan for PUD-CZ shall demonstrate compliance with Sec. 8.1.2 Resource Conservation Area, except that the percentage of RCA required under Sec. 8.1.2 may be reduced by the Town Council by no more than 10% provided that the PD Plan for PUD-CZ includes one or more of the following:

(i) A non-residential component; (ii) An overall density of 7 residential units per acre or more; or (iii) Environmental measures including but not limited to the following:

a. The installation of a solar photovoltaic (PV) system on a certain number or percentage of single-family or townhouse lots or on a certain number or percentage of multifamily, mixed-use, or nonresidential buildings. All required solar installation shall be completed or under construction prior to 90% of the building permits being issued for the approved number of lots or buildings. For single-family or townhouse installations, the lots on which these homes are located shall be identified on the Master Subdivision Plat, which may be amended;

b. The installation of a geothermal system for a certain number or percentage of units within the development; or

c. Energy efficiency standards that exceed minimum Building Code requirements (i.e. SEER rating for HVAC).

d) *Landscaping*. The PD Plan for PUD-CZ shall demonstrate compliance with the standards of Sec. 8.2 *Landscaping, Buffering and Screening*, except that variations from these standards may be permitted where it is demonstrated that the proposed landscaping sufficiently buffers uses from each other, ensures compatibility with land uses on surrounding properties, creates attractive streetscapes and parking areas and is consistent with the character of the area. In no case shall a buffer be less than one half of the width required by Sec. 8.2 or 10 feet in width, whichever is greater.

e) *Signs.* Signage in the PD Plan for PUD-CZ shall demonstrate compliance with Sec. 8.7 *Signs*, except that the standards can be varied if a master signage plan is submitted for review and approval concurrent with the PD plan and is determined by the Town Council to be suitable for the PUD-CZ and generally consistent with the intent and purpose of the sign standards of the UDO. The master signage plan shall have design standards that are exceptional and provide for higher quality signs than those in routine developments and shall comply with Sec. 8.7.2 *Prohibited Signs*.

f) *Public facilities.* The improvements standards and guarantees applicable to the public facilities that will serve the site shall comply with Article 7: *Subdivision and* Article 14: *Parks, Recreation, Greenways, and Open Space*.

(i) The PD Plan for PUD-CZ demonstrates a safe and adequate on-site transportation circulation system. The on-site transportation circulation system shall be integrated with the off-site transportation circulation system of the Town. The PD Plan for PUD-CZ shall be consistent with the Apex Transportation Plan and the *Town of Apex Standard Specifications*

and Standard Details and show required right-of-way widths and road sections. A Traffic Impact Analysis (TIA) shall be required per Sec. 13.19.

(ii) The PD Plan for PUD-CZ demonstrates a safe and adequate on-site system of potable water and wastewater lines that can accommodate the proposed development, and are efficiently integrated into off-site potable water and wastewater public improvement plans. The PD Plan shall include a proposed water and wastewater plan.

(iii) Adequate off-site facilities for potable water supply, sewage disposal, solid waste disposal, electrical supply, fire protection and roads shall be planned and programmed for the development proposed in the PD Plan for PUD-CZ, and the development is conveniently located in relation to schools and police protection services.

(iv) The PD Plan shall demonstrate compliance with the parks and recreation requirements of Sec. Article 14: *Parks, Recreation, Greenways, and Open Space* and Sec. 7.3.1 *Privately-owned Play Lawns* if there is a residential component in the PUD-CZ.

g) *Natural resource and environmental protection.* The PD Plan for PUD-CZ demonstrates compliance with the current regulatory standards of this Ordinance related to natural resource and environmental protection in Sec. 6.1 *Watershed Protection Overlay District*, Sec. 6.2 *Flood Damage Prevention Overlay District*, and Sec. 8.1 *Resource Conservation*.

h) *Storm water management.* The PD Plan shall demonstrate that the post-development rate of on-site storm water discharge from the entire site shall not exceed pre-development levels in accordance with Sec. 6.1.7 of the UDO.

i) *Phasing.* The PD Plan for PUD-CZ shall include a phasing plan for the development. If development of the PUD-CZ is proposed to occur in more than one phase, then guarantees shall be provided that project improvements and amenities that are necessary and desirable for residents of the project, or that are of benefit to the Town, are constructed with the first phase of the project, or, if this is not possible, then as early in the project as is technically feasible.

j) *Consistency with 2045 Land Use Map.* The PD Plan for PUD-CZ demonstrates consistency with the goals and policies established in the Town's 2045 Land Use Map.

k) *Complies with the UDO.* The PD Plan for PUD-CZ demonstrates compliance with all other relevant portions of the UDO.

Legislative Considerations

The Town Council shall find the Planned Unit Development-Conditional Zoning (PUD-CZ) designation demonstrates compliance with the following standards. 2.3.3.F:

The applicant shall propose site-specific standards and conditions that take into account the following considerations, which are considerations that are relevant to the legislative determination of whether or not the proposed conditional zoning district rezoning request is in the public interest. These considerations do not exclude the legislative consideration of any other factor that is relevant to the public interest.

1) *Consistency with 2045 Land Use Map.* The proposed Conditional Zoning (CZ) District use's appropriateness for its proposed location and consistency with the purposes, goals, objectives, and policies of the 2045 Land Use Map.

2) *Compatibility.* The proposed Conditional Zoning (CZ) District use's appropriateness for its proposed location and compatibility with the character of surrounding land uses.

3) *Zoning district supplemental standards.* The proposed Conditional Zoning (CZ) District use's compliance with Sec 4.4 *Supplemental Standards,* if applicable.

4) *Design minimizes adverse impact.* The design of the proposed Conditional Zoning (CZ) District use's

minimization of adverse effects, including visual impact of the proposed use on adjacent lands; and avoidance of significant adverse impacts on surrounding lands regarding trash, traffic, service delivery, parking and loading, odors, noise, glare, and vibration and not create a nuisance.

5) *Design minimizes environmental impact.* The proposed Conditional Zoning District use's minimization of environmental impacts and protection from significant deterioration of water and air resources, wildlife habitat, scenic resources, and other natural resources.

6) *Impact on public facilities.* The proposed Conditional Zoning (CZ) District use's avoidance of having adverse impacts on public facilities and services, including roads, potable water and wastewater facilities, parks, schools, police, fire and EMS facilities.

7) *Health, safety, and welfare.* The proposed Conditional Zoning (CZ) District use's effect on the health, safety, or welfare of the residents of the Town or its ETJ.

8) *Detrimental to adjacent properties.* Whether the proposed Conditional Zoning (CZ) District use is substantially detrimental to adjacent properties.

9) *Not constitute nuisance or hazard.* Whether the proposed Conditional Zoning (CZ) District use constitutes a nuisance or hazard due to traffic impact or noise, or because of the number of persons who will be using the Conditional Zoning (CZ) District use.

10) *Other relevant standards of this Ordinance.* Whether the proposed Conditional Zoning (CZ) District use complies with all standards imposed on it by all other applicable provisions of this Ordinance for use, layout, and general development characteristics.

May 5, 2021

Earl Randall Lewellyn, P.E.
Kimley-Horn and Associates, Inc.
300 West Morgan Street, Suite 1500
Durham, NC 27701

Subject: **Staff summary and comments for the Retreat at Preserve at White Oak Creek (formerly known as Jenks Road Assemblage) TIA, 03/26/2021**

Mr. Lewellyn:

Please review the following summary of my comments and recommendations. You may schedule a meeting with me and your client to discuss at your convenience.

Study Area

The TIA studied access to the proposed development at the following three intersections:

- Jenks Road and East Site Drive / Westford Site Drive 3 (Hutch Lane)
- Jenks Road and West Site Drive
- Wimberly Road and Site Drive

The intersection of Jenks Road and Wimberly Road was also studied in the TIA.

Trip Generation

The proposed development considered two build out scenarios. Scenario 1 consists of 80 townhome units. It's projected to generate approximately 9 new trips entering and 30 new trips exiting the site during the weekday A.M. peak hour, and 30 new trips entering and 18 new trips exiting the site during the weekday P.M. peak hour. Scenario 2 consists of an additional 8,000 square feet of medical office and 14,000 square feet of daycare center. Scenario 2 is projected to generate 109 new trips entering and 106 new trips exiting the site during the A.M. peak hour, and 110 new trips entering and 121 new trips exiting the site during the P.M. peak hour. The proposed development is projected to generate a total of 1,432 new trips on the adjacent roadway network in Scenario 2.

Background traffic

Background traffic consists of 2% annual background traffic growth compounded from the year traffic counts were observed (2019) to build out year (2025), and the following developments:

- Lake Castleberry
- Westford Residential
- Parks at Wimberly

Pre-pandemic traffic count data was accepted for the analysis due to an overall reduction in traffic volumes and changes in time-of-day traffic patterns during Covid-19, which is not representative of typical traffic conditions.

Trip Distribution and Assignment

The trip distribution to and from the development was assumed to be as follows:

- 50% to/from the northeast via Jenks Road
- 40% to/from the southwest via Jenks Road
- 10% to/from the north via Wimberly Road

Traffic Capacity Analysis and Recommendations

Level of Service (LOS) is a grade of A through F assigned to an intersection, approach, or movement to describe how well or how poorly it operates. LOS A through D is considered acceptable for peak hour operation. LOS E or F describes potentially unacceptable operation and developers may be required to mitigate their anticipated traffic impact to improve LOS based on the Apex Unified Development Ordinance (UDO).

Tables 1 through 4 describe the levels of service (LOS) for the scenarios analyzed in the TIA. "*NA"* is shown when the scenario does not apply. The scenarios are as follows:

- **Existing 2021** - Existing year 2021 traffic grown from 2019 traffic counts.
- **No Build 2025 –** Projected year (2025) with background growth, approved development traffic from others, and committed transportation improvements by others where applicable.
- **Scenario 1 –** Projected year (2025) with background traffic, background improvements, and build out of residential uses, including recommended improvements where applicable.
- **Scenario 2 –** Projected year (2025) with background traffic, background improvements, and build-out of residential and commercial uses, including recommended improvements where applicable.

Jenks Road and East Site Drive / Westford Street C (unsignalized)

Table 1. A.M. / P.M. Unsignalized Peak Hour Levels of Service Jenks Road and East Site Drive / Westford Street C (Hutch Lane)			
	No Build 2025	**Scenario 1**	**Scenario 2**
Overall	NA	NA	NA
Eastbound (Jenks Road)	*NA*	*A / A[1]*	*A / A[1]*
Westbound (Jenks Road)	*A / A[1]*	*A / A[1]*	*A / A[1]*
Northbound (Westford Street C)	*B / B[2]*	*B / B[2]*	*B / B[2]*
Southbound (East Site Drive)	*NA*	*B / B[2]*	*B / C[2]*

1. Level of service for left turn movement on free-flowing approach.
2. Level of service for stop-controlled minor street approach.

TIA recommendations:

- The TIA recommends construction of a full movement southbound approach across from Westford Street C (Hutch Lane) with a single lane of ingress and a single lane of egress. Additionally the TIA recommends restriping the two-way left turn (TWLT) lane on the eastbound approach of Jenks Road to accommodate a left turn lane with 100 feet of storage.

Apex staff recommendations:

- Apex staff concurs with the recommendations. Based on the analysis, the minor street approaches will operate at LOS C or better during both A.M. and P.M. peak hours, with 95th percentile queues of 25 feet or less in both scenarios. Per NCDOT guidance provide 100 feet of storage and 100 feet of taper for the eastbound left turn on Jenks Road.

Jenks Road and West Site Drive (unsignalized)

Table 2. A.M. / P.M. Unsignalized Peak Hour Levels of Service Jenks Road and West Site Drive		
	Scenario 1	**Scenario 2**
Overall	NA	NA
Eastbound (Jenks Road)	*NA*	*NA*
Westbound (Jenks Road)	*NA*	*NA*
Southbound (West Site Drive)	*A / A[1]*	*A / A[1]*

1. Level of service for stop-controlled minor street approach.

TIA recommendations:

- The TIA recommends construction of West Site Drive as a right-in, right-out driveway with one lane of ingress and one lane of egress.

Apex staff recommendations:

- Apex staff concurs with the right-in, right-out driveway, and recommends construction of a center lane concrete median island on Jenks Road at the driveway access, as well as a westbound right turn lane on Jenks Road with 100 feet of taper and 50 feet of full lane deceleration length per NCDOT guidance. Based on the analysis, the stop controlled minor street approach will operate at LOS B or better during both A.M. and P.M. peak hours. 95th percentile queues were analyzed to be 25 feet or less in both scenarios.

Wimberly Road and Site Driveway (unsignalized)

Table 3. A.M. / P.M. Unsignalized Peak Hour Levels of Service Wimberly Road and Site Driveway	
	Scenario 2
Overall	NA
Westbound (Site Driveway)	*B / B*[2]
Northbound (Wimberly Road)	*NA*
Southbound (Wimberly Road)	*A / A*[1]

1. Level of service for left turn movement on free-flowing approach.
2. Level of service for stop-controlled minor street approach.

TIA recommendations:

- The TIA recommends construction of a full movement Site Driveway with one lane of ingress and one lane of egress on Wimberly Road for Scenario 2 only.

Apex staff recommendations:

- Apex staff concurs with the recommendation. Based on the analysis, all movements will operate at LOS B or better during both A.M. and P.M. peak hours. 95th percentile queues were analyzed to be 25 feet or less on the minor street stop-controlled approach.

Jenks Road and Wimberly Road (unsignalized)

Table 4. A.M. / P.M. Unsignalized Peak Hour Levels of Service Jenks Road and Wimberly Road				
	Existing 2019	**No Build 2025**	**Scenario 1**	**Scenario 2**
Overall	NA	NA	NA	NA
Eastbound (Jenks Road)	*A / A*[1]	*A / A*[1]	*A / A*[1]	*A / A*[1]
Westbound (Jenks Road)	*A / A*[1]	*A / A*[1]	*A / A*[1]	*A / A*[1]
Northbound (Wimberly Road)	*B / B*[2]	*B / C*[2]	*B / C*[2]	*C / C*[2]
Southbound (Wimberly Road)	*B / B*[2]	*B / B*[2]	*B / C*[2]	*B / C*[2]

1. Level of service for left turn movement on free-flowing approach.
2. Level of service for stop-controlled minor street approach.

TIA recommendations:

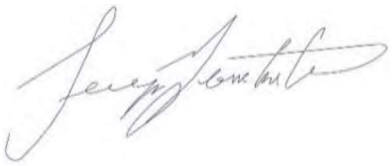
- Background improvements for this intersection include a southbound right-turn lane on Wimberly Road with 50 feet of storage and appropriate deceleration length and taper. The TIA does not recommend any additional improvements at this intersection.

Apex staff recommendations:

- Apex staff concur with the recommendation in the TIA. Based on the analysis, the minor street approaches will operate at LOS C or better during both A.M. and P.M. peak hours, during both scenarios. 95th percentile queues are not anticipated to exceed 75 feet on the southbound approach.

Please coordinate with the NCDOT District Engineer's Office concerning recommended improvements. Town staff will be available for meetings with NCDOT staff to discuss improvements on state maintained roadways as needed. All recommendations are subject to review by Town Council prior to approval.

Sincerely,



Serge Grebenschikov
Traffic Engineer
919-372-7448


Rezoning #21CZ09
Wimberly Rd
Meadowside Ct
The Preserve at White Oak Creek
White Oak Grove Way
Rambling Creek Rd
Sunnybranch Ln
Sunnybrook Farms
Caitlin Pond
Jenks Rd
Hutch Ln
Summit Crest St
Haybeck Ln
Townes at Westford
Adams Pond Ln
Riverneck Aly
Forge Village Way
Sunset Meadows Dr
Brookside Hill Aly
Patriot Summit Ln
Colemill Aly
Courting St
Fletcherstone Way
Westford Apartments
Lowell Rd
April 2021
January 2021 Aerial Photography
Prepared by Town of Apex Planning Department
0
250
500
Feet

PLANNED UNIT DEVELOPMENT APPLICATION

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Application #: 21CZ09 Submittal Date:

Fee Paid $ Check #

PETITION TO AMEND THE OFFICIAL ZONING DISTRICT MAP

Project Name: Alderwood

Address(es): 1533 Wimberly Rd, 8016 Jenks Rd, 8000 Jenks Rd, 7912 Jenks Rd

PIN(s) 0722687241, 0722780191, 0722784193, 0722788252

Acreage: 15.30 acres

Current Zoning: RR Proposed Zoning: PUD-CZ

Current 2045 LUM Designation: Mixed Use - High density, Office Employment, Commercial Services

Requested 2045 LUM Designation: Mixed Use - Medium/High Density, Office Employment, Commercial Services

See next page for LUM amendment

If any portion of the project is shown as mixed use (3 or more stripes on the 2045 Land Use Map) provide the following:

Area classified as mixed use: Acreage: 14.86

Area proposed as non-residential development: Acreage: 4.46ac

Percent of mixed use area proposed as non-residential: Percent: 30%

Applicant Information

Name: McAdams - Jessie Hardesty

Address: 2905 Meridian Pkwy

City: Durham State: NC Zip: 27701

Phone: 919-361-5000 E-mail: hardesty@mcadamsco.com

Owner Information

Name: See next sheet for list of owners.

Address:

City: State: Zip:

Phone: E-mail:

Agent Information

Name: Taylor Morrison - Mark Altman

Address: 15501 Weston Parkway Suite 100

City: Cary State: NC Zip: 27513

Phone: 984-269-4570 E-mail: maltman@taylormorrison.com

Other contacts:

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PROPERTY OWNERS

PIN	Owner	Address	City and State
722687241	HINESLEY, TRISHA S HINESLEY, RICHARD L	4070 RANEY WAY DR	STEM NC 27581-9651
722780191	KIRKPATRICK, TERESA L	591 BENT OAK TRL	CONCORD NC 28027-9715
722784193	LEWIS, CHARLES KENNETH LEWIS, FRANCES J	323 SCENIC MOUNTAIN DR	SPARTA NC 28675-9434
722788252	CLEARY, MICHAEL DUANE CLEARY, ALISON N	7912 JENKS RD	APEX NC 27523-7821

PLANNED UNIT DEVELOPMENT APPLICATION

Application #: 21CZ09 Submittal Date:

2045 LAND USE MAP AMENDMENT (if applicable)

The applicant does hereby respectfully request the Town Council amend the 2045 Land Use Map. In support of this request, the following facts are shown:

The area sought to be amended on the 2045 Land Use Map is located at:

The property is located on the northeast corner of Wimberly Rd and Jenks Rd with PINs 0722687241, 0722780191, 0722784193, and 0722788252.

Current 2045 Land Use Classification: Mixed Use - High density, Office Employment, Commercial Services

Proposed 2045 Land Use Classification: Mixed Use - Medium/High Density, Office Employment, Commercial Services

What conditions justify the passage of the amendment to the 2045 Land Use Map? Discuss the existing use classifications of the subject area in addition to the adjacent land use classifications.

A Future Land Use Map Amendment is requested for the residential element of the mixed use designation on the corner of Wimberly Rd and Jenks Rd. The 2045 Land Use Map calls for the residential density on the subject parcels to be high density, or over 14 dwelling units per acre. The request is to reduce this to a Medium/High Density, allowing 7 to 14 dwelling units per acre. This site has unique constraints including a gas easement cutting through the eastern portion of the property, utility easements fronting Jenks Rd, and wetlands located on site. When considering appropriate layout of non-residential and residential land and working with site constraints, achieving over 14 dwelling units per acres is not possible while also keeping with the character of the neighborhood and surrounding properties. As shown in the PUD plans and text, the vision of this development is a townhome community with walkable park space and office or retail uses.

CERTIFIED LIST OF NEIGHBORING PROPERTY OWNERS

Application #: 21CZ09 Submittal Date: April 1, 2021

Provide a certified list of property owners subject to this application and all property owners within 300' of the subject property and HOA Contacts.

	Owner's Name	PIN
1.	See attached list.	
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		

I, Jessie Hardesty, certify that this is an accurate listing of all property owners and property owners within 300' of the subject property.

Date: March 25, 2021 By: Jessie Hardesty

COUNTY OF WAKE STATE OF NORTH CAROLINA

Sworn and subscribed before me, Jessica L. Phair, a Notary Public for the above State and County, on this the 25th day of March, 20 21.

Jessica L. Phair
Notary Public

Jessica L. Phair
Print Name

SEAL

Wake County, North Carolina
Notary Public
Jessica L Phair
My Commission Expires 4/15/2024

My Commission Expires: 4/15/24

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PIN	Owner	Mail Address 1	Mail Address 2	Mail Address 3
722671588	TOWN OF APEX	PO BOX 250	APEX NC 27502-0250	
722673959	CICHOCKI, TERRY	8108 JENKS RD	APEX NC 27523-9423	
722675524	B9 MF VILLAGE WEST OWNER LLC	THE BLACKSTONE GROUP	345 PARK AVE FL 42	NEW YORK NY 10154-0039
722676386	B9 MF VILLAGE WEST OWNER LLC	THE BLACKSTONE GROUP	345 PARK AVE FL 42	NEW YORK NY 10154-0039
722676531	B9 MF VILLAGE WEST OWNER LLC	THE BLACKSTONE GROUP	345 PARK AVE FL 42	NEW YORK NY 10154-0039
722678501	B9 MF VILLAGE WEST OWNER LLC	THE BLACKSTONE GROUP	345 PARK AVE FL 42	NEW YORK NY 10154-0039
722679324	B9 MF VILLAGE WEST OWNER LLC	THE BLACKSTONE GROUP	345 PARK AVE FL 42	NEW YORK NY 10154-0039
722679693	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636	
722682430	OTTAWAY, DANNY L OTTAWAY, JOAN M	10401 CHAPEL HILL RD	MORRISVILLE NC 27560-8710	
722685645	KASIVISWANATHAN, MUTHURAMAN MUTHURAMAN LAKSHMANAN, YEGAMMAI	2629 RAMBLING CREEK RD	APEX NC 27523-7806	
722685672	POONIA, KAMALKUMAR KADIAN, MEENAKSHI	2625 RAMBLING CREEK RD	APEX NC 27523-7806	
722686479	SUTRADHAR, DIPAN SUTRADHAR, KANCHI	2613 RAMBLING CREEK RD	APEX NC 27523-7806	
722686508	PENMETSA, DILEEP KUMAR NADIMPALLI, ARUNA	2621 RAMBLING CREEK RD	APEX NC 27523-7806	
722686533	CHIGURUPATI, POOJA ALURI, VENKAT SUMAN	2617 RAMBLING CREEK RD	APEX NC 27523-7806	
722687241	HINESLEY, TRISHA S HINESLEY, RICHARD L	4070 RANEY WAY DR	STEM NC 27581-9651	
722687415	ARORA, VISHIT THAREJA, MEDHA	2609 RAMBLING CREEK RD	APEX NC 27523-7806	
722687473	NELAPATI, MADHUSUDHANARAO CHUNCHU, ASWINI	2605 RAMBLING CREEK RD	APEX NC 27523-7806	
722687656	XU, XIN LI, ZHE	2618 RAMBLING CREEK RD	APEX NC 27523-7806	
722687692	MISHRA, NEHA MISHRA, VAIBHAV	2610 RAMBLING CREEK RD	APEX NC 27523-7806	
722687701	JOHNEY, ANUP ANUP, ALLIJA	2624 RAMBLING CREEK RD	APEX NC 27523-7806	
722688433	PORE, DAMONT PORE, MICHELE	2601 RAMBLING CREEK RD	APEX NC 27523-7806	
722688549	SRIVASTAVA, SUJIT VIJAYKUMAR SRIVASTAVA, PRIYANKA SUJIT	2604 RAMBLING CREEK RD	APEX NC 27523-7806	
722689944	THE PRESERVE AT WHITE OAK CREEK HOMEOWNERS ASSOCIA	15501 WESTON PKWY STE 100	CARY NC 27513-8636	
722770483	BU, YIWEN LI, JIAN	96 MEADOW LARK LN	BELLE MEAD NJ 08502-4930	
722770519	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636	
722770526	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636	

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722770534	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722770541	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722770601	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722770695	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722771489	WALL, THOMAS A	800 PATRIOT SUMMIT LN	APEX NC 27523-6195
722771496	YUAN, REBECCA MU KUANG, JINGHUA	129 ANNABELLE BRANCH LN	APEX NC 27523-5825
722771624	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722772604	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722772635	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722772656	WINQVIST, DICK LENNART WINQVIST, JASMINA	954 HAYBECK LN	APEX NC 27523-6192
722772698	YANG, RACHEL JEASUK YANG, ANTHONY SEUNGBUM	952 HAYBECK LN	APEX NC 27523-6192
722772713	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722773502	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722773543	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722773564	HALL, THOMAS LEROY HALL, MAUREEN PATRICIA	949 HAYBECK LN	APEX NC 27523-6192
722773595	PARK, JAMES K PARK, MAENGHEE K	947 HAYBECK LN	APEX NC 27523-6192
722773629	HORWITZ, REGINALDO F HORWITZ, LINENETA P	948 HAYBECK LN	APEX NC 27523-6192
722773750	YUAN, YE SONG, YANG	946 HAYBECK LN	APEX NC 27523-6192
722773780	KATHURIA, NEERU KAKKAR, RAHUL	944 HAYBECK LN	APEX NC 27523-6192
722774525	ANDREWS, SAMUEL D	943 HAYBECK LN	APEX NC 27523-6192
722774556	WANG, JIAHONG ZHANG, YAN ISLAM, TAMIZ M TONMOY	219 ANNABELLE BRANCH LN	APEX NC 27523-5826
722774577	ZAMAN, TANZILA	939 HAYBECK LN	APEX NC 27523-6192
722774597	CUNNINGHAM, IAN M	937 HAYBECK LN	APEX NC 27523-6192
722774711	DUNPHY, KARA ANN	942 HAYBECK LN	APEX NC 27523-6192
722774752	SCHILD, MARC SCHILD, KIMBERLY	938 HAYBECK LN	APEX NC 27523-6192
722774783	SABRI, SHADI AL, SHAKA REEM	936 HAYBECK LN	APEX NC 27523-6192
722775528	CHAI, XIAOJUN ZHANG, LIYAN	935 HAYBECK LN	APEX NC 27523-6192
722775599	STIEGLER, LAUREN ALISE STIEGLER, CHERYL ANNE	931 HAYBECK LN	APEX NC 27523-6192
722775714	ARMSTRONG, LUCAS C ARMSTRONG, COLLEEN A	934 HAYBECK LN	APEX NC 27523-6192

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722775744	MURRAY, KRISTINA L MURRAY, BRYAN E L	932 HAYBECK LN	APEX NC 27523-6192
722775785	TAITINGFONG, VINCENT C TAITINGFONG, YON SIM	928 HAYBECK LN	APEX NC 27523-6192
722776620	SURSWARI, SREELAXMI	929 HAYBECK LN	APEX NC 27523-6192
722776651	FREEMAN, ELIZABETH MORAN	927 HAYBECK LN	APEX NC 27523-6192
722776681	SRIPATHI, RESHMA	925 HAYBECK LN	APEX NC 27523-6192
722776726	KUNIYUR NALLAPERUMAL, SENTHIL KUMAR PARAMASIVAN, LAKSHMI	926 HAYBECK LN	APEX NC 27523-6192
722776747	LOMBARDO, PETER MORALES, EVA	924 HAYBECK LN	APEX NC 27523-6192
722776778	WASHINGTON, PENELLA MOTEN	922 HAYBECK LN	APEX NC 27523-6192
722777612	COWHEY, TERRENCE JOHN COWHEY, PATRICIA	923 HAYBECK LN	APEX NC 27523-6192
722777653	GOPALSAMY, BALAJI SRINIVASAN, BRUNDHA	919 HAYBECK LN	APEX NC 27523-6192
722777684	WILLIAM, LAWRENCE SEBASTIAN LOUIS LEO, SELVI JOSEPH	917 HAYBECK LN	APEX NC 27523-6192
722777719	COTTERILL, PETER CHARLES COTTERILL, LYNN ANNE	918 HAYBECK LN	APEX NC 27523-6192
722777838	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722777840	PATHAN, JANI KHAN	916 HAYBECK LN	APEX NC 27523-6192
722777870	PELLOWITZ, DAVID M	914 HAYBECK LN	APEX NC 27523-6192
722778604	FARMAH, LALIT	915 HAYBECK LN	APEX NC 27523-6192
722778645	MANIMOZHI, RAJENDRA BABU MARAPPAN, MOHANA PRIYA	913 HAYBECK LN	APEX NC 27523-6192
722778686	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722778801	BALI, PRABHAT BALI, HARPREET	912 HAYBECK LN	APEX NC 27523-6192
722778842	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722778873	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722778895	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722779617	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722779648	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722779669	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722779837	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722780191	KIRKPATRICK, TERESA L	591 BENT OAK TRL	CONCORD NC 28027-9715
722780424	SCHNEYDER, CAROLINE JOSEPHINE	2581 RAMBLING CREEK RD	APEX NC 27523-7805
722780464	RUSSELL, JUDY ROSEMARIE	2579 RAMBLING CREEK RD	APEX NC 27523-7805

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722780494	JAIN, ABHISHEK PARAKH, SHRADDHA SUNIL	2577 RAMBLING CREEK RD	APEX NC 27523-7805
722780579	CAIRA, RICHARD JOSEPH JR CAIRA, MELISSA B	2578 RAMBLING CREEK RD	APEX NC 27523-7805
722781424	BOOTES, RICHARD WAYNE	2575 RAMBLING CREEK RD	APEX NC 27523-7805
722781454	SEVER, MICHELLE LYNN	2573 RAMBLING CREEK RD	APEX NC 27523-7805
722781484	DONAHUE, WILLIAM M DONAHUE, AUDREY A	2571 RAMBLING CREEK RD	APEX NC 27523-7805
722781519	SAXENA, MANOJ SAXENA, SHIVANI	2576 RAMBLING CREEK RD	APEX NC 27523-7805
722781549	LITTLE, BENJAMIN LITTLE, REBECCA	2574 RAMBLING CREEK RD	APEX NC 27523-7805
722781579	PAYNE, ROBERT S III	2572 RAMBLING CREEK RD	APEX NC 27523-7805
722782404	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722782424	PINO, HECTOR F PINO, ANA M	371 LONG MILLGATE RD	MORRISVILLE NC 27560-8615
722782444	PUNURU, VANI VARADHARAJ, SATHYA	1116 RIGGINS MILL RD	CARY NC 27519-8118
722782474	AMUNDSEN, MARY	2563 RAMBLING CREEK RD	APEX NC 27523-7805
722782495	PATEL, PARVEEN PATEL, IMRAN	129 BEGEN ST	MORRISVILLE NC 27560-9768
722782519	FLECHSIG, BRADLEY D FLECHSIG, KRISTIN P	2566 RAMBLING CREEK RD	APEX NC 27523-7805
722782559	KOHL, DANIEL WILLIAM KOHL, TIFFANY ROBYN	2564 RAMBLING CREEK RD	APEX NC 27523-7805
722782680	LENT, JENNIFER EILEEN	2562 RAMBLING CREEK RD	APEX NC 27523-7805
722783415	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722783435	VEMULAPALLI, MADHAVI KODALI, PRASHANT	420 HILLIARD FOREST DR	CARY NC 27519-8209
722783455	BANGALORE, RAJESH NARASIMHAMURTHY TRUSTEE RAMAMURTHY, DIVYA TRUSTEE	106 PIEDMONT RD	MILPITAS CA 95035-6153
722783485	GUO, ZHIHONG	201 MYSTIC PINE PL	APEX NC 27539-7800
722784193	LEWIS, CHARLES KENNETH LEWIS, FRANCES J	323 SCENIC MOUNTAIN DR	SPARTA NC 28675-9434
722784405	PAREKH, GEET PAREKH, SUCHI	2551 RAMBLING CREEK RD	APEX NC 27523-7805
722785679	FENG, DAN	2528 RAMBLING CREEK RD	APEX NC 27523-7805
722785873	THE PRESERVE AT WHITE OAK CREEK HOMEOWNERS ASSOCIA	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722786690	BRAY, TONY BRAY, SHARON	2551 SUNNYBRANCH LN	APEX NC 27523-7804
722786700	KAZA, SAI SWAMY SUNIL KUMAR VADDADI, VIJAYA KOMALA	2526 RAMBLING CREEK RD	APEX NC 27523-7805
722786722	RAMANATHAN, HARISH NARENDRAN, AHILA	2524 RAMBLING CREEK RD	APEX NC 27523-7805

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722786753	SHARPE, CANDACE DIANE SHARPE, STEVEN JAMAL	2522 RAMBLING CREEK RD	APEX NC 27523-7805
722787527	SCHWEND, BLANCHE M SCHWEND, THOMAS H	2549 SUNNYBRANCH LN	APEX NC 27523-7804
722787556	BLESSINGER, JEFF S BLESSINGER, PAMELA KAY	2547 SUNNYBRANCH LN	APEX NC 27523-7804
722787574	CREWS, MARK L CREWS, CYNTHIA E	2545 SUNNYBRANCH LN	APEX NC 27523-7804
722787592	PASIMUTHU, JAYAKHANNA CHOCKALINGAM, SHANMUGAPRIYA	2543 SUNNYBRANCH LN	APEX NC 27523-7804
722788252	CLEARY, MICHAEL DUANE CLEARY, ALISON N	7912 JENKS RD	APEX NC 27523-7821
722788467	BARRETT, PAUL	2537 SUNNYBRANCH LN	APEX NC 27523-7804
722788486	SAMUDRA, SAMEER GOKHALE, AMIT UMAKANT	2535 SUNNYBRANCH LN	APEX NC 27523-7804
722788520	RAILTON, DEBORAH L LITTLEFIELD, THOMAS A	2541 SUNNYBRANCH LN	APEX NC 27523-7804
722788628	MAYSONET, MARIBEL SANTIAGO	2550 SUNNYBRANCH LN	APEX NC 27523-7804
722788656	SING, JAMIE HUSTACE, JESSICA	2548 SUNNYBRANCH LN	APEX NC 27523-7804
722788665	HOU, JIE	2546 SUNNYBRANCH LN	APEX NC 27523-7804
722788684	BIYYAM, YOGANAND RAGIREDDY, KEERTHI	1249 STOWAGE DR	CARY NC 27519-8909
722789406	LING, LEI	PO BOX 319	MORRISVILLE NC 27560-0319
722789436	SHI, JING SHI, KARL	200 CHATEAU PL	CHAPEL HILL NC 27516-8767
722789456	SHENG, WANQING TIAN, YUAN	PO BOX 319	MORRISVILLE NC 27560-0319
722789476	PANG, LIJUN LIU, LIWU	2527 SUNNYBRANCH LN	APEX NC 27523-7804
722789602	ZHAO, MINGYUE LIN, CHEN	1032 HOLLAND BEND DR	CARY NC 27519-8215
722789670	VAIDYALINGAM, KARTHIKEYAN DAS, RASHMITA	2518 SUNNYBRANCH LN	APEX NC 27523-7804
722789678	THE PRESERVE AT WHITE OAK CREEK HOMEOWNERS ASSOCIA	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722789712	DHOOM DHADAKA LLC	9117 PALM BAY CIR	RALEIGH NC 27617-7777
722789744	REN, LEI SUN, JIA	1708 COLLEEN CIR	CARY NC 27519-6680
722870700	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722870798	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722870924	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722870956	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722870978	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722871832	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636

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722871854	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722871876	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722872709	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722872808	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722873947	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY	CARY NC 27513-8636
722873973	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY	CARY NC 27513-8636
722875660	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY	CARY NC 27513-8636
722880023	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722880416	MUDEMALA, NARESH KUMAR REDDY GANGAVARAM, VENKATA	2523 SUNNYBRANCH LN	APEX NC 27523-7804
722880436	RAMAIYAN, VENKATESHKUMAR POONGAVANAME, THAMIZHARASI SELVAME	1381 COZY OAK AVE	CARY NC 27519-8904
722880456	CASCIOLI, MARGARET A. TRUSTEE CASCIOLI PROTECTION TRUST	2519 SUNNYBRANCH LN	APEX NC 27523-7804
722880487	GAUTAM, DEEPALI GAUTAM, NITIN	2517 SUNNYBRANCH LN	APEX NC 27523-7804
722880611	NIALS, MARSHA NICOLE REEVES, SHEILA A	2516 SUNNYBRANCH LN	APEX NC 27523-7804
722880632	WILBORN, LACHELLE RACHEL	2514 SUNNYBRANCH LN	APEX NC 27523-7804
722880663	FAN, ZHUORAN QU, RAN	2512 SUNNYBRANCH LN	APEX NC 27523-7804
722881000	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722881407	SHARMA, PRIYANKA SHARMA, TARUN	2515 SUNNYBRANCH LN	APEX NC 27523-7804
722881459	PAUDEL, BASU DEV PAUDEL, ANJANA DHAKAL	2509 SUNNYBRANCH LN	APEX NC 27523-7804
722881561	CHEN, XUE MEI	2507 SUNNYBRANCH LN	APEX NC 27523-7804
722881582	FRANKLIN, DANA FRANKLIN, ROBIN	2505 SUNNYBRANCH LN	APEX NC 27523-7804
722881604	DWORKIN, JEFFREY J DWORKIN, GAYLE ANN	2510 SUNNYBRANCH LN	APEX NC 27523-7804
722882120	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY	CARY NC 27513-8636
722882127	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY	CARY NC 27513-8636
722882163	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY	CARY NC 27513-8636
722882196	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY	CARY NC 27513-8636
722882455	THE PRESERVE AT WHITE OAK CREEK HOMEOWNERS ASSOCIA	15501 WESTON PKWY STE 100	CARY NC 27513-8636

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722882504	KUMAR, ASHOK VERMA, ROME	261 SEYMOUR PL	CARY NC 27519-6462
722882526	FORD, BRITTANY M	2501 SUNNYBRANCH LN	APEX NC 27523-7804
722883011	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY	CARY NC 27513-8636
722883230	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY	CARY NC 27513-8636
722883263	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY	CARY NC 27513-8636
722883808	THE PRESERVE AT WHITE OAK CREEK HOMEOWNERS ASSOCIA	15501 WESTON PKWY STE 100	CARY NC 27513-8636
722884037	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY	CARY NC 27513-8636
722884171	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY	CARY NC 27513-8636
722884196	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY	CARY NC 27513-8636
722885211	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY	CARY NC 27513-8636
722885217	TAYLOR MORRISON OF CAROLINAS INC	15501 WESTON PKWY	CARY NC 27513-8636
722886419	HOBBS, RONALD SCOTT HOBBS, JANET H	201 TRELAWNEY LN	CARY NC 27519-8924

DEVELOPMENT NAME APPROVAL APPLICATION

Application #: 21CZ09 Submittal Date:

Fee for Initial Submittal: No Charge Fee for Name Change after Approval: $500*

Purpose

To provide a consistent and clearly stated procedure for the naming of subdivisions and/or developments and entrance roadways (in conjunction with *Town of Apex Address Policy*) so as to allow developers to define and associate the theme or aesthetics of their project(s) while maintaining the Town's commitment to preserving the quality of life and safety for all residents of Apex proper and extraterritorial jurisdiction.

Guidelines

- ✓ The subdivision/development name shall not duplicate, resemble, or present confusion with an existing subdivision/development within Apex corporate limits or extraterritorial jurisdiction except for the extension of an existing subdivision/development of similar or same name that shares a continuous roadway.
- ✓ The subdivision/development name shall not resemble an existing street name within Apex corporate limits or extraterritorial jurisdiction unless the roadway is a part of the subdivision/development or provides access to the main entrance.
- ✓ The entrance roadway of a proposed subdivision/development shall contain the name of the subdivision/development where this name does not conflict with the Town of Apex *Road Name Approval Application* and *Town of Apex Address Policy* guidelines.
- ✓ The name "Apex" shall be excluded from any new subdivision/development name.
- ✓ Descriptive words that are commonly used by existing developments will be scrutinized more seriously in order to limit confusion and encourage distinctiveness. A list of commonly used descriptive words in Apex's jurisdiction is found below.
- ✓ The proposed subdivision/development name must be requested, reviewed and approved during preliminary review by the Town.
- ✓ A $500.00 fee will be assessed to the developer if a subdivision/development name change is requested after official submittal of the project to the Town.*

*The imposed fee offsets the cost of administrative changes required to alleviate any confusion for the applicant, Planning staff, other Town departments, decision-making bodies, concerned utility companies and other interested parties. There is no charge for the initial name submittal.

Existing Development Titles, Recurring

	Residential	Non-Residential
10 or more	Creek, Farm(s), Village(s),	Center/Centre
6 to 9	Crossing(s), Park, Ridge, Wood(s)	Commons, Park
3 to 5	Acres, Estates, Glen(s), Green•, Hills	Crossing(s), Plaza, Station, Village(s)

•excludes names with Green Level

DEVELOPMENT NAME APPROVAL APPLICATION

Application #: 21CZ09 Submittal Date:

Proposed Subdivision/Development Information

Description of location: 1533 Wimberly Rd

Nearest intersecting roads: Wimberly Rd and Jenks Rd

Wake County PIN(s): 0722687241, 0722780191, 0722784193, 0722788252

Township: White Oak

Contact Information (as appropriate)

Contact person: Mark Altman

Phone number: 984-269-4570 Fax number:

Address: 15501 Weston Pkwy Suite 100

E-mail address: maltman@taylormorrison.com

Owner: Owner information listed earlier in application (4 owners).

Phone number: Fax number:

Address:

E-mail address:

Proposed Subdivision/Development Name

1st Choice: Alderwood

2nd Choice *(Optional)*:

Town of Apex Staff Approval:

Town of Apex Planning Department Staff Date

TOWN OF APEX UTILITIES OFFER AND AGREEMENT

Application #: 21CZ09 Submittal Date: _____

Town of Apex
73 Hunter Street
P.O. Box 250 Apex, NC 27502
919-249-3400
WAKE COUNTY, NORTH CAROLINA CUSTOMER SELECTION AGREEMENT

The Retreat at The Preserve at White Oak

_____

(the "Premises")

The Town of Apex offers to provide you with electric utilities on the terms described in this Offer & Agreement. If you accept the Town's offer, please fill in the blanks on this form and sign and we will have an Agreement once signed by the Town.

Taylor Morrison, the undersigned customer ("Customer") hereby irrevocably chooses and selects the Town of Apex (the "Town") as the permanent electric supplier for the Premises. Permanent service to the Premises will be preceded by temporary service if needed.

The sale, delivery, and use of electric power by Customer at the Premises shall be subject to, and in accordance with, all the terms and conditions of the Town's service regulations, policies, procedures and the Code of Ordinances of the Town.

Customer understands that the Town, based upon this Agreement, will take action and expend funds to provide the requested service. By signing this Agreement the undersigned signifies that he or she has the authority to select the electric service provider, for both permanent and temporary power, for the Premises identified above.

Any additional terms and conditions to this Agreement are attached as Appendix 1. If no appendix is attached this Agreement constitutes the entire agreement of the parties.

Acceptance of this Agreement by the Town constitutes a binding contract to purchase and sell electric power.

Please note that under North Carolina General Statute §160A-332, you may be entitled to choose another electric supplier for the Premises.

Upon acceptance of this Agreement, the Town of Apex Electric Utilities Division will be pleased to provide electric service to the Premises and looks forward to working with you and the owner(s).

ACCEPTED:

CUSTOMER: Taylor Morrison of Carolinas, Inc

BY: Mark Ahman
Authorized Agent

DATE: 3-25-21

TOWN OF APEX

BY: _____
Authorized Agent

DATE: _____

AGENT AUTHORIZATION FORM

Application #: 21CZ09 Submittal Date: _____

MICHAEL DUANE CLEARY & ALISON N CLEARY is the owner* of the property for which the attached application is being submitted:

- ☑ Land Use Amendment
- ☑ Rezoning: For Conditional Zoning and Planned Development rezoning applications, this authorization includes express consent to zoning conditions that are agreed to by the Agent which will apply if the application is approved.
- ☑ Site Plan
- ☑ Subdivision
- ☐ Variance
- ☐ Other: _____

The property address is: 7912 JENKS RD

The agent for this project is: Taylor Morrison

☐ I am the owner of the property and will be acting as my own agent

Agent Name: Mark Altman

Address: 15501 Weston Parkway Suite 100

Telephone Number: 984-269-4570

E-Mail Address: maltman@taylormorrison.com

Signature(s) of Owner(s)*

Michael D. Cleary

Michael D. Cleary — Type or print name — 3/29/21 — Date

Alison N. Cleary

Alison N. Cleary — Type or print name — 3/29/21 — Date

Attach additional sheets if there are additional owners.

*Owner of record as shown on the latest equalized assessment rolls of Wake County. An option to purchase does not constitute ownership. If ownership has been recently transferred, a copy of the deed must accompany this authorization.

Pursuant to Article 40 of Chapter 66 of the North Carolina General Statutes (the Uniform Electronic Transactions Act) this application and all documents related hereto containing an electronic or digitized signature are legally binding in the same manner as are hard copy documents executed by hand signature. The parties hereby consent to use electronic or digitized signatures in accordance with the Town's Electronic Signature Policy and intend to be bound by the application and any related documents. If electronic signatures are used the application shall be delivered in an electronic record capable of retention by the recipient at the time of receipt.

AGENT AUTHORIZATION FORM

Application #: 21CZ09 Submittal Date: _____

TRISHA S HINESLEY & RICHARD L HINESLEY is the owner* of the property for which the attached application is being submitted:

- ☑ Land Use Amendment
- ☑ Rezoning: For Conditional Zoning and Planned Development rezoning applications, this authorization includes express consent to zoning conditions that are agreed to by the Agent which will apply if the application is approved.
- ☑ Site Plan
- ☑ Subdivision
- ☐ Variance
- ☐ Other: _____

The property address is: 1533 WIMBERLY RD

The agent for this project is: Taylor Morrison

☐ I am the owner of the property and will be acting as my own agent

Agent Name: Mark Altman

Address: 15501 Weston Parkway Suite 100

Telephone Number: 984-269-4570

E-Mail Address: maltman@taylormorrison.com

Signature(s) of Owner(s)*

Trisha S. Hinesley

TRisha S. Hinesley — Type or print name — 3/29/21 — Date

Richard L Hinesley

Richard L Hinesley — Type or print name — 3-29-21 — Date

Attach additional sheets if there are additional owners.

*Owner of record as shown on the latest equalized assessment rolls of Wake County. An option to purchase does not constitute ownership. If ownership has been recently transferred, a copy of the deed must accompany this authorization.

Pursuant to Article 40 of Chapter 66 of the North Carolina General Statutes (the Uniform Electronic Transactions Act) this application and all documents related hereto containing an electronic or digitized signature are legally binding in the same manner as are hard copy documents executed by hand signature. The parties hereby consent to use electronic or digitized signatures in accordance with the Town's Electronic Signature Policy and intend to be bound by the application and any related documents. If electronic signatures are used the application shall be delivered in an electronic record capable of retention by the recipient at the time of receipt.

AGENT AUTHORIZATION FORM

Application #: 21CZ09 Submittal Date: _____

TERESA L KIRKPATRICK is the owner* of the property for which the attached application is being submitted:

- ☑ Land Use Amendment
- ☑ Rezoning: For Conditional Zoning and Planned Development rezoning applications, this authorization includes express consent to zoning conditions that are agreed to by the Agent which will apply if the application is approved.
- ☑ Site Plan
- ☑ Subdivision
- ☐ Variance
- ☐ Other: _____

The property address is: 8016 JENKS RD

The agent for this project is: Taylor Morrison

☐ I am the owner of the property and will be acting as my own agent

Agent Name: Mark Altman

Address: 15501 Weston Parkway Suite 100

Telephone Number: 984-269-4570

E-Mail Address: maltman@taylormorrison.com

Signature(s) of Owner(s)*

Teresa L Kirkpatrick (Costner)

Teresa Costner 3/29/21

Type or print name Date

_____

_____ _____

Type or print name Date

Attach additional sheets if there are additional owners.

*Owner of record as shown on the latest equalized assessment rolls of Wake County. An option to purchase does not constitute ownership. If ownership has been recently transferred, a copy of the deed must accompany this authorization.

Pursuant to Article 40 of Chapter 66 of the North Carolina General Statutes (the Uniform Electronic Transactions Act) this application and all documents related hereto containing an electronic or digitized signature are legally binding in the same manner as are hard copy documents executed by hand signature. The parties hereby consent to use electronic or digitized signatures in accordance with the Town's Electronic Signature Policy and intend to be bound by the application and any related documents. If electronic signatures are used the application shall be delivered in an electronic record capable of retention by the recipient at the time of receipt.

AGENT AUTHORIZATION FORM

Application #: 21CZ09 Submittal Date: _____

CHARLES KENNETH LEWIS & FRANCES J LEWIS is the owner* of the property for which the attached application is being submitted:

- ☑ Land Use Amendment
- ☑ Rezoning: For Conditional Zoning and Planned Development rezoning applications, this authorization includes express consent to zoning conditions that are agreed to by the Agent which will apply if the application is approved.
- ☑ Site Plan
- ☑ Subdivision
- ☐ Variance
- ☐ Other: _____

The property address is: 8000 JENKS RD

The agent for this project is: Taylor Morrison

☐ I am the owner of the property and will be acting as my own agent

Agent Name: Mark Altman

Address: 15501 Weston Parkway Suite 100

Telephone Number: 984-269-4570

E-Mail Address: maltman@taylormorrison.com

Signature(s) of Owner(s)*

Charles Kenneth Lewis

CHARLES KENNETH LEWIS — Type or print name — 3/29/21 — Date

Frances J. Lewis

FRANCES J. LEWIS — Type or print name — 3/29/21 — Date

Attach additional sheets if there are additional owners.

*Owner of record as shown on the latest equalized assessment rolls of Wake County. An option to purchase does not constitute ownership. If ownership has been recently transferred, a copy of the deed must accompany this authorization.

Pursuant to Article 40 of Chapter 66 of the North Carolina General Statutes (the Uniform Electronic Transactions Act) this application and all documents related hereto containing an electronic or digitized signature are legally binding in the same manner as are hard copy documents executed by hand signature. The parties hereby consent to use electronic or digitized signatures in accordance with the Town's Electronic Signature Policy and intend to be bound by the application and any related documents. If electronic signatures are used the application shall be delivered in an electronic record capable of retention by the recipient at the time of receipt.

AFFIDAVIT OF OWNERSHIP

Application #: 21CZ09 Submittal Date: _____

The undersigned, Mark A Itman (the "Affiant") first being duly sworn, hereby swears or affirms as follows:

1. Affiant is over eighteen (18) years of age and authorized to make this Affidavit. The Affiant is the sole owner, or is the authorized agent of all owners, of the property located at Wimberly Rd and Jenks Rd and legally described in **Exhibit "A"** attached hereto and incorporated herein (the "Property").

2. This Affidavit of Ownership is made for the purpose of filing an application for development approval with the Town of Apex.

3. If Affiant is the owner of the Property, Affiant acquired ownership by deed, dated _____, and recorded in the Wake County Register of Deeds Office on _____, in Book _____ Page _____.

4. If Affiant is the authorized agent of the owner(s) of the Property, Affiant possesses documentation indicating the agency relationship granting the Affiant the authority to apply for development approval on behalf of the owner(s).

5. If Affiant is the owner of the Property, from the time Affiant was deeded the Property on _____, Affiant has claimed sole ownership of the Property. Affiant or Affiant's predecessors in interest have been in sole and undisturbed possession and use of the property during the period of ownership. Since taking possession of the Property on _____, no one has questioned Affiant's ownership or right to possession nor demanded any rents or profits. To Affiant's knowledge, no claim or action has been brought against Affiant (if Affiant is the owner), or against owner(s) (if Affiant is acting as an authorized agent for owner(s)), which questions title or right to possession of the property, nor is any claim or action pending against Affiant or owner(s) in court regarding possession of the Property.

This the 25th day of March, 2021.

_____ (seal)

Mark Altman; Land Development Director

Type or print name

STATE OF NORTH CAROLINA
COUNTY OF Wake

I, the undersigned, a Notary Public in and for the County of Wake, hereby certify that Mark Altman, Affiant, personally known to me or known to me by said Affiant's presentation of said Affiant's _____, personally appeared before me this day and acknowledged the due and voluntary execution of the foregoing Affidavit.

PAMELA O. EPPS NOTARY PUBLIC WAKE COUNTY, NC My Commission Expires 02-27-23 [NOTARY SEAL]

Pamela O Epps

Notary Public
State of North Carolina
My Commission Expires: 2-27-23

AFFIDAVIT OF OWNERSHIP: EXHIBIT A – LEGAL DESCRIPTION

Application #: 21CZ09 Submittal Date:

Insert legal description below.

See attachment (next page).

21CZ09

LEGAL DESCRIPTION

TRACT 1 (LOT1) - 0722780191

BEGINNING AT A POIITT LOCATED ON THE EASTERN RIGHT-OF-WAY LINE OF WIMBERLY ROAD N.C.S.R. 1603 AND ALSO BEING THE SOUTHEASTERN PROPERTY CORNER OF TRACT 8A AS RECORDED IN BOOK OF MAPS 1987, PAGE 1291, WAKE COUNTY REGISTRY; THENCE LEAVING SAID RIGHT-OF-WAY NORTH 00°11'29" WEST A DISTANCE OF 537.66 FEET TO AN EXISTING IRON PIPE LOCATED ON THE SOUTHERN PROPERTY LINE OF TAYLOR MORRISON OF CAROLINAS, LLC AS RECORDED IN BOOK OF MAPS 2019, PAGE 62, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID SOUTHERN PROPERTY LINE NORTH 87°57'45' EAST A DISTANCE OF 563.89 FEET TO AN EXISTING IRON PIPE LOCATED ON THE NORTHWESTERN PROPERTY CORNER OF LOT 2 AS RECORDED IN BOOK OF MAP 1987, PAGE 104.5 WAKE COUNTY REGISTRY; THENCE ALONG ANO WITH SAID WESTERN PROPERTY LINE SOUTH 13°40'47' WEST A DISTANCE OF 519.22 FEET TO A POINT LOCATED ON THE NORTHERN RIGHT-OF-WAY LINE OF JENKS ROAD N.C.S.R. 1601; THENCE ALONG AND WITH SAID RIGHT-OF-WAY SOUTH 75"40'29" WEST A DISTANCE OF 420.00 FEET TO A POINT LOCATED ON THE EASTERN RIGHT-OF-WAY LINE WIMBERLY ROAD N.C.S.R. 1603; THENCE ALONG AND WITH SAID RIGHT-OF-WAY NORTH 32"15'40"WEST A DISTANCE OF 59.96 FEET THE POINT OF BEGINNING, CONTAINING 6.2201 ACRES.

TRACT 2 (LOT2) - 0722784193

BEGINNING AT A POI ITT LOCATED ON THE NORTHERN RIGHT-OF-WAY LINE OF JENKS ROAD N.C.S.R. 1601 AND ALSO BEING THE SOUTHEASTERN PROPERTY CORNER OF LOT 1 AS RECORDED IN BOOK OF MAPS 1987, PAGE 1048, WAKE COUNTY REGISTRY; THENCE LEAVING SAID RIGHT-OF-WAY NORTH 13"40'47" EAST A DISTANCE OF 519.22 FEET TO AN EXISTING IRON PIPE LOCATED ON THE SOIJTHERN PROPERTY LINE OF TAYLOR MORRISON OF CAROLINAS, LLC AS RECORDED IN BOOK OF MAPS 2019, PAGE 62, WAKE COUNTY REGISTRY; THENCE ALONG AND WITI-I SAID SOUTHERN PROPERTY LINE NORTH 87°55'55' EAST A DISTANCE OF 261.89 FEET TO AN EXISTING IRON PIPE LOCATED ON THE NORTHWESTERN PROPERTY CORNER OF LOT 3 AS RECORDED IN BOOK OF MAP 1987, PAGE 104.5 WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID WESTERN PROPERTY LINE SOUTH 06°14'23" EAST A DISTANCE OF 406.87 FEET TO A POINT LOCATED ON TI-IE NORTHERN RIGHT-OF-WAY LINE OF JENKS ROAD N.C.S.R. 1601; THENCE ALONG AND WITH SAID RIGHT-OF-WAY SOUTH 75°40'29" WEST A DISTANCE OF 442.49 FEET THE POINT OF BEGINNING, CONTAINING 3.5482 ACRES.

TRACT 3 (LOT3) - 0722788252

BEGINNING AT A POIITT LOCATED ON THE NORTHERN RIGHT-OF-WAY LINE OF JENKS ROAD N.C.S.R. 1601 AND ALSO BEING THE SOUTHEASTERN PROPERTY CORNER OF LOT2AS RECORDED IN BOOK OF MAPS 1987, PAGE 1048, WAKE COUNTY REGISTRY; THENCE LEAVING SAID RIGHT-OF-WAY NORTH 06"14'87" WEST A DISTANCE OF 406.87 FEET TO AN EXISTING IRON PIPE LOCATED ON THE SOUTHERN PROPERTY LINE OF TAYLOR MORRISON OF CAROLINAS, LLC AS RECORDED IN BOOK OF MAPS 2019, PAGE 62, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID SOUTHERN PROPERTY LINE NORTH 87°59'37" EAST A DISTANCE OF 544.19 FEET TO AN EXISTING IRON PIPE LOCATED ON THE NORTHWESTERN PROPERTY CORNER OF TAYLOR MORRISON OF CAROLINAS, LIC AS RECORDED IN BOOK OF MAPS 2017, PAGE 183, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID WESTERN PROPERTY LINE SOUTH 01 "37'53" EAST A DISTANCE OF 61,09 FEET TO A POINT LOCATED ON THE NORTHERN RIGHT-OF-WAY LINE OF JENKS ROAD

N.C.S.R 1601; THENCE ALONG AND WITH SAID RIGHT-OF-WAY SOUTH 37°26'17"WEST A DISTANCE OF 57,99 FEET THE POINT; THENCE SOUTH 38"20'35" WEST A DISTANCE OF 51.98 FEET THE POINT; THENCE SOUTH 40"23'52" WEST A DISTANCE OF 52.61 FEET THE POINT; THENCE SOUTH 45°23'52' WEST A DISTANCE OF 50.80 FEET A POINT; THENCE SOUTH 50°36'52" WEST A DISTANCE OF 51.72 FEET A POINT; THENCE SOUTH 54°31'47' WEST A DISTANCE OF 56.84 FEET A POINT; THENCE SOUTH 56"57'00' WEST A DISTANCE OF 50.16 FEET A POINT; THENCE SOUTH 58°50'33" WEST A DISTANCE OF 53.70 FEET A POINT; THENCE SOUTH 61°32'10" WEST A DISTANCE OF 54.37 FEET A POINT; THENCE SOUTH 65°47'22'' WEST A DISTANCE OF 52.80 FEET A POINT; THENCE SOUTH 69°41'04" WEST A DISTANCE OF 53.91 FEET A POINT; THENCE SOUTl-173°31'36' WEST A DISTANCE OF 44.67 FEET THE POINT OF BEGINNING, CONTAINING 3.4109 ACRES.

TRACT 4 (TRACT 8A) - 0722687241

BEGINNING AT A POI ITT LOCATED ON THE EA.STERN RIGHT-OF-WAY LINE OF WIMBERLY ROAD N.C.S.R. 1603 AND ALSO BEING THE SOUTHWESTERN PROPERTY CORNER OF LOT 1 AS RECORDED IN BOOK OF MAPS 1987, PAGE 1048, WAKE COUNTY REGISTRY; THENCE LEAVING SAID RIGHT-OF-WAY SOUTH 00°11'29" EAST A DISTANCE OF 61.82 FEET TO A POIITT LOCATED ON THE CENTERLINE OF WIMBERLY ROAD N.C.S.R. 1603; THENCE ALONG AND WITH SAID CENTERLINE NORTH 32"01'55"WEST A DISTANCE OF 51.05 FEET TO A POINT; THENCE NORTH 32"01'55' WEST A DISTANCE OF 179.43 FEET TO A POINT; THENCE NORTH 22"06'24' WEST A DISTANCE OF 425.44 FEET TO A POINT; THENCE LEAVING SAID CENTERLINE NORTH 87"59'52" EAST A DISTANCE OF 32.91 FEET TO A POINT LOCATED ON THE EASTERN RIGHT-OF-WAY LINE OF WIMBERLY ROAD N.C.S.R. 1603, AND THE SOUTHWESTERN PROPERTY CORNER TAYLOR MORRISON OF CAROLINAS, LLC AS RECORDED IN BOOK OF MAPS 2019, PAGE 62, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID SOUTHERN PROPERTY LINE NORTH 87°58"10" EAST A DISTANCE OF 247.61 FEET TO AN EXISTING IRON PIPE LOCATED ON THE NORTHWESTERN PROPERTY CORNER OF LOT 1 AS RECORDED IN BOOK OF MAPS 1987, PAGE 1048, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID WESTERN PROPERTY LINE SOUTH 00°11'29' EAST A DISTANCE OF 537.66 FEET THE POI ITT OF BEGINNING, CONTAINING 2.1233 ACRES.

NOTICE OF ELECTRONIC NEIGHBORHOOD MEETING

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

3/10/2021
Date

Dear Neighbor:
You are invited to an electronic neighborhood meeting to review and discuss the development proposal at

8016 Jenks Rd
Address(es)

0722687241, 0722780191, 0722784193, 0722788252
PIN(s)

in accordance with the Town of Apex Electronic Neighborhood Meeting procedures. This meeting is intended to be a way for the applicant to discuss the project and review the proposed plans with adjacent neighbors and neighborhood organizations before the submittal of an application to the Town. This provides neighbors an opportunity to raise questions and discuss any concerns about the impacts of the project before it is officially submitted. If you are unable to attend, you may contact the applicant before or after the meeting is held. Once an application has been submitted to the Town, it may be tracked using the Interactive Development Map or the Apex Development Report located on the Town of Apex website at www.apexnc.org. If at all feasible given emergency declarations, limits on in-person gatherings, and social distancing, an additional in-person Neighborhood Meeting may be scheduled and held prior to a public hearing or staff decision on the application.

An Electronic Neighborhood Meeting is required because this project includes (check all that apply):

	Application Type	Approving Authority
☒	Rezoning (including Planned Unit Development)	Town Council
☐	Major Site Plan	Town Council (QJPH*)
☐	Special Use Permit	Town Council (QJPH*)
☐	Residential Master Subdivision Plan (excludes exempt subdivisions)	Technical Review Committee (staff)

*Quasi-Judicial Public Hearing: The Town Council cannot discuss the project prior to the public hearing.

The following is a description of the proposal (also see attached map(s) and/or plan sheet(s)):
The proposed development is a mixed-use property including townhomes, non-residentail uses, and park space.
A conceptual site plan is included with this mailing.

Estimated submittal date: April 1, 2021

MEETING INFORMATION:	
Property Owner(s) name(s):	Trisha and Richard Hinesley, Teresa Kirkpatrick, Charles and Frances Lewis, Michael and Alison Cleary
Applicant(s):	McAdams
Contact information (email/phone):	hardesty@mcadamsco.com / 540-958-9098
Electronic Meeting invitation/call in info:	See attached sheet for Zoom instructions
Date of meeting**:	March 24, 2021
Time of meeting**:	6:00pm - 8:00pm

MEETING AGENDA TIMES:
Welcome: 6:00-6:05 Project Presentation: 6:05-6:20 Question & Answer: 6:20-8:00

**Meetings shall occur between 5:00 p.m.-9:00 p.m. on a Monday through Thursday (excluding Town recognized holidays). If you have questions about the general process for this application, please contact the Planning Department at 919-249-3426. You may also find information about the Apex Planning Department and on-going planning efforts at http://www.apexnc.org/180/Planning.

MCADAMS

NEIGHBORHOOD MEETING NOTICE

March 10, 2021

RE: Virtual Neighborhood Meeting – Zoom Instructions

Dear Property Owner,

Due to the current circumstances of COVID-19, we will be hosting a virtual neighborhood meeting via Zoom Webinar. The meeting will be held on March 24th and begin at 6:00 PM Eastern Time.

- To attend the meeting via computer, type in the following link in your internet browser:
  https://mcadamsco.zoom.us/j/97762775585?pwd=c1ljbFZTWEFLQTlPMlVab2NPbGZPQT09

  Passcode: **795610**

- To attend the meeting via phone, you may dial in by your location:
  US: +1 646 876 9923 or
  +1 301 715 8592 or
  877 853 5247 (Toll Free)

  When prompted, enter the Meeting ID: **977 6277 5585**

Sincerely,
MCADAMS

PROJECT CONTACT INFORMATION

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Development Contacts:

Project Name: Retreat at the Preserve at White Oak Zoning: Current: RR Proposed: PUD-CZ

Location: Wimberly Rd and Jenks Rd

Property PIN(s): 0722687241, 0722780191, 0722784193, 0722788252 Acreage/Square Feet: 15.3 acres

Property Owner: See attached list for property owner information

Address:

City: State: Zip:

Phone: Email:

Developer: Taylor Morrison

Address: 15501 Weston Pkwy Suite 100

City: Cary State: NC Zip: 27513

Phone: +1 984-269-4570 Fax: Email: maltman@taylormorrison.com

Engineer: McAdams

Address: 2905 Meridian Parkway

City: Durham State: NC Zip: 27701

Phone: 919-361-5000 Fax: Email: jfinch@mcadamsco.com

Builder (if known):

Address:

City: State: Zip:

Phone: Fax: Email:

Please note that Town staff will not have complete information about a proposed development until the application is submitted for review. If you have a question about Town development standards and how they relate to the proposed development, please contact the appropriate staff person listed below.

Town of Apex Department Contacts

Planning Department Main Number (Provide development name or location to be routed to correct planner)	(919) 249-3426
Parks, Recreation & Cultural Resources Department Angela Reincke, Parks Planner	(919) 249-7468
Public Works - Transportation Russell Dalton, Senior Transportation Engineer	(919) 249-3358
Water Resources Department Jessica Bolin, Senior Engineer (Stormwater, Sedimentation & Erosion Control) Stan Fortier, Senior Engineer (Stormwater, Sedimentation & Erosion Control) James Gregg, Utility Engineer (Water & Sewer)	 (919) 249-3537 (919) 249-1166 (919) 249-3324
Electric Utilities Division Rodney Smith, Electric Technical Services Manager	(919) 249-3342

PROPERTY OWNERS

PIN	Owner	Address	City and State
722687241	HINESLEY, TRISHA S HINESLEY, RICHARD L	4070 RANEY WAY DR	STEM NC 27581-9651
722780191	KIRKPATRICK, TERESA L	591 BENT OAK TRL	CONCORD NC 28027-9715
722784193	LEWIS, CHARLES KENNETH LEWIS, FRANCES J	323 SCENIC MOUNTAIN DR	SPARTA NC 28675-9434
722788252	CLEARY, MICHAEL DUANE CLEARY, ALISON N	7912 JENKS RD	APEX NC 27523-7821

Providing Input to Town Council:

Each Town Council meeting agenda includes a Public Forum time when anyone is permitted to speak for three (3) minutes on any topic with the exception of items listed as Public Hearings for that meeting. The Town Council meets on the 1st and 3rd Tuesdays of each month at 6:00 p.m. (except for holidays, see schedule of meetings at http://www.apexnc.org/838/Agendas-Minutes). You may also contact Town Council by e-mail at AllCouncil@apexnc.org.

Private Agreements and Easement Negotiation:

The Town of Apex cannot enforce private agreements between developers and neighbors and is not a party to the easement and right-of-way negotiation that occurs between developers and neighboring property owners for easements or rights-of-way that are necessary to build the project.

It is recommended that all private agreements be made in writing and that if a property owner feels it necessary, they should obtain private legal counsel in order to protect their interests in both private agreements and during easement negotiations. The only conditions that the Town of Apex can enforce are those conditions that are made a part of the conditional zoning of the property by agreement of the developer and the Town.

As an example, if a developer offers to build a fence for a neighbor to mitigate some impact, the Town can only enforce the construction of the fence if the fence becomes a condition of the rezoning. This would occur by the developer offering the condition as part of their conditional zoning application package or at the Town Council public hearing on the conditional zoning and the Town accepting it as a condition. Private agreements regarding a fence being constructed will not be enforced by the Town.

To request that any agreement with a developer is made a part of the conditional zoning at the time of approval, you may ask at the Town Council public hearing if the agreement is included in the conditions. If it is not, you may request that the Town Council not approve the rezoning without the agreement being included in the conditions (note that it is up to Town Council whether to approve or deny the rezoning but they cannot impose conditions that the applicant does not agree to add). The developer's proposed conditions can be viewed any time after a rezoning is submitted on the Interactive Development Map at: http://apexnc.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=fa9ba2017b784030b15ef4da27d9e795

Documentation:

Neighbors to a requested new development and/or rezoning are strongly encouraged to fully document (such as through dated photographs) the condition of their property before any work is initiated for the new development. Stormwater controls installed on developed property are not designed to and will likely not remove 100% of the soil particles transported by stormwater runoff. As a result, creeks and ponds could become cloudy for a period of time after rain events.

COMMON CONSTRUCTION ISSUES & WHO TO CALL

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Noise & Hours of Construction: **Non-Emergency Police** **919-362-8661**

Noise from tree removal, grading, excavating, paving, and building structures is a routine part of the construction process. The Town generally limits construction hours from 7:00 a.m. to 8:30 p.m. so that there are quiet times even during the construction process. Note that construction outside of these hours is allowed with special permission from the Town when it makes more sense to have the construction occur at night, often to avoid traffic issues. In addition, the Town limits hours of blasting rock to Monday through Friday from 8:00 a.m. to 5:00 p.m. Report violations of construction hours and other noise complaints to the Non-Emergency Police phone number at 919-362-8661.

Construction Traffic: **James Misciagno** **919-372-7470**

Construction truck traffic will be heavy throughout the development process, including but not limited to removal of trees from site, loads of dirt coming in and/or out of the site, construction materials such as brick and wood brought to the site, asphalt and concrete trucks come in to pave, etc. The Town requires a construction entrance that is graveled to try to prevent as much dirt from leaving the site as possible. If dirt does get into the road, the Town can require they clean the street (see "Dirt in the Road" below).

Road Damage & Traffic Control: **Water Resources – Infrastructure Inspections** **919-362-8166**

There can be issues with roadway damage, roadway improvements, and traffic control. Potholes, rutting, inadequate lanes/signing/striping, poor traffic control, blocked sidewalks/paths are all common issues that should be reported to Water Resources – Infrastructure Inspections at 919-249-3427. The Town will get NCDOT involved if needed.

Parking Violations: **Non-Emergency Police** **919-362-8661**

Unless a neighbor gives permission, there should be no construction parking in neighbors' driveways or on their property. Note that parking in the right-of-way is allowed, but Town regulations prohibit parking within 15 feet of driveways so as not to block sight triangles. Trespassing and parking complaints should be reported to the Non-Emergency Police phone number at 919-362-8661.

Dirt in the Road: **James Misciagno** **919-372-7470**

Sediment (dirt) and mud gets into the existing roads due to rain events and/or vehicle traffic. These incidents should be reported to James Misciagno. He will coordinate the cleaning of the roadways with the developer.

Dirt on Properties or in Streams: **James Misciagno** **919-372-7470**
Danny Smith **Danny.Smith@ncdenr.gov**

Sediment (dirt) can leave the site and get onto adjacent properties or into streams and stream buffers; it is typically transported off-site by rain events. These incidents should be reported to James Misciagno at 919-372-7470 so that he can coordinate the appropriate repairs with the developer. Impacts to the streams and stream buffers should also be reported to Danny Smith (danny.smith@ncdenr.gov) with the State.

Dust: **James Misciagno** **919-372-7470**

During dry weather dust often becomes a problem blowing into existing neighborhoods or roadways. These incidents should be reported to James Misciagno at 919-372-7470 so that he can coordinate the use of water trucks onsite with the grading contractor to help control the dust.

Trash: **James Misciagno** **919-372-7470**

Excessive garbage and construction debris can blow around on a site or even off of the site. These incidents should be reported to James Misciagno at 919-372-7470. He will coordinate the cleanup and trash collection with the developer/home builder.

Temporary Sediment Basins: **James Misciagno** **919-372-7470**

Temporary sediment basins during construction (prior to the conversion to the final stormwater pond) are often quite unattractive. Concerns should be reported to James Misciagno at 919-372-7470 so that he can coordinate the cleaning and/or mowing of the slopes and bottom of the pond with the developer.

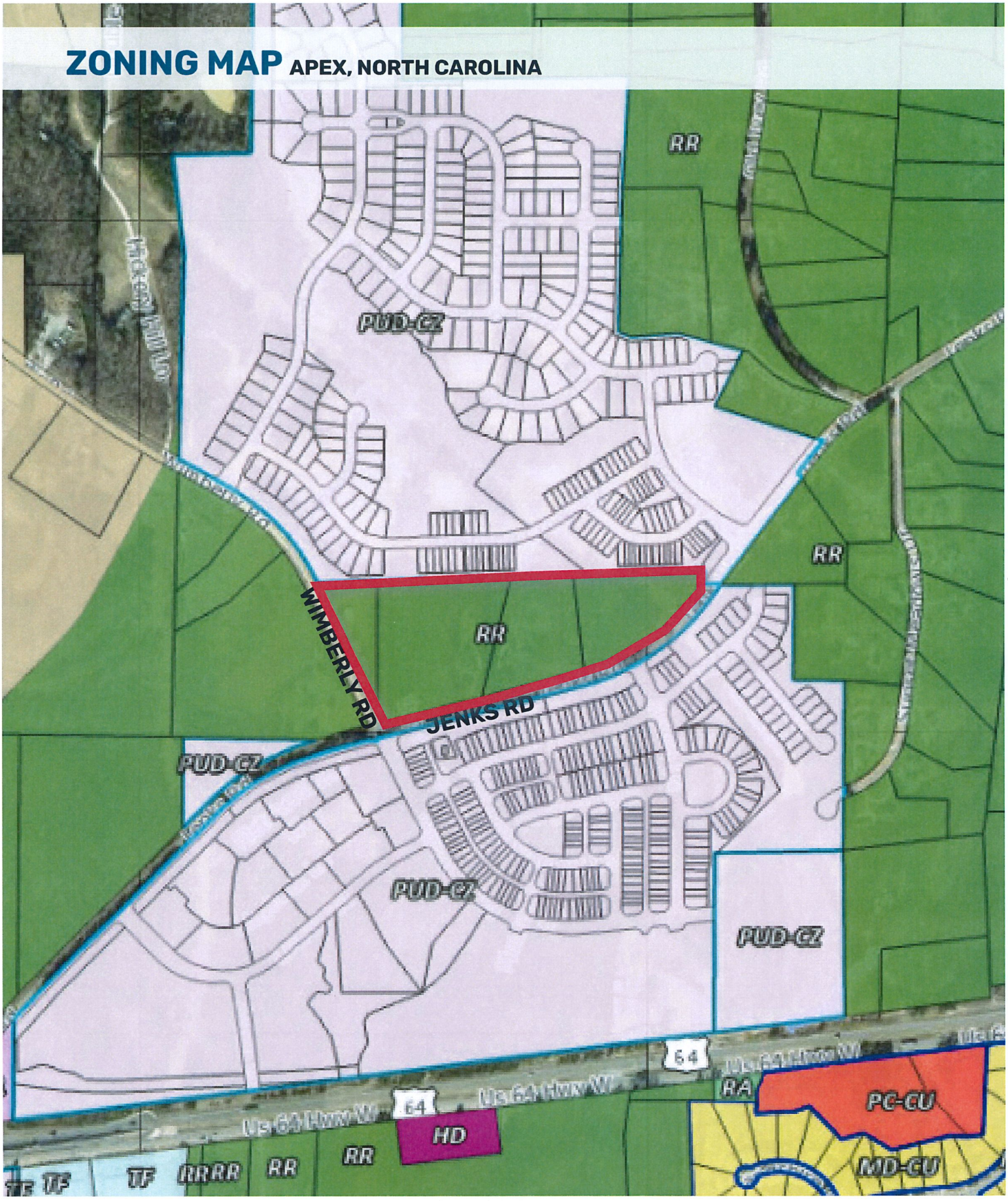
Stormwater Control Measures: **Jessica Bolin** **919-249-3537**

Post-construction concerns related to Stormwater Control Measures (typically a stormwater pond) such as conversion and long-term maintenance should be reported to Mike Deaton at 919-249-3413.

Electric Utility Installation: **Rodney Smith** **919-249-3342**

Concerns with electric utility installation can be addressed by the Apex Electric Utilities Department. Contact Rodney Smith at 919-249-3342.

ZONING MAP APEX, NORTH CAROLINA



VICINITY MAP APEX, NORTH CAROLINA

THE RETREAT AT THE PRESERVE AT WHITE OAK CONCEPT LAYOUT

SITE DATA TABLE	
Total Site Area	14.68 acres
Community Park	1.65 acres
Residential Land Area	8.63 acres
Non-Residential Land Area (30%)	4.40 acres
Proposed 22' Townhome Units	71 units
Proposed Non-Residential SF	+/- 22,000 sf

ELECTRONIC NEIGHBORHOOD MEETING ATTENDANCE SHEET

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Meeting Format: Zoom

Date of meeting: March 24, 2021 Time of meeting: 6-8pm

Property Owner(s) name(s): Trisha and Richard Hinesley, Teresa Kirkpatrick, Charles and Frances Lewis, Michael and Alison Cleary

Applicant(s): McAdams

Please list Electronic Neighborhood Meeting Attendees who provided their name and/or contact information either during the meeting or via phone/email before or after the meeting.

	NAME/ORGANIZATION	ADDRESS	PHONE #	EMAIL	SEND PLANS & UPDATES
1.	Erik Ladd Sullivan				
2.	Michael Cleary and Alison Cleary				
3.	Michelle Sever	2573 Rambling Creek Rd, Apex, NC 27523			
4.	Lynn and Peter Cotterill	918 Haybeck Lane			
5.	Richard Bootes	2575 Rambling Creek Rd			
6.	Mark Crews	2545 Sunnybranch Lane			
7.	James Park				
8.					
9.					
10.					
11.					
12.					
13.					
14.					

Use additional sheets, if necessary.

SUMMARY OF DISCUSSION FROM THE ELECTRONIC NEIGHBORHOOD MEETING

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Property Owner(s) name(s): Trisha and Richard Hinesley, Teresa Kirkpatrick, Charles and Frances Lewis, Michael and Alison Cleary

Applicant(s): McAdams

Contact information (email/phone): hardesty@mcadamsco.com / 540-958-9098

Meeting Format: Zoom

Date of meeting: March 24, 2021 Time of meeting: 6-8pm

Please summarize the questions/comments and your response from the Electronic Neighborhood Meeting in the spaces below (attach additional sheets, if necessary). Please state if/how the project has been modified in response to any concerns. The response should not be "Noted" or "No Response". There has to be documentation of what consideration the neighbor's concern was given and justification for why no change was deemed warranted.

Question/Concern #1:
What will you do about the tall trees along the property line? (Owner lives near gas easement).
Would hate to see trees cut down that don't have to.

Applicant's Response:
We will have at least a 15' buffer at that location. It looks like those existing trees are either outside the property or within that perimeter buffer where we would be able to save those. We don't have a grading plan yet, but we try to stay out of those buffers as much as we can.

Question/Concern #2:
Will the park area be open to anyone?

Applicant's Response:
It is intended to be open to anyone who can walk to it.

Question/Concern #3:
Is there a plan to add more amenities and community space with adding more homes?

Applicant's Response:
There are no plans for additional hardscape amenities, but this property will be adding the green space/community park amenity.

Question/Concern #4:
There was a big buffer behind us when we first moved in, and many trees were removed. I'm worried more of the treeline behind us will disappear with this development. Will you be replacing the buffer with trees?

Applicant's Response:
We will be required to have a Type A landscape buffer on the northern boundary which is the Town's most opaque buffer. It will be 15 feet so it won't be a green wall, but it is intended to be the most opaque buffer.

Question/Concern #5: Our townhomes are two stories, and with the grade change, some homes can see directly into my home so this is concern. Would hope you come out to the property so you can see our concern and what we are talking about.

Applicant Response: We appreciate your concerns and this is why we have these meetings so we can understand these concerns. We want to do site visit to understand and figure out how we can address this.

Question/Concern #6: Also worried about stormwater runoff and it becoming a swamp in our back yard. With the stormwater pond right there, what is put in place to deal with mosquitos?

A: That facility is a wet facility so it will have a pool there and designed to meet Town standards. When it rains it rises up and discharges out a facility. It won't be stagnant.

Question/Concern #7: Is there any idea what the commercial buildings might be? Coffee shop?

Applicant Response: We don't know at this point. There will be a variety of permitted uses allowed that are non-intrusive. We could see something like a daycare type use making sense here. It won't be destination retail.

Question/Concern #8: Do you have any feel for how Apex Council will view this plan?

Applicant Response: We have had discussions with one council member who felt strongly about moving the commercial to the intersection and those conversations have gone very well. We feel good about the plan, but we won't know for sure council's views until the time comes.

Question/Concern #9: Will the area next to the easement stay lowland area?

Applicant Response: That will be outside of the property, so it won't be impacted. We placed greenway alignment next to this to have a low impact on the area.

Question/Concern #10: Is there any way to get the gas company to cut the grass more than once a year?

Applicant Response: We can certainly reach out to our local contacts, but most of the management for that particular gas line is at the national level and they might not be responsive.

Question/Concern #11: Where there be a sidewalk cutting through the easement?

Applicant Response: there will be an established trail, but not sure about what surface it will be. Our preference would be to have a natural trail, and a footbridge might be necessary, but we have to see what Parks and Rec says.

Question/Concern #12: Are plans available online?

Applicant Response: They will be when we file the application. It will probably be uploaded within about 4-6 weeks of our submittal. You can also contact the Planning Department and they can direct you to it. We will be submitting a bubble plan less detailed that what we are showing here.

Question/Concern #13: What is the general timeline for approval?

Applicant Response: We are submitting April 1 and go through a few rounds of review and then Planning Board and Council would be in June if all goes as planned.

Question/Concern #14: How definitive are the parking pads?

Applicant Response: What you are referring to is for the required guest parking for townhomes. This is a mature concept plan, but parking locations could change.

Question/Concern #15: Are these frontloaded?

Applicant Response: Yes.

Question/Concern #16: We have a retaining wall and a fence on the north side of the property. Will that fence stay?

Applicant Response: That fence should stay because it is well on to your property.

AFFIDAVIT OF CONDUCTING AN ELECTRONIC NEIGHBORHOOD MEETING AND ISSUES/RESPONSES SUBMITTAL

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

I, Jessie Hardesty, do hereby declare as follows:
Print Name

1. I have conducted an Electronic Neighborhood Meeting for the proposed Rezoning, Major Site Plan, Residential Master Subdivision Plan, or Special Use Permit in accordance with UDO Sec. 2.2.7 *Neighborhood Meeting*.

2. The meeting invitations were mailed to the Apex Planning Department, all property owners within 300 feet of the subject property and any neighborhood association that represents citizens in the area via first class mail a minimum of 10 days in advance of the Electronic Neighborhood Meeting.

3. The meeting was conducted via Zoom (indicate format of meeting) on March 24 (date) from 6:00pm (start time) to 8:00pm (end time).

4. I have included the mailing list, meeting invitation, attendance sheet issue/response summary, and zoning map/reduced plans with the application.

5. I have prepared these materials in good faith and to the best of my ability.

March 25, 2021
Date

By: Jessie Hardesty

STATE OF NORTH CAROLINA
COUNTY OF WAKE

Sworn and subscribed before me, Jessica L. Phair, a Notary Public for the above State and County, on this the 25th day of March, 20 21.

SEAL

Wake County, North Carolina
Notary Public
Jessica L Phair
My Commission Expires 4/15/2024

Jessica L. Phair
Notary Public

Jessica L. Phair
Print Name

My Commission Expires: 4/15/24

WAKE COUNTY
PUBLIC SCHOOL SYSTEM

Wake County Residential Development Notification

Please complete each section of this form and submit with your application.

Town of Apex staff will enter this information into the online WCPSS form.

Please send any questions about this form to:
studentassignment-gis-group@wcpss.net

Developer Company *Information*	
Company *Name*	Taylor Morrison
Company Phone *Number*	984-269-4570
Developer Representative *Name*	Mark Altman
Developer Representative *Phone Number*	
Developer Representative *Email*	maltman@taylormorrison.com

New Residential Subdivision *Information*	
Date of Application for Subdivision	TBD
City, Town or Wake County Jurisdiction	Town of Apex
Name of Subdivision	Alderwood
Address of Subdivision (if unknown enter nearest cross streets)	Wimberly Rd and Jenks Rd
REID(s)	0164032, 0173563, 0173564, 0173565
PIN(s)	0722687241, 0722780191, 0722784193, 0722788252

Projected Dates *Information*	
Subdivision *Completion Date*	
Subdivision *Projected First Occupancy Date*	

Lot by Lot Development *Information*

Unit Type	Total # of Units	Senior Living	Studio	1 Bedroom	2 Bedroom	3 Bedroom	4 Bedroom	Square Foot Range		Price Range		Anticipated Completion Units & Dates					
								Min	Max	Low	High	Year	# Units	Year	# Units	Year	# Units
Single Family																	
Townhomes	67					67		1700	2000	$300k	$320k	2023	40	2024	27		
Condos																	
Apartments																	
Other																	

Revised 08/10/2018

ALDERWOOD
PLANNED UNIT DEVELOPMENT
REZONING CASE 21CZ09

Wimberly Road & Jenks Road
Apex, North Carolina | PD PLAN

taylor morrison

McADAMS

SPANGLER ENVIRONMENTAL, INC.

Kimley»Horn

ALDERWOOD

Planned Unit Development
Prepared for The Town of Apex, North Carolina
Rezoning Case 21CZ09

Submittal Dates

First Submittal:	April 1, 2021
Second Submittal:	May 14, 2021
Third Submittal:	June 11, 2021
Fourth Submittal:	June 25, 2021
Fifth Submittal:	July 21, 2021

Developer
Taylor Morrison
15501 Weston Parkway Suite 100
Cary NC 27513

Planner, Engineer, Landscape Architect
McAdams
2905 Meridian Parkway
Durham NC 27113

Environmental Consultant
Spangler Environmental
4338 Bland Road
Raleigh NC 27609

Traffic Engineer
Kimley Horn
300 Morris Street, Suite 200,
Durham, NC 27701

TABLE OF CONTENTS

VICINITY MAP

PROJECT DATA

Name of Project:	Alderwood
Applicant Owner/Developer:	Taylor Morrison 15501 Weston Parkway Suite 100 Cary NC 27513 919-407-1232
Prepared By:	McAdams 2905 Meridian Parkway Durham, NC 27713 919-361-5000 Morningstar Law Group 421 Fayetteville Street, Suite 530 Raleigh, NC 27601 919-590-0371
Current Zoning Designation:	RR
Proposed Zoning Designation:	PUD-CZ
Current 2045 Land Use Map Designation:	Mixed Use - High Density, Office Employment, Commercial Services
Proposed 2045 Land Use Map Designation:	Mixed Use - Medium/High Density, Office Employment, Commercial Services
Proposed Use:	Mixed-used development with townhomes, commercial, office, and park space
Size of Project:	14.86 acres
Area Designated as Mixed Use on 2045 LUM:	14.86 acres
Area of Mixed Use Proposed as Non-residential:	4.46 acres (30% of total acreage)
Property Identification Numbers:	0722687241, 0722780191, 0722784193, 0722788252

PURPOSE STATEMENT

The purpose of the Alderwood PUD is to provide a mixed-use development containing townhomes along with neighborhood scaled retail, restaurant, and/or office uses that will be highly complementary to the existing built environment as well as planned future developments in the vicinity of the subject property. The proposed development will set aside required resource conservation areas throughout the 14.86-acre property. Alderwood's concept is consistent with the Town's stated PUD goal to provide site specific, high quality neighborhoods that exhibit natural feature preservation as well as compatibility with, and connectivity to, surrounding land uses. This development will comply with the PUD Development Parameters outlined in §2.3.4.F.1.a.i-vii of the Town of Apex Unified Development Ordinance as follows:

- *The uses to be developed in the PD Plan for the PUD-CZ are those uses permitted in Section 4.2.2, Use Table.*

  - The uses permitted within the Alderwood PUD are permitted per §4.2.2 of the Town of Apex UDO.

- *The uses proposed in the PD Plan for the PUD-CZ can be entirely residential, entirely non-residential, or a mix of residential and non-residential uses, provided a minimum percentage of the non-residential land area is included in certain mixed-use areas as specified on the 2045 Land Use Map. The location of uses proposed by the PUD-CZ must be shown on the PD Plan with a maximum density for each type of residential use and a maximum square footage for each type of non-residential use.*

  - Alderwood is a mixed-used development containing a maximum of:
    - 78 townhomes
    - 30,000 square feet of non-residential floor area, including retail, restaurant, and office space

  This mix of uses provides a minimum of 30% of the site for non-residential land uses.

- *The dimensional standards in §5.1.3 Table of Intensity and Dimensional Standards, Planned Development Districts, may be varied in the PD Plan for PUD-CZ. The PUD-CZ shall demonstrate compliance with all other dimensional standards of the UDO, North Carolina Building Code, and North Carolina Fire Code.*

  - The proposed dimensional standards are in compliance with the Town of Apex UDO. Development of the parcel will be in compliance with all other requirements of the UDO, North Carolina Building Code, and North Carolina Fire Code.

- *The development proposed in the PD Plan for PUD-CZ encourages cluster and compact development to the greatest extent possible that is interrelated and linked by pedestrian ways, bikeways, and other transportation systems. At a minimum, the PD Plan must show sidewalk improvements as required by the Apex Transportation Plan and the Town of Apex Standard Specifications and Details, and greenway improvements as required by the Town of Apex Parks, Recreation, and Open Space Plan and the Apex Transportation Plan. In addition, sidewalks shall be provided on both sides of all streets for single-family detached homes.*

  - Public sidewalks will be constructed along the both sides of all streets, going above the Town of Apex UDO standards. Additionally, a public access easement will be provided on

the northern end of the property that could ultimately provide a connection to the proposed greenway north of the property.

- *The design of development in the PD Plan for the PUD-CZ results in land use patterns that promote and expand opportunities for walkability, connectivity, public transportation, and an efficient network of streets. Cul-de-sacs shall be avoided unless the design of the subdivision and the existing proposed or proposed street system in the surrounding area indicated that a through street is not essential in the location of the proposed cul-de-sacs, or where sensitive environmental features such as streams, floodplains, or wetlands would be substantially disturbed by making road connections.*

  » Alderwood will create a walkable neighborhood of residential and non-residential uses connected by sidewalks, tree-lined streets, and greenways. Cul-de-sacs will be avoided to enhance the connectivity of the development.

- *The development proposed in the PD Plan for PUD-CZ is compatible with the character of surrounding land uses and maintains and enhances the value of surrounding properties.*

  » The property is consistent with surrounding land uses however, a change is requested on The Town of Apex's Future Land Use Map. Current zoning surrounding the development includes PUD-CZ developments to the immediate north and south and RR to the east and west. The Future Land Use Map designates the property as Mixed Use to include High Density Residential, Office Employment, Commercial Services and Medium/High Density Residential. The land south of the subject property shares this FLUM designation and the land to the north is designated as Medium/High Density Residential. The High Density Residential designation is requested to change to Medium/High Density Residential (see ***Consistency with Land Use Plan).***

- *The development proposed in the PD Plan for the PUD-CZ has architectural and design standards that are exceptional and provide a higher quality than routine developments. All residential uses proposed in a PD Plan for PUD-CZ shall provide architectural elevations representative of the residential structures to be built to ensure the Standards of this Section are met.*

  » All townhomes and commercial buildings will be of a higher quality construction than the typical residential or commercial development. Architectural controls for non-residential uses as well as sample elevations illustrating the high-quality appearance of the townhomes and non-residential buildings are included with the PUD-CZ application.

All site-specific standards and conditions of this PD Plan shall be consistent with all Conditional Zoning (CZ) District standards set forth in the UDO Section 2.3.3, Conditional Zoning Districts and in the Design Controls section of this document.

PERMITTED USES

The Rezoned Lands may be used for, and only for, the uses listed immediately below. The permitted uses are subject to the limitations and regulations stated in the UDO and any additional limitations or regulations stated below. For convenience, some relevant sections of the UDO may be referenced; such references do not imply that other sections of the UDO do not apply.

Residential Area:

- Townhomes
- *Accessory apartment
- Utility, minor
- Greenway
- Park, active
- Park, passive
- Recreation Facility, private

Non-Residential Area:

- Utility, minor
- Greenway
- Entertainment, indoor
- Assembly hall, non-profit
- Assembly hall, for-profit
- Church or place of worship
- Day care facility
- Drop-in or short-term day care
- Government Services
- Restaurant, general
- Medical or dental clinic or office
- Office, business or professional
- Publishing Office
- Artisan studio
- Barber and beauty shop
- Book Store
- Convenience store
- Covenience Store with gas sales
- Dry cleaners or laundry service
- Farmer's market
- Financial institution
- Floral shop
- Grocery, general
- Grocery, specialty
- Health/fitness center or spa
- Newsstand or gift shop
- Personal service
- Pharmacy
- Printing and copying service
- Real estate sales
- Repair services, limited
- Retail sales, general
- Studio for art
- Tailor shop
- Upholstery shop
- Pet services
- Microbrewery
- Microdistillery

*Permitted Uses Subject to Limitations:

Accessory apartment - No covenant shall be placed on the property which prohibits accessory apartment as a use.

AFFORDABLE HOUSING

The project is committed to helping the Town of Apex advance their Affordable Housing Plan to welcome and attract a diverse population with moderate to low incomes and of different age groups. As such, the developer will contribute $215.00 per lot to the Apex Affordable Housing Fund, to be paid at plat.

DESIGN CONTROLS

Total Project Area: 14.86 acres

Apex 2045 Land Use Plan - Community Mixed-Use Calculation

- Total Project Area within Community Mixed-Use Designation: 14.86 acres
  - » Required Non-Residential Land Area: 4.46 acres (30%)
  - » Proposed Gross Non-Residential Land Area: 4.46 acres (30%)

Overall Density Limitations:

- Maximum number of Townhomes: 78
- Maximum Non-Residential Floor Area: 30,000 SF
- Maximum Built-Upon Area: 70%

Townhomes

- Minimum Lot Width: 22 feet
- Minimum Lot Depth: 65 feet
- Maximum Building Height: 45 feet (3 stories)
- Minimum Building Setbacks:
  - » Front (façade or front porch): 8 feet
  - » Front (Garage): 20 feet
  - » Rear: 10 feet
  - » Corner: 8 feet
  - » Building separation: 10 feet

Note: Porches, patios, decks, and other accessory structures may encroach into building setbacks as allowed by the Town of Apex UDO.

Non-Residential Design Controls

- Maximum Building Height: 50 feet
- Minimum Building Setbacks:
  - From Required Buffers: 10 feet
  - When there are no buffers:
    - Front: 20 feet
    - Side: 20 feet
    - Rear: 20 feet

Landscaping, Buffering, and Screening

All landscaping for this PUD shall comply with Section 8.2 Landscaping, of the Town of Apex UDO, except for the following provisions (Section 8.2.4 A):

- Landscaping requirements for townhomes shall be permitted on townhome lots and/or HOA owned common areas.

The following buffers are provided in accordance with the UDO:

- Along Jenks Rd: 30' Type B
- Along Wimberly Rd: 30' Type B
- Northern property boundary (non-residential portion): 20' Type A
- Northern property boundary (residential portion): 15' Type A
  - At the time of site/subdivision plan and in order to meet the opacity requirements of the rezoning, the northern buffer of the residential pod (Pod B) adjacent to the existing residential shall include either: (a) a 6-foot tall privacy fence as permitted in UDO Sec. 8.2.6.B.5.a, provided the fence shall not be required adjacent to the private community park, within utility and/or pedestrian access easements, or within the Colonial and Cardinal gas pipeline easements; or (b) supplemental evergreen plantings. In order to minimize damage and impacts to the existing vegetation, any fence installed pursuant to this condition shall be installed along the interior side of the Alderwood buffer.

The project will increase biodiversity in perimeter buffers and open space areas by providing a variety of species for the canopy, understory, and shrub levels. Native and adaptive plant species shall be provided within these areas to minimize death from disease and to provide increased habitat and food sources for insects and animals. A minimum of 70% of the species provided shall be native or a nativar of North Carolina. No invasive species shall be permitted. No single species of tree or shrub shall constitute more than 20% of the plant material of its type installed on a single development site.

ARCHITECTURAL STANDARDS

The proposed development offers the following architectural controls to ensure a consistency of character throughout the development, while allowing for enough variety to create interest and avoid monotony. Elevations included are limited examples of multiple options available. Changes to the exterior materials, roof, windows, doors, process, trim, etc. are allowable with administrative approval at the staff level. Further details shall be provided at the time of Residential Master Subdivision Plan or Site Plan submittal.

Residential areas envisioned for Alderwood will be comprised of attached townhome units. The project will offer a variety of distinct residential elevations - see examples located at the end of this document. These elevations will incorporate a natural material selection and earth tone color palette with wood, brick or stone accents, which will help to add diversity to the streetscape.

While each of the architectural offerings proposed will have their own identity, a number of common threads will link the neighborhood, including color palettes, materials, roofing, and decorative garage doors. Elevations have been included below in an effort to represent the bulk, massing, scale and architectural style of the development.

Additional features used as focal points or key terminus points shall be located within or around the development in order to meet the Community Amenities requirement of the UDO. A key terminus point will be the community park, which is to contain a National Wildlife Federation certified butterfly garden.

Residential Design Guidelines (all product types):

1. Vinyl siding is not permitted; however, vinyl windows, decorative elements and trim are permitted.
2. Front-facing garage doors shall have at least one of the following: windows, decorative details or carriage-style adornments.
3. The garage cannot protrude more than 1 foot out from the front façade or front porch, measured from roof of porch.
4. On townhomes, roof line cannot be a single mass; it must be broken up either horizontally and/or vertically between, at minimum, every other unit.
5. House entrances for units with front-facing single-car garages must have a covered porch/stoop area leading to the front door.
6. Rear and side elevations of units that have right-of-way frontage shall have trim around the windows.
7. Four of the following decorative elements shall be used on each building: decorative shake, board and batten siding, decorative porch rails and posts, shutters, decorative functional foundation and roof vents, recessed windows, decorative windows, decorative brick or stone, decorative gables, decorative cornices, or metal roofing.
8. A varied color palette shall be utilized on townhome units throughout the subdivision and shall include siding, trim, shutter, and accent colors complementing the siding colors.

Proposed Residential Materials and Styles

Proposed materials and styles will be of a similar palette to provide consistency of character along with visual interest. Exterior materials that may be incorporated into any of the residential building products include:

- Cementitious lap siding
- Board and batten siding
- Shake and shingle siding
- Wood siding
- Stone or synthetic stone
- Brick

Additional building materials may be included with administrative staff approval. Substitute materials shall be allowed by staff as long as they are determined by the Planning Director to be substantially similar.

Non-Residential Design Guidelines:.

1. Architectural treatments such as varying roof forms, façade articulation, breaks in roof, walls with texture materials and ornamental details as well as landscaping shall be incorporated to add visual interest. Large expanses of blank walls, greater than 25' in length or height, shall be broken up with windows or other architectural features to reduce visual impacts.
2. Roof features may include flat roofs with parapet, hip roofs or awnings with metal or canvas material.

Non-residential exteriors shall incorporate variation in materials. The primary (front) façade and other façades located along a public right-of-way may include:

- Brick and/or stone masonry
- Decorative concrete block (integral color or textured)
- Stone accents
- Aluminum storefronts with anodized or pre-finished colors
- EIFS cornices, and parapet trim
- EIFS or synthetic stucco shall not be used in the first four feet above grade and shall be limited to only 25% of each building façade
- Precast concrete
- Soffit and fascia materials to be considered include EIFS with crown trim elements
- Cementitious siding

Rear elevations of non-residential buildings facing opaque landscape buffers or not visible from vehicular use areas or public rights-of-way may incorporate decorative concrete masonry, metal coping, or EIFS trim.

Exterior materials not allowable as part of the residential or non-residential development are as follows:

- Vinyl siding
- Painted, smooth faced concrete block
- Metal Walls

PARKING AND LOADING

All parking for this PUD will comply with Section 8.3 Off-Street Parking and Loading, of the Town of Apex UDO.

On-street parallel parking stalls may be used to satisfy guest parking requirements.

SIGNAGE

All signage for this PUD shall comply with Section 8.7*, Signs*, of the Town of Apex UDO.

NATURAL RESOURCES AND ENVIRONMENTAL DATA

River Basins and Watershed Protection Overlay Districts

This project is located within the Beaver Creek Drainage Basin, which is within the Cape Fear River Basin. The site is located within the Primary Watershed Protection Overlay District as shown on the Town of Apex Watershed Protection Map. Accordingly, this PUD will comply with all built upon area, vegetated conveyances, structural SCMs and riparian stream buffer requirements of Section 6.1.7.

Resource Conservation Areas (RCA) - Required and Provided

This PUD will be subject to, and meet the requirements of, Section 8.1.2 of the UDO, *Resource Conservation Area* and Section 2.3.4, *Planned Development Districts.*

The PUD will provide a minimum of 25% of the gross project area as a Resource Conservation Area (RCA). The calculation of the RCA areas required for the development shall be as per the standards contained in the Unified Development Ordinance as of the effective date of the rezoning for the Alderwood PUD. Designated RCA areas will be consistent with the items listed in Section 8.1.2(B) of the Town's UDO. Preserved streams, wetlands, and associated riparian buffers provide the primary RCAs throughout the site. Additional RCA areas may include perimeter and streetfront buffers, stormwater management areas (as permitted by the UDO), and greenway trails.

Floodplain

The project site does not sit within a designated current or future 100 year floodplain as shown on the Town of Apex FEMA map and FIRM Panel 3720072200J, dated May 2, 2006.

Tree Canopy

The Apex 2045 Land Use Plan designates the majority of this property as Mixed-Use. This land use designation prescribes a mix of High Density Residential, Office Employment and Commercial uses. In order to implement this mix of uses in compliance with the land use plan, it will be necessary to remove some tree canopy outside of environmentally protected areas.

Tree canopy areas will be primarily concentrated around the wetland areas, perimeter buffers and the community park. Where trees cannot be preserved, as part of the implementation of this community, the project will re-establish a new tree canopy within the public rights-of-way, along with vegetated perimeter buffers, and open space areas.

Historic Structures

As confirmed by the North Carolina State Historic Preservation Office and Capital Areas Preservation, Inc. there are no historic structures present within the project boundary.

Environmental Commitments Summary

The following environmental conditions shall apply to the development:

- Install educational signage (minimum two signs) about wetlands and near environmental sensitive areas in order to:
  - » Reduce pet waste; and
  - » Eliminate fertilizer.
- Install two pet waste stations.
- Provide a public access easement for privately-maintained sidewalk connectivity at the northern end of the subject properties as shown on the PUD plans.
- Increased stormwater quantity and quality control measures (see Stormwater Management section for details)
- Seek National Wildlife Federation certification of the community park.
- The project will increase biodiversity in perimeter buffers and open space areas by providing a variety of species for the canopy, understory, and shrub levels. Native and adaptive plant species shall be provided within these areas to minimize death from disease and to provide increased habitat and food sources for insects and animals.
  - » A minimum of 70% of the species provided shall be native or a nativar of North Carolina.
  - » No invasive species shall be permitted.
  - » No single species of tree or shrub shall constitute more than 20% of the plant material of its type installed on a single development site.

STORMWATER MANAGEMENT

This PUD shall meet all stormwater management requirements for quality and quantity treatment in accordance with Section 6.1.7 of the UDO such that:

- Post development peak runoff shall not exceed pre-development peak runoff conditions for the 1 year, 10 year, 25-year, and 24-hour storm events.
- Treatment for the first 1 inch of runoff will provide 85% removal of total suspended solids.

Acceptable stormwater structures shall include detention ponds, constructed wetlands, bio-retention areas, or other approved devices consistent with the NC DEQ Stormwater Design Manual and the Town of Apex UDO.

PARKS AND RECREATION

The project was reviewed by the PRCR Advisory Commission on May 26th, 2021 meeting. The Advisory Commission unanimously recommended a fee-in-lieu for the project.

Number of Units*	Housing Type	Fee Per Unit**	**Total Fees**
78	Townhomes	$2,354.05	**$183,615.90**

*Final unit count will be determined at the time of Master Subdivision.

**Fees are based upon approval date and runs with project with exception of the increase in total unit count.

PUBLIC FACILITIES

The proposed PUD shall meet all Public Facilities requirements as set forth in the Apex Unified Development Ordinance (UDO), Advance Apex: The 2045 Transportation Plan, and the Standard Specifications and Details. Roadway, pedestrian, and utility infrastructure shall be as follows:

General Roadway Infrastructure

All proposed roadway infrastructure and right-of-way dedications will be consistent with the Town of Apex UDO and Transportation Plan in effect as of the effective date of the rezoning for the Alderwood PUD unless otherwise stated below. The following conditions regarding transportation improvements apply and shall be phased consistent with the Traffic Impact Analysis that has been performed for this rezoning, which is on file with the Town of Apex, sealed 3/26/2021:

- Developer shall construct full-movement access to Jenks Road across from Hutch Lane and restripe the existing two-way left turn lane to provide 100 feet of eastbound left turn storage.
- Developer shall construct right-in/right-out only access to Jenks Road approximately 500 feet east of the intersection of Wimberly Road, and as generally depicted on PUD Sheet C2.00, including a westbound right turn lane on Jenks Road with 50 feet of full width deceleration, 100 feet of taper, and provide a monolithic concrete median on Jenks Road extending from the east to west ends of the intersection radius and right turn lane to prevent left turns.
- Developer shall provide minimum typical frontage widening on Jenks Road from the centerline based on a 41-foot 3-lane curb and gutter roadway on 80 feet of right-of-way (40 feet from centerline).
- Developer shall construct full-movement access to Wimberly Road approximately 500 feet north of Jenks and as generally depicted on PUD Sheet C2.00.
- Developer shall provide minimum typical frontage widening on Wimberly Road from the centerline based on a 35-foot 2-lane curb and gutter roadway on 60 feet of right-of-way (30 feet from centerline).
- No additional points of vehicular access to Jenks Road or Wimberly Road shall be proposed or permitted within the boundaries of the PUD.

Walkability

The following facilities will be provided to contribute to a walkable community within and surrounding Alderwood development:

- Developer shall construct five-foot wide public sidewalks along both sides of all internal streets.
- Developer shall construct six-foot wide private walking trail(s) in the community park area.
- Developer shall construct a ten-foot wide Side Path along both the Jenks Road and Wimberly Road frontages of the subject properies.
- Developer shall provide a public access easement for privately-maintained sidewalk connectivity at the northern end of the subject properties as shown on the PUD plans.

Water and Sanitary Sewer

All lots within the project will be served by Town of Apex for water and sanitary sewer. The utility design will be finalized at the time of master subdivision plan approval and be based on available facilities adjacent to the site at that time. The design will meet the current Town of Apex master plans for water and sewer.

Other Utilities and Facilities

Electricity will be provided by Apex Electric. Phone, cable, and gas will provided by the developer and shall meet the Town of Apex standards as outlined in the UDO.

Streetscape features may be used to help with establishing a framework for the proposed development. These features may include street trees within the public right-of-way, benches, trash receptacles, and street and/or pedestrian lights compatible with their context. Other features may include markers, bollards, and unique paving patterns.

PRIVATE AMENITIES

A community park, approximately 1.65 acres, will be designed at the northeast corner of the property. The developer will seek National Wildlife Federation certification, which includes ensuring key habitat elements are incorporated into the landscape, including but not limited to specific plants and supplemental feeders, water, wildlife shelter, and sustainable practices.

The developer will also install educational signage (minimum 2 signs) in the neighborhood near wetland areas and signage near environmentally sensitive areas in order to reduce pet waste and eliminate fertilizer. Similarly, pet waste stations (minimum 2 stations) will be installed strategically throughout the community.

PHASING PLAN

This PUD will be completed in up to 3 phases. Location of phases will be determined at the time of Master Subdivision Review and Approval.

CONSISTENCY WITH LAND USE PLAN

The proposed land use will be consistent with Advance Apex 2045: The Apex Comprehensive Plan, adopted in February 2019 if the requested Land Use Map amendment is approved.

The Future Land Use Map the property as Mixed Use, which encompasses High Density Residential, Office Employment, and Commercial Services. A Future Land Use Map Amendment is requested to allow for Medium/High Density Residential.

COMPLIANCE WITH UDO

The development standards adopted for this PUD are in compliance with those set forth in the current version of the Town's Unified Development Ordinance (UDO). The following conditions regarding transportation improvements apply and shall be phased consistent with the Traffic Impact Analysis that has been performed for this rezoning, which is on file with the Town of Apex, sealed 3/26/2021:

TRANSPORTATION IMPROVEMENTS

The following zoning condition represents the recommendations by Apex staff and NCDOT based on a review of the TIA prepared for the Alderwood plan:

Jenks Road

- Developer shall provide minimum typical frontage widening on Jenks Road from the centerline based on a 41-foot 3-lane curb and gutter roadway on 80 feet of right-of-way (40 feet from centerline).

Jenks Road - East Site Drive

- Developer shall construct full-movement access to Jenks Road across from Hutch Lane and restripe the existing two-way left turn lane to provide 100 feet of eastbound left turn storage.

Jenks Road – West Site Drive

- Developer shall construct right-in/right-out only access to Jenks Road approximately 500 feet east of the intersection of Wimberly Road, and as generally depicted on PUD Sheet C2.00, including a westbound right turn lane on Jenks Road with 50 feet of full width deceleration, 100 feet of taper, and provide a monolithic concrete median on Jenks Road extending from the east to west ends of the intersection radius and right turn lane to prevent left turns.

Wimberly Road

- Developer shall provide minimum typical frontage widening on Wimberly Road from the centerline based on a 35-foot 2-lane curb and gutter roadway on 60 feet of right-of-way (30 feet from centerline).

Wimberly Road – Site Drive

- Developer shall construct full-movement access to Wimberly Road approximately 500 feet north of Jenks and as generally depicted on PUD Sheet C2.00.

No additional points of vehicular access to Jenks Road or Wimberly Road shall be proposed or permitted within the boundaries of the PUD.

Sample Residential Elevations

taylor morrison
Homes Inspired by You

Taylor Morrison Townhomes
Alderwood

03.29.21

gmd design group
of georgia

GMD-GA13031.3

taylor morrison
Homes Inspired by You

Taylor Morrison Townhomes
Alderwood

03.29.21

gmd design group
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GMD-GA13031.3

taylor morrison
Homes Inspired by You

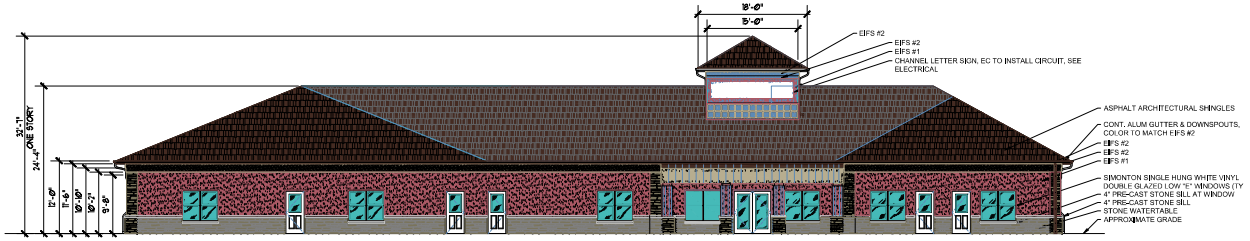
Taylor Morrison Townhomes
Alderwood

03.29.21

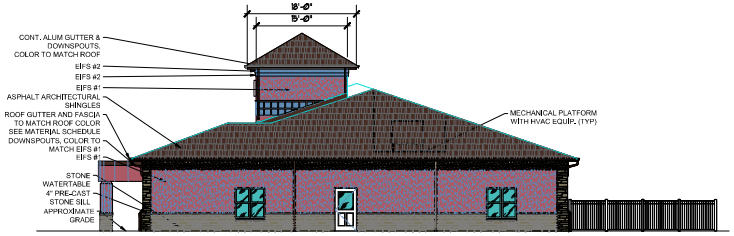
gmd design group
of georgia

GMD-GA13031.3

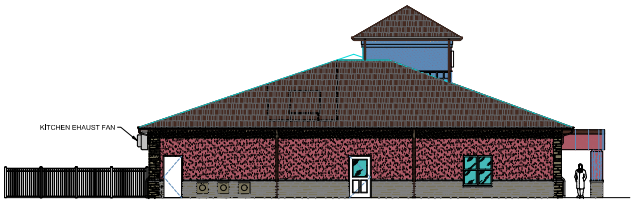
Sample Non-Residential Elevations



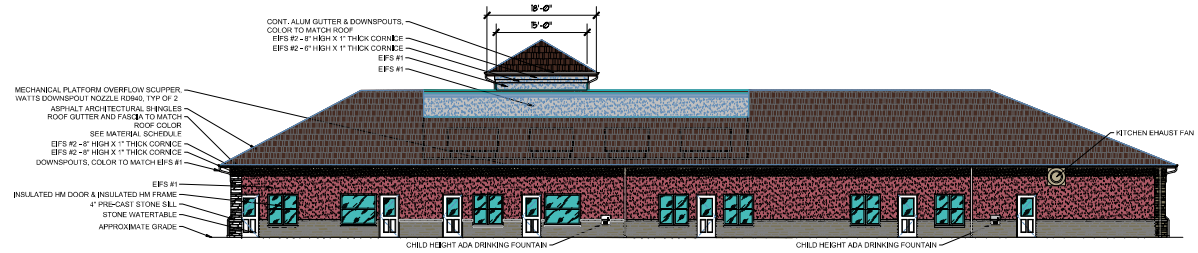
1 FRONT ELEVATION
SCALE: 1/8" = 1'-0"



2 RIGHT SIDE ELEVATION
SCALE: 1/8" = 1'-0"

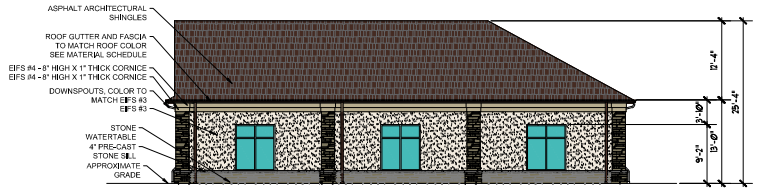


3 LEFT SIDE ELEVATION
SCALE: 1/8" = 1'-0"

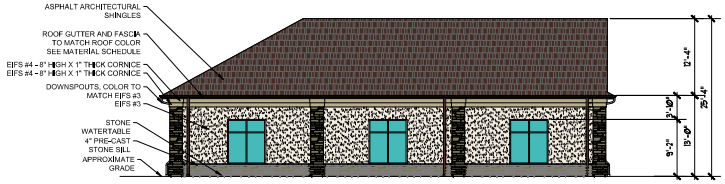


4 REAR ELEVATION
SCALE: 1/8" = 1'-0"

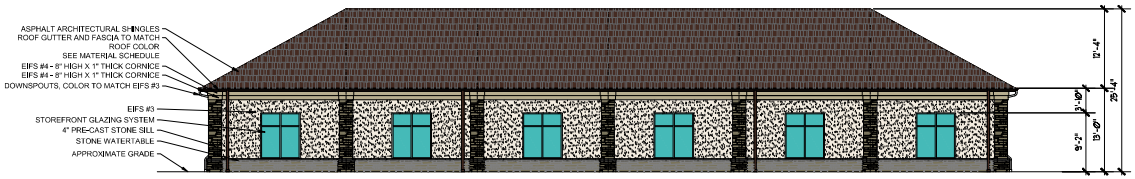
1 FRONT ELEVATION
SCALE: 1/8" = 1'-0"



2 RIGHT SIDE ELEVATION
SCALE: 1/8" = 1'-0"



3 LEFT SIDE ELEVATION
SCALE: 1/8" = 1'-0"



4 REAR ELEVATION
SCALE: 1/8" = 1'-0"

ALDERWOOD

WIMBERLY ROAD & JENKS ROAD
APEX, NORTH CAROLINA

PLANNED DEVELOPMENT PLAN FOR PUD-CZ

PROJECT NUMBER: 2020110080
DATE: JULY 02, 2021

VICINITY MAP & AERIAL IMAGE
N.T.S.

LOT #1
PIN: 0722687241
RICHARD & TRISHA HINESLEY
4070 RANEY WAY DRIVE
STEM, NC, 27581-9561
DB 14798, PG 1865
1.68 AC

LOT #2
PIN: 0722780191
TERESA L. KIRKPATRICK
591 BENT OAK TRAIL
CONCORD, NC, 28027-9715
DB 15327, PG 769
6.22 AC

LOT #3
PIN: 0722784193
CHARLES, FRANCIS J., KENNETH LEWIS
323 SCENIC MOUNTAIN DRIVE
SPARTA, NC, 28675-9434
DB 4310, PG 469
3.55 AC

LOT #4
PIN: 0722788252
MICHAEL, DUANE, ALISON N CLEARY
7912 JENKS ROAD
APEX, NC 27523-7821
DB 5072, PG 62
3.41 AC

SHEET INDEX

SITE DATA

PARCEL IDENTIFICATION NUMBER (PIN)	0722687241, 0722780191, 0722784193, 0722788252	
EXISTING ZONING	RR	
PROPOSED ZONING	PUD-CZ	
CURRENT 2045 LAND USE MAP DESIGNATION	MIXED USE - HIGH DENSITY, OFFICE EMPLOYMENT, COMMERCIAL SERVICES	
PROPOSED 2045 LAND USE MAP DESIGNATION	MIXED-USE - MEDIUM/HIGH DENSITY, OFFICE EMPLOYMENT, COMMERCIAL SERVICES	
AREA DESIGNATED AS MIXED USE ON 2045 LUM	14.86 AC	
PERCENT OF MIXED USE AREAS PROPOSED AS NON-RESIDENTIAL	30%	
SITE AREA	APPROX. 15.30 AC - GROSS APPROX. 0.55 - INSIDE R/W APPROX. 14.86 AC - NET	
EXISTING USE	SINGLE FAMILY LOTS	
PROPOSED USE	MIXED USE: TOWNHOMES AND COMMERCIAL	
DENSITY	MAXIMUM	78 UNITS / 14.86 AC = 5.24 DU/AC 30,000 SF NON-RESIDENTIAL FLOOR AREA
TOWNHOMES		
LOT SIZE	MINIMUM	1,430 SF
LOT WIDTH	MINIMUM	22'
LOT DEPTH	MINIMUM	65'
BUILDING HEIGHT	MAXIMUM	45' (3 STORIES)
SETBACKS	FRONT	20' TO GARAGE, 8' TO BUILDING FACADE OR FRONT PORCH
	SIDE	5' (10' BUILDING SEPARATION)
	REAR	10'
	ALLEY	5'
	CORNER	8'
PARKING	REQUIRED	78 UNITS x 2/UNIT = 156 SPACES
	PROPOSED	156 SPACES(RESIDENTIAL)
NONRESIDENTIAL		
BUILDING HEIGHT	MAXIMUM	45' (3 STORIES)
SETBACKS FROM REQUIRED BUFFERS		10'
SETBACKS (WHERE THERE ARE NO BUFFERS)	FRONT	20'
	SIDE	20'
	REAR	20'
	ALLEY	5'
	CORNER	8'
PARKING	REQUIRED	UDO SEC 8.3.2
	PROPOSED	WILL COMPLY WITH UDO SEC 8.3.2
BUILT-UPON AREA (IMPERVIOUS SURFACE)	MAXIMUM	10.40 AC (70%)
RESOURCE CONSERVATION AREA	MINIMUM	3.72 AC (25%)
WATERSHED PROTECTION OVERLAY	PRIMARY WATERSHED PROTECTION DISTRICT	
FEMA FLOODPLAIN	NONE (FIRM PANEL 3720072200J, EFFECTIVE 05/02/2006)	
HISTORIC STRUCTURES	NONE	

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

MCADAMS
The John R. McAdams Company, Inc.
2905 Meridian Parkway
Durham, NC 27713

phone 919. 361. 5000
fax 919. 361. 2269
license number: C-0293, C-187

www.mcadamsco.com

CONTACT

JESSIE HARDESTY
hardesty@mcadamsco.com
PHONE: 919. 361. 5000

CLIENT

TAYLOR MORRISON
15501 WESTON PARKWAY SUITE 100
CARY, NC 27513
PHONE: 919. 380. 7223

TaylorMorrison

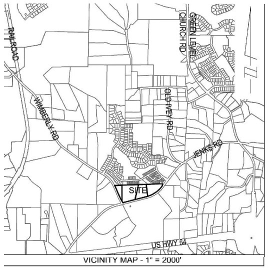
NORTH CAROLINA PROFESSIONAL SEAL 03?452 ENGINEER JEREMY V. FINCH
PRELIMINARY NOT FOR CONSTRUCTION

REVISIONS

NO.	DATE	
1	05. 14. 2021	PER TOWN OF APEX COMMENTS
2	06. 11. 2021	PER TOWN OF APEX COMMENTS
3	06. 25. 2021	PER TOWN OF APEX COMMENTS
4	07. 02. 2021	UPDATED WETLANDS ADDED

PLANNED DEVELOPMENT PLAN FOR:

ALDERWOOD
APEX, NC 27523
PROJECT NUMBER: 2020110080



NOTE:
1. AREAS BY COORDINATE GEOMETRY UNLESS SHOWN OTHERWISE.
2. ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES.
3. ALL STREETS ARE PUBLIC RIGHTS-OF-WAY UNLESS SHOWN OTHERWISE.
4. OTHER INSTRUMENTS OF RECORD MAY AFFECT THIS PROPERTIES.
5. NO NCGS MONUMENT WITHIN 2,000 FEET OF PROPERTIES.
6. NO FEMA FLOOD HAZARD AREAS PER FIRM NUMBER 3720072200J DATED MAY 2. 2006.
7. PROPERTIES ARE ZONED RR.
8. PROPERTIES ARE WITHIN THE JORDAN LAKE WATERSHED AND ARE SUBJECT TO THE TOWN OF APEX'S (TOWN) UNIFIED DEVELOPMENT ORDINANCE (UDO) SECTION 6.1.11 - RIPARIAN BUFFERS
9. A FIELD DETERMINATION FOUND THAT STREAMS SUBJECT TO RIPARIAN BUFFERS START OFF-SITE AS DEPICTED IN THE SITE PLANS. A DETERMINATION REQUEST FROM THE TOWN OF APEX IS UNDERWAY. THE TOWN OF APEX BUFFER DETERMINATION LETTER AND BUFFER CALL NUMBER WILL BE PROVIDED UPON RECEIPT.
10. THE COORDINATES SHOWN ON THIS PLAT WERE DERIVED BY REAL TIME NETWORK (RTN) GLOBAL POSITIONING SYSTEM (GPS). THIS METHOD RESULTS IN (NAD 1983/2011) - (CORS 96) POSITIONS AND NORTH AMERICAN VERTICAL DATUM '88 (MEAN SEA LEVEL) ELEVATIONS USING THE CONTINUOUSLY OPERATING REFERENCE STATIONS (CORS) MAINTAINED BY NORTH CAROLINA GEODETIC SURVEY. CLASS A SURVEY, 0.033 FT POSITIONAL ACCURACY, VRS FIELD PROCEDURE, GEOID12A AND UNITS IN FEET.
11. ITEM 6(A)(B) - NO ZONING REPORT FURNISHED AT THIS TIME.
12. ITEM 16 - NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS OBSERVED IN PROCESS OF CONDUCTING THE FIELDWORK.
13. ITEM 17 - NO OBSERVED PROPOSED CHANGES IN STREET RIGHT OF WAY LINES. NO OBSERVED EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK.
14. ITEM 18 - NO WETLANDS DELINEATED AT TIME OF SURVEY.
15. NO FIELD LOCATION OF EXISTING GAS LINES AT TIME OF SURVEY. APPROXIMATE EASEMENTS SHOWN BASED ON DEEDS AND PLATS OF RECORD DUE TO UNDERGROUND NATURE OF GAS LINES AND ARE SUBJECT TO ADJUSTMENT UPON FIELD LOCATION OF GAS LINES.
16. PROPERTY CORNERS ARE CALCLATED POINTS UNILESS SHOWN OTHERWISE.

NOTE:
THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON OBSERVED ABOVE GROUND STRUCTURES, FIELD MARKINGS AND DRAWINGS PROVIDED TO THE SURVEYOR. LOCATIONS OF UNDERGROUND UTILITIES/STRUCTURES MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES. BEFORE EXCAVATIONS ARE BEGUN, FIELD LOCATIONS AND THE TYPE OF UTILITIES/STRUCTURES SHOULD BE VERIFIED.

LINE TABLE		
LINE	DIRECTION	DISTANCE
L1	S01°37'53"E	61.09
L2	S37°26'17"W	57.99
L3	S38°20'35"W	51.98
L4	S40°23'52"W	52.61
L5	S45°23'52"W	50.80
L6	S50°36'52"W	51.72
L7	S54°31'47"W	56.84
L8	S56°57'00"W	50.16
L9	S58°50'33"W	53.70
L10	S61°32'10"W	54.37
L11	S65°47'22"W	52.80
L12	S69°41'04"W	53.91
L13	S73°31'36"W	44.67
L14	N32°15'40"W	59.96
L15	S00°11'29"E	61.82
L16	N32°01'55"W	51.05
L17	N87°59'52"E	32.91
L18	S28°57'10"E	42.46
L19	S23°47'14"E	49.82

CURVE TABLE				
CURVE	RADIUS	LENGTH	CHORD DIRECTION	CHORD
C1	1847.12	159.94	N27°43'59"W	159.89

SURVEYOR'S CERTIFICATE

TO: TAYLOR MORRISON OF CAROLINAS, INC & CHICAGO TITLE INSURANCE COMPANY;

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 6(A), 6(B), 7(A), 7(B)(1), 7(C), 8, 9, 11, 13, 14, 16, 17 AND 19 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON MARCH 12, 2019.

DATE OF PLAT OR MAP: ____________________
DAN GREGORY L-5240

REFERENCES:
DB. 5072 PG. 62
DB. 4310 PG. 469
DB. 15327 PG. 769
DB. 14798 PG. 1865
BM. 1987 PG. 1291
BM. 1987 PG. 1048

PROPERTY DESCRIPTION (RECORD)

LYING AND BEING SITUATE IN WAKE COUNTY, NORTH CAROLINA, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

TRACT 1: BEING ALL OF LOT 1 OF SUNNYBROOK FARMS, SECTION I RECORDED IN BOOK OF MAPS 1987, PAGE 1048, WAKE COUNTY REGISTRY.

TRACT 2: BEING ALL OF LOT 2 OF SUNNYBROOK FARMS, SECTION I RECORDED IN BOOK OF MAPS 1987, PAGE 1048, WAKE COUNTY REGISTRY

TRACT 3: BEING ALL OF LOT 3 OF SUNNYBROOK FARMS, SECTION I RECORDED IN BOOK OF MAPS 1987, PAGE 1048, WAKE COUNTY REGISTRY.

TRACT 4: BEING ALL OF TRACT 8A, 2.12 ACRES (1.68 ACRES NET OF RIGHT OF WAY OF S.R. 1603) AS RECORDED IN BOOK OF MAPS 1987, PAGE 1291, WAKE COUNTY REGISTRY, REFERENCE TO WHICH IS HEREBY MADE FOR GREATER CERTAINTY OF DESCRIPTION.

PROPERTY DESCRIPTION (FIELD)

TRACT 1 (LOT1)

BEGINNING AT A POINT LOCATED ON THE EASTERN RIGHT-OF-WAY LINE OF WIMBERLY ROAD N.C.S.R. 1603 AND ALSO BEING THE SOUTHEASTERN PROPERTY CORNER OF TRACT 8A AS RECORDED IN BOOK OF MAPS 1987, PAGE 1291, WAKE COUNTY REGISTRY; THENCE LEAVING SAID RIGHT-OF-WAY NORTH 00°11'29" WEST A DISTANCE OF 537.66 FEET TO AN EXISTING IRON PIPE LOCATED ON THE SOUTHERN PROPERTY LINE OF TAYLOR MORRISON OF CAROLINAS, LLC AS RECORDED IN BOOK OF MAPS 2019, PAGE 62, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID SOUTHERN PROPERTY LINE NORTH 87°57'45" EAST A DISTANCE OF 563.89 FEET TO AN EXISTING IRON PIPE LOCATED ON THE NORTHWESTERN PROPERTY CORNER OF LOT 2 AS RECORDED IN BOOK OF MAP 1987, PAGE 1048 WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID WESTERN PROPERTY LINE SOUTH 13°40'47" WEST A DISTANCE OF 519.22 FEET TO A POINT LOCATED ON THE NORTHERN RIGHT-OF-WAY LINE OF JENKS ROAD N.C.S.R. 1601; THENCE ALONG AND WITH SAID RIGHT-OF-WAY SOUTH 75°40'29" WEST A DISTANCE OF 420.00 FEET TO A POINT LOCATED ON THE EASTERN RIGHT-OF-WAY LINE WIMBERLY ROAD N.C.S.R. 1603; THENCE ALONG AND WITH SAID RIGHT-OF-WAY NORTH 32°15'40" WEST A DISTANCE OF 59.96 FEET THE POINT OF BEGINNING, CONTAINING 6.2201 ACRES.

TRACT 2 (LOT2)

BEGINNING AT A POINT LOCATED ON THE NORTHERN RIGHT-OF-WAY LINE OF JENKS ROAD N.C.S.R. 1601 AND ALSO BEING THE SOUTHEASTERN PROPERTY CORNER OF LOT 1 AS RECORDED IN BOOK OF MAPS 1987, PAGE 1048, WAKE COUNTY REGISTRY; THENCE LEAVING SAID RIGHT-OF-WAY NORTH 13°40'47" EAST A DISTANCE OF 519.22 FEET TO AN EXISTING IRON PIPE LOCATED ON THE SOUTHERN PROPERTY LINE OF TAYLOR MORRISON OF CAROLINAS, LLC AS RECORDED IN BOOK OF MAPS 2019, PAGE 62, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID SOUTHERN PROPERTY LINE NORTH 87°55'55" EAST A DISTANCE OF 261.89 FEET TO AN EXISTING IRON PIPE LOCATED ON THE NORTHWESTERN PROPERTY CORNER OF LOT 3 AS RECORDED IN BOOK OF MAP 1987, PAGE 1048 WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID WESTERN PROPERTY LINE SOUTH 06°14'23" EAST A DISTANCE OF 406.87 FEET TO A POINT LOCATED ON THE NORTHERN RIGHT-OF-WAY LINE OF JENKS ROAD N.C.S.R. 1601; THENCE ALONG AND WITH SAID RIGHT-OF-WAY SOUTH 75°40'29" WEST A DISTANCE OF 442.49 FEET THE POINT OF BEGINNING, CONTAINING 3.5482 ACRES.

TRACT 3 (LOT3)

BEGINNING AT A POINT LOCATED ON THE NORTHERN RIGHT-OF-WAY LINE OF JENKS ROAD N.C.S.R. 1601 AND ALSO BEING THE SOUTHEASTERN PROPERTY CORNER OF LOT 2 AS RECORDED IN BOOK OF MAPS 1987, PAGE 1048, WAKE COUNTY REGISTRY; THENCE LEAVING SAID RIGHT-OF-WAY NORTH 06°14'87" WEST A DISTANCE OF 406.87 FEET TO AN EXISTING IRON PIPE LOCATED ON THE SOUTHERN PROPERTY LINE OF TAYLOR MORRISON OF CAROLINAS, LLC AS RECORDED IN BOOK OF MAPS 2019, PAGE 62, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID SOUTHERN PROPERTY LINE NORTH 87°59'37" EAST A DISTANCE OF 544.19 FEET TO AN EXISTING IRON PIPE LOCATED ON THE NORTHWESTERN PROPERTY CORNER OF TAYLOR MORRISON OF CAROLINAS, LLC AS RECORDED IN BOOK OF MAPS 2017, PAGE 183, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID WESTERN PROPERTY LINE SOUTH 01°37'53" EAST A DISTANCE OF 61.09 FEET TO A POINT LOCATED ON THE NORTHERN RIGHT-OF-WAY LINE OF JENKS ROAD N.C.S.R. 1601; THENCE ALONG AND WITH SAID RIGHT-OF-WAY SOUTH 37°26'17" WEST A DISTANCE OF 57.99 FEET THE POINT; THENCE SOUTH 38°20'35" WEST A DISTANCE OF 51.98 FEET THE POINT; THENCE SOUTH 40°23'52" WEST A DISTANCE OF 52.61 FEET THE POINT; THENCE SOUTH 45°23'52" WEST A DISTANCE OF 50.80 FEET A POINT; THENCE SOUTH 50°36'52" WEST A DISTANCE OF 51.72 FEET A POINT; THENCE SOUTH 54°31'47" WEST A DISTANCE OF 56.84 FEET A POINT; THENCE SOUTH 56°57'00" WEST A DISTANCE OF 50.16 FEET A POINT; THENCE SOUTH 58°50'33" WEST A DISTANCE OF 53.70 FEET A POINT; THENCE SOUTH 61°32'10" WEST A DISTANCE OF 54.37 FEET A POINT; THENCE SOUTH 65°47'22" WEST A DISTANCE OF 52.80 FEET A POINT; THENCE SOUTH 69°41'04" WEST A DISTANCE OF 53.91 FEET A POINT; THENCE SOUTH 73°31'36" WEST A DISTANCE OF 44.67 FEET THE POINT OF BEGINNING, CONTAINING 3.4109 ACRES.

TRACT 4 (TRACT 8A)

BEGINNING AT A POINT LOCATED ON THE EASTERN RIGHT-OF-WAY LINE OF WIMBERLY ROAD N.C.S.R. 1603 AND ALSO BEING THE SOUTHWESTERN PROPERTY CORNER OF LOT 1 AS RECORDED IN BOOK OF MAPS 1987, PAGE 1048, WAKE COUNTY REGISTRY; THENCE LEAVING SAID RIGHT-OF-WAY SOUTH 00°11'29" EAST A DISTANCE OF 61.82 FEET TO A POINT LOCATED ON THE CENTERLINE OF WIMBERLY ROAD N.C.S.R. 1603; THENCE ALONG AND WITH SAID CENTERLINE NORTH 32°01'55" WEST A DISTANCE OF 51.05 FEET TO A POINT; THENCE NORTH 32°01'55" WEST A DISTANCE OF 179.43 FEET TO A POINT; THENCE NORTH 22°06'24" WEST A DISTANCE OF 425.44 FEET TO A POINT; THENCE LEAVING SAID CENTERLINE NORTH 87°59'52" EAST A DISTANCE OF 32.91 FEET TO A POINT LOCATED ON THE EASTERN RIGHT-OF-WAY LINE OF WIMBERLY ROAD N.C.S.R. 1603, AND THE SOUTHWESTERN PROPERTY CORNER TAYLOR MORRISON OF CAROLINAS, LLC AS RECORDED IN BOOK OF MAPS 2019, PAGE 62, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID SOUTHERN PROPERTY LINE NORTH 87°58'10" EAST A DISTANCE OF 247.61 FEET TO AN EXISTING IRON PIPE LOCATED ON THE NORTHWESTERN PROPERTY CORNER OF LOT 1 AS RECORDED IN BOOK OF MAPS 1987, PAGE 1048, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID WESTERN PROPERTY LINE SOUTH 00°11'29" EAST A DISTANCE OF 537.66 FEET THE POINT OF BEGINNING, CONTAINING 2.1233 ACRES.

LEGEND

○	CP = CALCULATED POINT
●	EIP = EXISTING IRON PIPE
(W)	WELL
<	GUY WIRE
	POWER POLE
(W)	WATER MANHOLE
	ELECTRIC TRANSFORMER
(S)	SANITARY SEWER MANHOLE
	WATER VALVE
	MAILBOX
	TELEPHONE PEDESTAL
	PROPANE TANK
	SEPTIC TANK
(SD)	STORM MANHOLE
R/W = RIGHT-OF-WAY	
XXXX	DENOTES ADDRESS
OVERHEAD ELECTRIC	— OHE —
STORMLINE	==========
FENCE LINE	—x—x—x—
FIBER OPTIC LINE	— FO —
SANITARY SEWER LINE	—SS—SS—SS—

OWNERS:
MICHAEL DUANE CLEARY
ALISON N. CLEARY
7912 JENKS RD
APEX NC 27523-7821

CHARLES KENNETH LEWIS
FRANCES JOHNSON LEWIS
323 SCENIC MOUNTAIN DR
SPARTA NC 28675-9434

TERESA L. KIRKPATRICK
591 BENT OAK TRL
CONCORD NC 28027-9715

TRISHA S. HINESLEY
RICHARD L. HINESLEY
4070 RANEY WAY DR
STEM NC 27581-9651

CHICAGO TITLE INSURANCE COM[ANY
COMMITMENT NUMBER: 19-00877CH
COMMITMENT DATE: JANUARY 2, 2019 AT 08:00 AM

SCHEDULE B - SECTION II
EXCEPTIONS

(5) ANY RIGHT, EASEMENT, SETBACK, INTEREST, CLAIM, ENCROACHMENT, ENCUMBRANCE, VIOLATION, VARIATIONS OR OTHER ADVERSE CIRCUMSTANCE AFFECTING THE TITLE DISCLOSED BY PLAT(S) RECORDED IN BOOK OF MAPS 1987, PAGE 1048. (SHOWN ON SURVEY)

(6) COVENANTS, CONDITIONS, RESTRICTIONS, EASEMENTS,AND LIENS PROVIDED FOR IN INSTRUMENT(S) FILED FOR RECORD IN BOOK 4310, PAGE 465, AND ANY RELATED MAPS, PLANS, BYLAWS AND OTHER DOCUMENT(S) AND AMENDMENT(S), BUT OMITTING ANY COVENANTS OR RESTRICTIONS, IF ANY, BASED UPON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, FAMILIAL STATUS, MARITAL STATUS, DISABILITY, HANDICAP, NATIONAL ORIGIN, ANCESTRY, OR SOURCE OF INCOME, AS SET FORTH IN APPLICABLE STATE OR FEDERAL LAWS, EXCEPT TO THE EXTENT THAT SAID COVENANT OR RESTRICTION IS PERMITTED BY APPLICABLE LAW. (NO LONGER AFFECTS PROPERTY)

(7) RIGHT OF WAY AGREEMENT IN FAVOR OF THE DEPARTMENT OF TRANSPORTATION RECORDED IN BOOK 4670, PAGE 847. (AS TO TRACT 1) (SHOWN ON SURVEY)

(8) ALTERNATIVE SEWAGE DISPOSAL SYSTEM MAINTENANCE SCHEDULE RECORDED IN BOOK 6444, PAGE 305. (AS TO TRACT 1) (NOT PLOTTABLE)

(9) RIGHT OF WAY GRANT IN FAVOR OF CAROLINA POWER &LIGHT COMPANY RECORDED IN BOOK 5389, PAGE 111. (AS TO TRACT 1) (SHOWN ON SURVEY)

(10) DEED OF EASEMENT RECORDED IN BOOK 15972, PAGE 189. (AS TO TRACT 1) (SHOWN ON SURVEY)

(11) DEED OF EASEMENT RECORDED IN BOOK 16058, PAGE 12. (AS TO TRACT 2) (SHOWN ON SURVEY)

(12) RIGHT OF WAY EASEMENT OPTION RECORDED IN BOOK 1560, PAGE 501. (AS TO TRACT 2) (DOES NOT AFFECT PROPERTY)

(13) CATHODIC PROTECTION FACILITY EASEMENT RECORDED IN BOOK 1757, PAGE 17. (AS TO TRACTS 2 & 3) (BLANKET EASEMENT, NOT PLOTTABLE)

(14) ALTERNATIVE SEWAGE DISPOSAL SYSTEM MAINTENANCE SCHEDULE RECORDED IN BOOK 4401, PAGE 847. (AS TO TRACT 2) (NOT PLOTTABLE)

(15) ALTERNATIVE SEWAGE DISPOSAL SYSTEM MAINTENANCE SCHEDULE RECORDED IN BOOK 5070, PAGE 546. (AS TO TRACT 3) (NOT PLOTTABLE)

(16) DEED OF EASEMENT RECORDED IN BOOK 15972, PAGE 165. (AS TO TRACT 3) (SHOWN ON SURVEY)

(17) RIGHT OF WAY AGREEMENT IN FAVOR OF CARDINAL EXTENSION COMPANY, LLC RECORDED IN BOOK 8250, PAGE 1600. (AS TO TRACT 3) (SHOWN ON SURVEY. TEMPORARY EASEMENTS NOT SHOWN, SURVEYOR ASSUMES THEY NO LONGER AFFECT PROPERTY AS CONSTRUCTION APPEARS TO BE COMPLETE.)

(18) RIGHT OF WAY EASEMENT OPTION RECORDED IN BOOK 1560, PAGE 501. (AS TO TRACT 3) (SHOWN ON SURVEY)

(19) ANY RIGHT, EASEMENT, SETBACK, INTEREST, CLAIM, ENCROACHMENT, ENCUMBRANCE, VIOLATION, VARIATIONS OR OTHER ADVERSE CIRCUMSTANCE AFFECTING THE TITLE DISCLOSED BY PLAT(S) RECORDED IN BOOK OF MAPS 1987, PAGE 1291. (AS TO TRACT 4) (SHOWN ON SURVEY)

(20) RIGHT OF WAY GRANT IN FAVOR OF CAROLINA POWER & LIGHT COMPANY RECORDED IN BOOK 5389, PAGE 113. (AS TO TRACT 4) (SHOWN ON SURVEY)

(21) RIGHT OF WAY AGREEMENT IN FAVOR OF THE DEPARTMENT OF TRANSPORTATION RECORDED IN BOOK 4670, PAGE 848. (AS TO TRACT 4) (SHOWN ON SURVEY)

(22) DEED OF EASEMENT RECORDED IN BOOK 16089, PAGE 1278. (AS TO TRACT 4) (SHOWN ON SURVEY)

M:\Projects\TaylorMorr\2020110080\04-Production\Planning and LA\PUD\2020110080-XC1.dwg, 7/2/2021 12:25:25 PM, Vanderslice, Sean

BNK TREE TYPE ABBREVIATIONS

APPLE	- AP
ASH	- AS
BEECH	- BE
BIRCH	- BI
BLACK WALNUT	- BW
BRADFORD PEAR	- BP
CATALPA	- CP
CEDAR	- CR
COTTONWOOD	- CW
CRABAPPLE	- CA
CREPE MYRTLE	- CM
CYPRESS	- CY
DOGWOOD	- DW
ELM	- EL
GUM	- GM
HACKBERRY	- HB
HICKORY	- HK
HOLLY	- HY
IRONWOOD	- IW
LOCUST	- LC
MAGNOLIA	- MG
MAPLE	- MP
MIMOSA	- MM
MULBERRY	- MB
PEAR	- PR
PECAN	- PC
PERSIMMON	- PS
PINE	- PN
POPLAR	- PP
REDBUD	- RB
RED OAK	- RO
REDTIP	- RT
SOURWOOD	- SW
SWEETBAY	- SB
SYCAMORE	- SY
WAX MYRTLE	- WM
WHITE OAK	- WO
WILD CHERRY	- WC
WILLOW	- WW

EXISTING TREES

NUMBER	CALIPER (DBH IN INCHES)	TREE TYPE
1	21	GM
2	18	PN
3	18	PN
4	19	PN
5	21	PN
6	20	PN
7	23	PN
8	18	GM
9	23	GM
10	19	GM
11	21	GM
12	18	GM
13	18	GM
14	22	PN
15	19	PN
16	18	PN
17	20	PN
18	24	PN
19	25	PN
20	20	PN
21	21	PN
22	20	PN
23	18	PN
24	19	PN
25	22	GM x 2
26	26	GM
27	20	PN
28	18	PN
29	19	PN
30	20	PN
31	25	PN x 2
32	22	PN
33	18	PN
34	18	PN
35	20	PN

EXISTING TREES

NUMBER	CALIPER (DBH IN INCHES)	TREE TYPE
36	22	PN
37	20	PN
38	32	PN x 2
39	22	PN
40	19	PC
41	22	PP
42	28	PN
43	22	PN
44	23	PN
45	22	PN
46	19	PN
47	18	PN
48	18	GM
49	18	GM
50	28	MP x 2
51	23	GM
52	23	GM
53	22	PN
54	18	GM x 2
55	18	GM
56	18	GM
57	19	GM
58	20	PN
59	25	PP
60	20	PN
61	18	GM
62	18	GM
63	19	PP
64	19	PP
65	24	RO
66	22	RO
67	27	GM
68	20	RO
69	19	GM
70	18	PN

EXISTING TREES

NUMBER	CALIPER (DBH IN INCHES)	TREE TYPE
71	21	WO
72	18	MP
73	23	PN
74	23	PN
75	22	PN
76	20	PN
77	25	RO x 2
78	20	PP
79	19	GM
80	24	PP
81	21	PP
82	19	PN
83	20	PP
84	21	PN
85	21	PP
86	21	PP
87	21	PP
88	20	PP
89	18	PP
90	20	PN
91	22	PN
92	21	GM
93	22	GM
94	22	PP x 2
95	23	GM
96	19	GM
97	22	PN
98	19	PN
99	19	PN
100	21	PN
101	19	PN
102	22	PN
103	19	PN
104	19	GM
105	22	PN

EXISTING TREES

NUMBER	CALIPER (DBH IN INCHES)	TREE TYPE
106	21	PN
107	20	PN
108	23	PN
109	21	RO
110	20	PN
111	18	PN
112	26	PN
113	24	PN
114	27	PN
115	24	PN
116	28	PN
117	29	PN
118	18	GM
119	20	PN
120	19	PP
121	19	PP

TOPOGRAPHY FROM TOWN OF APEX LIDAR, 2FT INTERVALS

WETLANDS FIELD LOCATED BY McADAMS

EXISTING TREES 18" DBH & LARGER PROVIDED BY BNK

ALTA SURVEY BY BASS, NIXON & KENNEDY, INC
CONSULTING ENGINEERS, 3-20-2019

SCALE: 1" = 100'
0 50 100 200 300 400

BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
• 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NORTH CAROLINA 27607
• TELEPHONE: (919)851-4422 or (800)354-1879
FAX: (919)851-8968
• CERTIFICATION NUMBERS: NCBELS (C-0110); NCBLA (C-0267)

BNK

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

McADAMS
The John R. McAdams Company, Inc.
2905 Meridian Parkway
Durham, NC 27713

phone 919. 361. 5000
fax 919. 361. 2269
license number: C-0293, C-187

www.mcadamsco.com

CLIENT

TAYLOR MORRISON
15501 WESTON PARKWAY SUITE 100
CARY, NC 27513
PHONE: 919.380. 7223

TaylorMorrison

ALDERWOOD
PLANNED DEVELOPMENT PLAN
WIMBERLY ROAD & JENKS ROAD
APEX, NC, 27523

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031452 JEREMY V. FINCH

REVISIONS

1	05. 14. 2021	PER TOWN OF APEX COMMENTS
2	06. 11. 2021	PER TOWN OF APEX COMMENTS
3	06. 25. 2021	PER TOWN OF APEX COMMENTS
4	07. 02. 2021	UPDATED WETLANDS ADDED

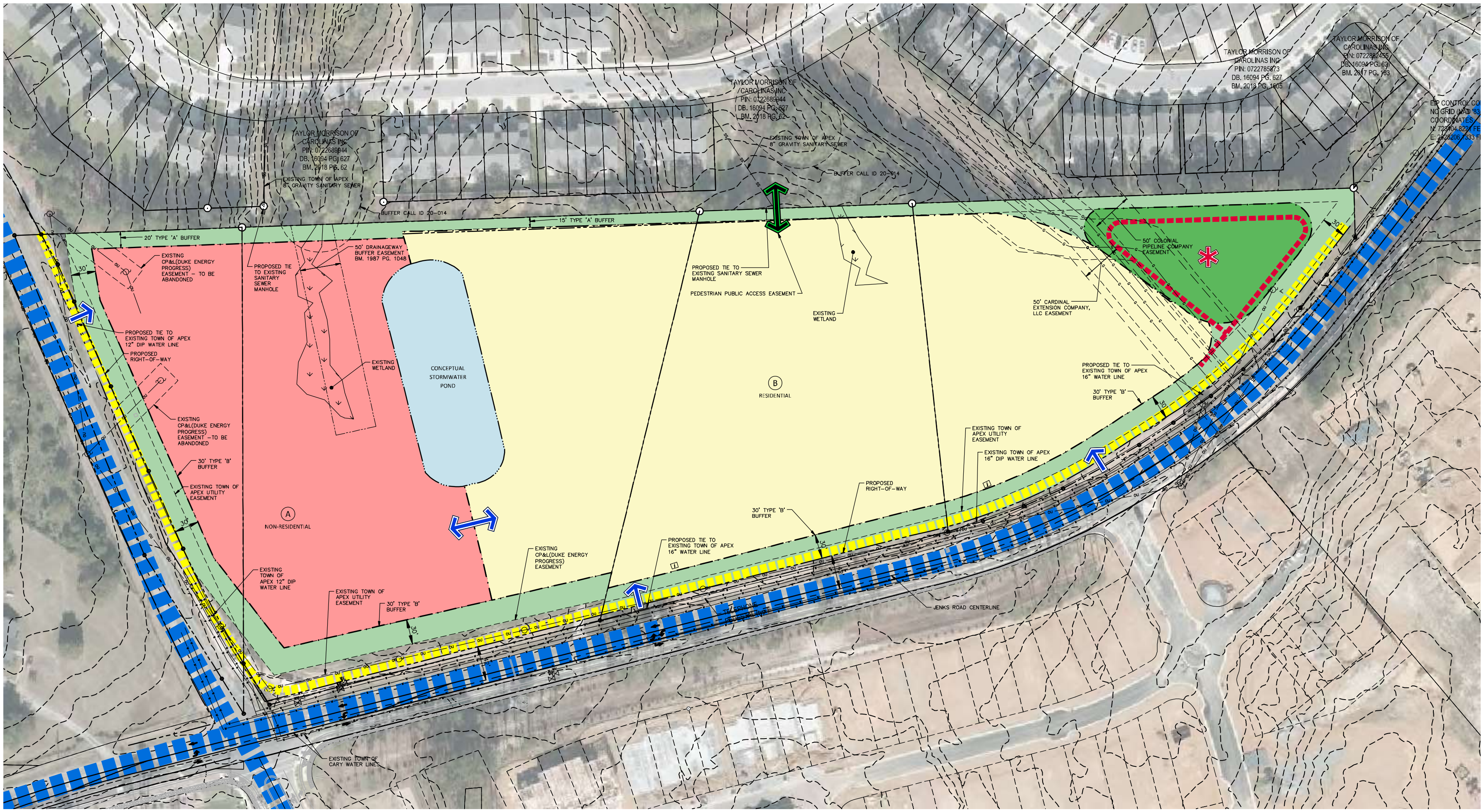
PLAN INFORMATION

PROJECT NO.	2020110080
FILENAME	2020110080-XC1
CHECKED BY	JH
DRAWN BY	JAR
SCALE	1"=100'
DATE	04. 01. 2021

SHEET

EXISTING CONDITIONS

C1.00



LEGEND

- RESIDENTIAL CONCEPTUAL DEVELOPMENT BLOCK
- ACTIVE RECREATION / POCKET PARKS
- PASSIVE OPEN SPACE (STREAM BUFFERS/ WETLANDS/PONDS/PERIMETER BUFFERS)
- STORMWATER MANAGEMENT CONCEPTUAL DEVELOPMENT ENVELOPE
- WETLAND
- NON-RESIDENTIAL CONCEPTUAL DEVELOPMENT ENVELOPE
- CONCEPTUAL PUBLIC VEHICULAR ACCESS
- CONCEPTUAL VEHICULAR INTERPARCEL ACCESS
- CONCEPTUAL 5' PRIVATE WALKING TRAIL
- CONCEPTUAL 10' SIDEPATH
- PUBLIC VEHICULAR CIRCULATION (EXTERIOR)

NOTE: LOCATIONS OF VEHICULAR AND PEDESTRIAN CIRCULATION ARE CONCEPTUAL. FINAL LOCATIONS WILL BE DETERMINED AT THE TIME OF SITE PLAN OR MASTER SUBDIVISION PLAN APPROVAL.

GENERAL NOTES

1. REFER TO PUD DOCUMENT FOR COMPLETE LIST OF ALLOWABLE USES FOR EACH TRACT OR DEVELOPMENT AREA.
2. SITE ELEMENTS REQUIRED TO SATISFY RECREATIONAL REQUIREMENTS SUCH AS, BUT NOT LIMITED TO, PLAY FIELDS AND GREENWAY TRAILS AND ITEMS TYPICALLY ASSOCIATED WITH THEM (BENCHES, TRASH CONTAINERS, SIGNS, ETC.) MUST MEET ANY APPLICABLE STANDARDS FOUND IN THE TOWN OF APEX STANDARD SPECIFICATIONS AND CONSTRUCTION DETAILS AND THE REQUIREMENTS OF THE TOWN OF APEX PARKS AND RECREATION DEPARTMENT.
3. SITE ITEMS SUCH AS BUT NOT LIMITED TO, LIGHTING, LANDSCAPING (INCLUDING MULCH), SCREENING (i.e.: DUMPSTERS/TRASH, MECHANICAL/HVAC. ETC.), SITE STABILIZATION (SEEDING), AND PARING AND PAVEMENT MARKING MUST BE COMPLETED PRIOR TO SCHEDULING A FINAL SITE INSPECTION.
4. NO SIGNS ARE APPROVED AS PART OF THE PUD-CZ PLAN APPROVAL. A SEPARATE SIGN PERMIT MUST BE OBTAINED. SIGNAGE WILL COMPLY WITH APEX'S UDO.
5. EXACT ACCESS AND STUB LOCATIONS TO BE FINALIZED AT SUBDIVISION PLAN PHASE.
6. EXACT LOCATION OF RESOURCE CONSERVATION AREA TO BE FINALIZED AT SUBDIVISION PLAN PHASE.
7. INTERNAL PUBLIC STREETS SHALL BE DEDICATED TO THE TOWN OF APEX. ROAD STUB-OUTS SHALL BE PROVIDED PER THE TOWN OF APEX REQUIREMENTS.
8. ALL PARKING STANDARDS WITHIN THE PUD WILL COMPLY WITH THE TOWN OF APEX'S UDO.
9. PLAN SHEETS ARE INTENDED FOR ILLUSTRATIVE USE ONLY.
10. PUBLIC AND PRIVATE VEHICULAR ACCESS AND WALKING TRAILS ARE SHOWN FOR CONCEPTUAL PURPOSES ONLY AND ARE SUBJECT TO CHANGE AT TIME OF SITE PLAN OR MASTER SUBDIVISION PLAN APPROVAL.

N

GRAPHIC SCALE
0 30 60 120
1 inch = 60 ft.

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

McADAMS
The John R. McAdams Company, Inc.
2905 Meridian Parkway
Durham, NC 27713

phone 919. 361. 5000
fax 919. 361. 2269
license number: C-0293, C-187

www.mcadamsco.com

CLIENT

TAYLOR MORRISON
15501 WESTON PARKWAY SUITE 100
CARY, NC 27513
PHONE: 919.380. 7223

TaylorMorrison.

ALDERWOOD
PLANNED DEVELOPMENT PLAN
WIMBERLY ROAD & JENKS ROAD
APEX, NC, 27523

NORTH CAROLINA PROFESSIONAL SEAL 037452 ENGINEER JEREMY V. FINCH
PRELIMINARY NOT FOR CONSTRUCTION

REVISIONS

1	05. 14. 2021	PER TOWN OF APEX COMMENTS
2	06. 11. 2021	PER TOWN OF APEX COMMENTS
3	06. 25. 2021	PER TOWN OF APEX COMMENTS
4	07. 02. 2021	UPDATED WETLANDS ADDED

PLAN INFORMATION

PROJECT NO.	2020110080
FILENAME	
CHECKED BY	JH
DRAWN BY	JAR
SCALE	
DATE	04. 01. 2021

SHEET

PRELIMINARY LAYOUT PLAN

C2.00

Traffic Impact Analysis

The Retreat at the Preserve at White Oak

Apex, NC

Prepared for:

TaylorMorrison

Kimley»Horn

Traffic Impact Analysis for

The Retreat at the Preserve at White Oak

Apex, North Carolina

Prepared for:

TaylorMorrison

Cary, North Carolina

Prepared by:

Kimley-Horn and Associates, Inc.
NC License #F-0102
300 West Morgan Street, Suite 1500
Durham, NC 27701
(919) 682-3583

March 2021

017270007

3/26/2021

Executive Summary

The proposed Retreat at the Preserve at White Oak mixed-use development is located generally northeast of the Jenks Road – Wimberly Road intersection in Apex, North Carolina. The site is currently occupied by a few single-family homes. As currently envisioned, the redevelopment is expected to include 80 townhomes and 22,000 square feet (SF) of commercial space, which are anticipated to be completed as two separate projects: Scenario #1 (residential only) and Scenario #2 (commercial + residential). Specific commercial uses are not known at this time, but this analysis assumed the commercial space would include a 14,000 SF daycare center and 8,000 SF of medical office space. The development will be accessed via a full-movement driveway and right-in/right-out driveway on Jenks Road and a full-movement driveway on Wimberly Road. Build-out is anticipated in 2025.

This report presents trip generation, distribution, traffic analyses, and recommendations for transportation improvements required to meet anticipated project traffic demands. This report examines the existing (2021) traffic condition, the projected (2025) background traffic condition, and the projected (2025) Scenario #1 and Scenario #2 build-out traffic conditions.

Separate trip generation calculations were performed for each of the study scenarios. As shown in Table ES-1, Scenario #1 has the potential to generate 39 net new external trips in the AM peak hour and 48 net new external trips in the PM peak hour on a typical weekday, which are well below the TIA thresholds for the Town of Apex.

Table ES-1
ITE Traffic Generation (Vehicles) – Scenario #1 (Residential Only)

Land Use Code	Land Use	Intensity		AM Peak Hour		PM Peak Hour	
				In	Out	In	Out
221	Multifamily Housing (Low-Rise)	80	d.u.	9	30	30	18

As shown in Table ES-2, Scenario #2 has the potential to generate 215 net new external trips in the AM peak hour and 231 net new external trips in the PM peak hour on a typical weekday.

Table ES-2
ITE Traffic Generation (Vehicles) – Scenario #2 (Commercial + Residential)

Land Use Code	Land Use	Intensity		AM Peak Hour		PM Peak Hour	
				In	Out	In	Out
221	Multifamily Housing (Low-Rise)	80	d.u.	9	30	30	18
565	Daycare Center	14,000	s.f.	82	72	73	83
820	Medical Office	8,000	s.f.	19	5	8	21
Subtotal				110	107	111	122
Internal Capture				*1*	*1*	*1*	*1*
Total Net New External Trips				**109**	**106**	**110**	**121**

Capacity analyses were performed using Synchro Version 10 software. Table ES-3 summarizes the operation of the study intersections for the AM and PM peak hour traffic conditions.

Table ES-3
Level-of-Service Summary

Condition	AM Peak-Hour LOS (Delay)	PM Peak-Hour LOS (Delay)
Jenks Road – Wimberly Road/Westford Street B (Unsignalized)*		
Existing (2021) Traffic	NB – B (10.5) SB – B (10.6) EBL – A (7.5) WBL – A (7.4)	NB – B (11.4) SB – B (12.1) EBL – A (7.6) WBL – A (7.5)
Projected (2025) Background Traffic w/ Improvement by Others	NB – B (12.7) SB – B (11.1) EBL – A (7.7) WBL – A (7.5)	NB – C (15.2) SB – B (14.7) EBL – A (7.8) WBL – A (7.6)
Projected (2025) Build-out Traffic w/ Improvement by Others – *Scenario #1 (Residential Only)*	NB – B (13.0) SB – B (11.4) EBL – A (7.7) WBL – A (7.5)	NB – C (15.6) SB – C (15.3) EBL – A (7.9) WBL – A (7.6)
Projected (2025) Build-out Traffic w/ Improvement by Others – *Scenario #2 (Commercial + Residential)*	NB – C (15.0) SB – B (13.0) EBL – A (7.8) WBL – A (7.5)	NB – C (18.4) SB – C (20.2) EBL – A (8.1) WBL – A (7.6)
Jenks Road – Westford Street C/East Site Driveway (Unsignalized)*		
Existing (2021) Traffic	NB – A (9.7) WBL – A (7.6)	NB – A (9.8) WBL – A (7.6)
Projected (2025) Background Traffic	NB – B (10.3) WBL – A (7.7)	NB – B (10.6) WBL – A (7.8)
Projected (2025) Build-out Traffic – *Scenario #1 (Residential Only)*	NB – B (11.2) SB – B (11.4) EBL – A (7.5) WBL – A (7.7)	NB – B (12.4) SB – B (12.9) EBL – A (7.7) WBL – A (7.8)
Projected (2025) Build-out Traffic – *Scenario #2 (Commercial + Residential)*	NB – B (11.7) SB – B (12.9) EBL – A (7.6) WBL – A (7.7)	NB – B (13.2) SB – C (15.1) EBL – A (7.8) WBL – A (7.8)
Jenks Road – West Site Driveway (Unsignalized)*		
Projected (2025) Build-out Traffic – *Scenario #1 (Residential Only)*	SB – A (9.2)	SB – A (9.6)
Projected (2025) Build-out Traffic – *Scenario #2 (Commercial + Residential)*	SB – A (9.4)	SB – A (9.9)
Wimberly Road – Site Driveway (Unsignalized)*		
Projected (2025) Build-out Traffic – *Scenario #2 (Commercial + Residential)*	WB – B (10.4) SBL – A (7.6)	WB – B (11.4) SBL – A (7.7)

** Note: HCM methodology does not report an overall level of service for unsignalized intersections. The level of service and delay for the minor-street approaches are reported above for unsignalized intersections.*

Background Improvements

The following improvements are committed as part of The Park at Wimberly (Wolfe Property PUD) development:

Jenks Road – Wimberly Road:

- Construct an exclusive southbound right-turn lane on Wimberly Road with 50 feet of storage and appropriate tapers

Recommended Improvements

The following improvements are recommended as part of The Retreat at the Preserve at White Oak development:

Scenario #1

Jenks Road – Westford Street C/East Site Driveway (Full-Movement):

- Construct the East Site Driveway with one ingress lane and one egress lane
- Provide an eastbound left-turn lane on Jenks Road with 100 feet of storage

Scenario #1

Jenks Road – West Site Driveway (Right-in/Right-out):

- Construct the West Site Driveway with one ingress lane and one egress lane

Scenario #2

Wimberly Road – Site Driveway (Full-Movement):

- Construct the Site Driveway with one ingress lane and one egress lane

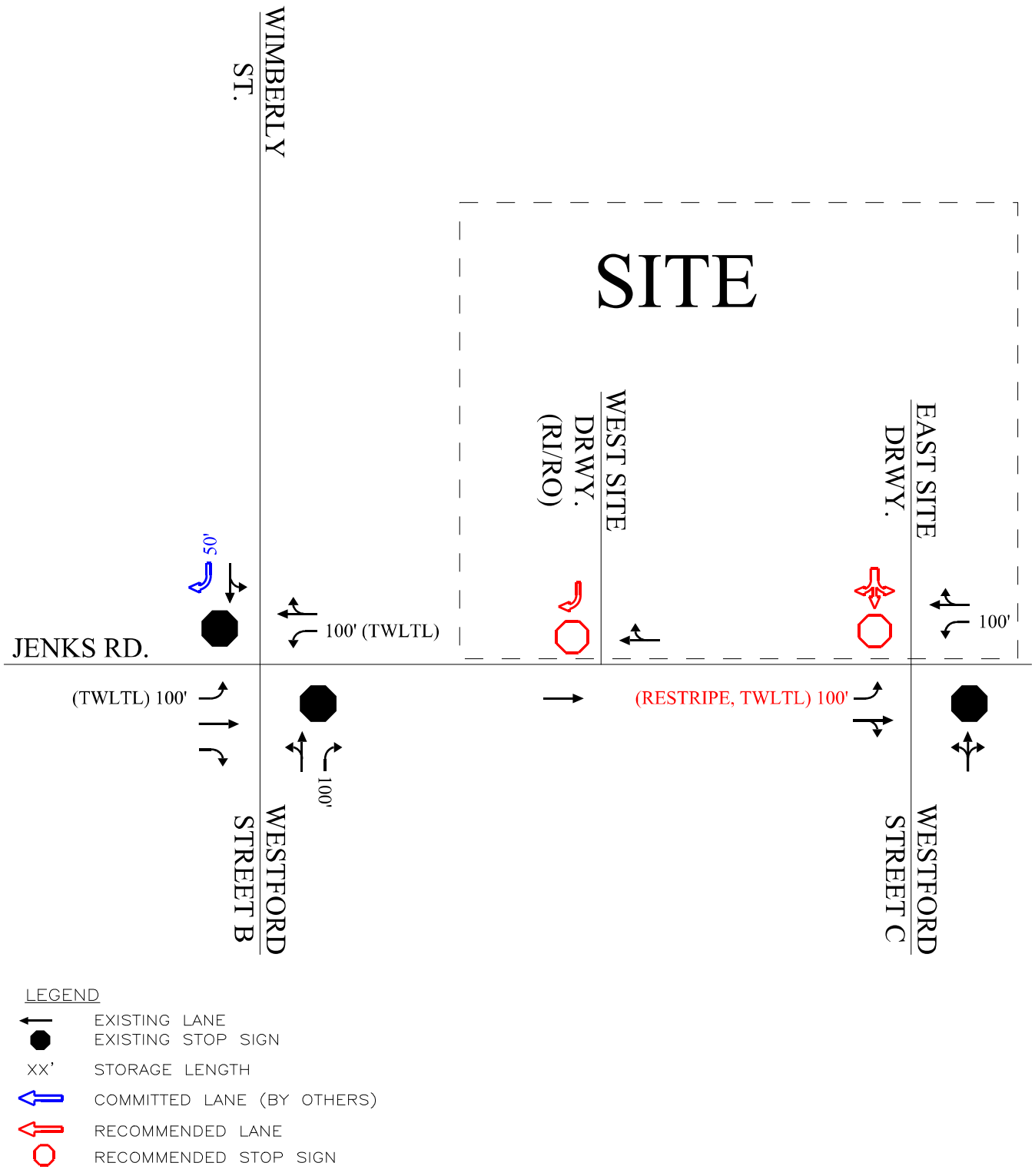
Analyses indicate that with the committed and recommended improvements in place, all of the study intersections are expected to operate acceptably at project build-out. Synchro indicates that all minor-street approaches will operate at LOS C or better, and with 95th percentile queues of less than 100' at project build-out.

As no long delays or queues are anticipated in either of the future build-out scenarios, and since turn lanes are not warranted at site driveways per the Roadway Design Manual, no additional improvements are recommended as part of this development.

Figures ES-1 and **ES-2** show the committed and recommended roadway laneage for the Scenario #1 and Scenario #2 build-out conditions, respectively.

SCENARIO #1: RESIDENTIAL ONLY

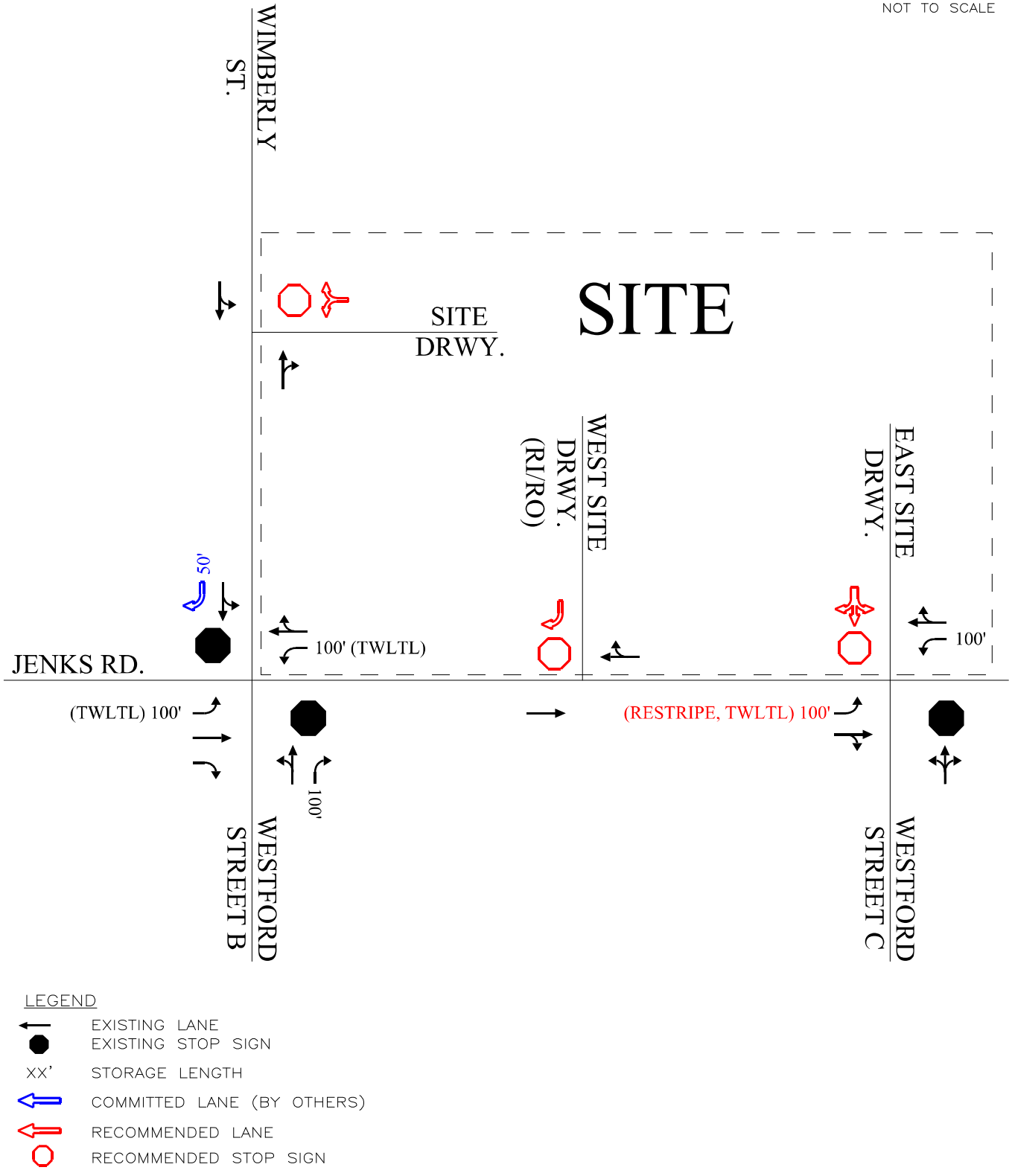
NOT TO SCALE



Kimley»Horn	THE RETREAT AT THE PRESERVE AT WHITE OAK APEX, NC TRAFFIC IMPACT ANALYSIS	COMMITTED AND RECOMMENDED ROADWAY LANEAGE – SCENARIO #1 (RESIDENTIAL ONLY)	FIGURE ES–1

SCENARIO #2: COMMERCIAL + RESIDENTIAL

NOT TO SCALE



Kimley»Horn	THE RETREAT AT THE PRESERVE AT WHITE OAK APEX, NC TRAFFIC IMPACT ANALYSIS	COMMITTED AND RECOMMENDED ROADWAY LANEAGE – SCENARIO #2 (COMMERCIAL + RESIDENTIAL)	FIGURE ES–2

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1.0 Introduction

The proposed Retreat at the Preserve at White Oak mixed-use development is located generally northeast of the Jenks Road – Wimberly Road intersection in Apex, North Carolina. The site is currently occupied by a few single-family homes. As currently envisioned, the redevelopment is expected to include 80 townhomes and 22,000 square feet (SF) of commercial space, which are anticipated to be completed as two separate projects: Scenario #1 (residential only) and Scenario #2 (commercial + residential). Specific commercial uses are not known at this time, but this analysis assumed the commercial space would include a 14,000 SF daycare center and 8,000 SF of medical office space. The development will be accessed via a full-movement driveway and right-in/right-out driveway on Jenks Road and a full-movement driveway on Wimberly Road. Build-out is anticipated in 2025.

This report presents trip generation, distribution, traffic analyses, and recommendations for transportation improvements required to meet anticipated project traffic demands. This report examines the existing (2021) traffic condition, the projected (2025) background traffic condition, and the projected (2025) Scenario #1 and Scenario #2 build-out traffic conditions.

The Town of Apex and the North Carolina Department of Transportation (NCDOT) provided background information and were consulted regarding the elements to be covered in this analysis. The approved Memorandum of Understanding is included in the Appendix of this report.

2.0 Inventory

2.1 *Study Area*

The study area for this development includes the following intersections:

- Jenks Road – Wimberly Road/Westford Street B
- Jenks Road – Westford Street C/East Site Driveway
- Jenks Road – West Site Driveway
- Wimberly Road – Site Driveway

This study area was determined based upon discussions with Town of Apex and NCDOT staff and is consistent with previous analyses. **Figure 2.1** shows the site location.

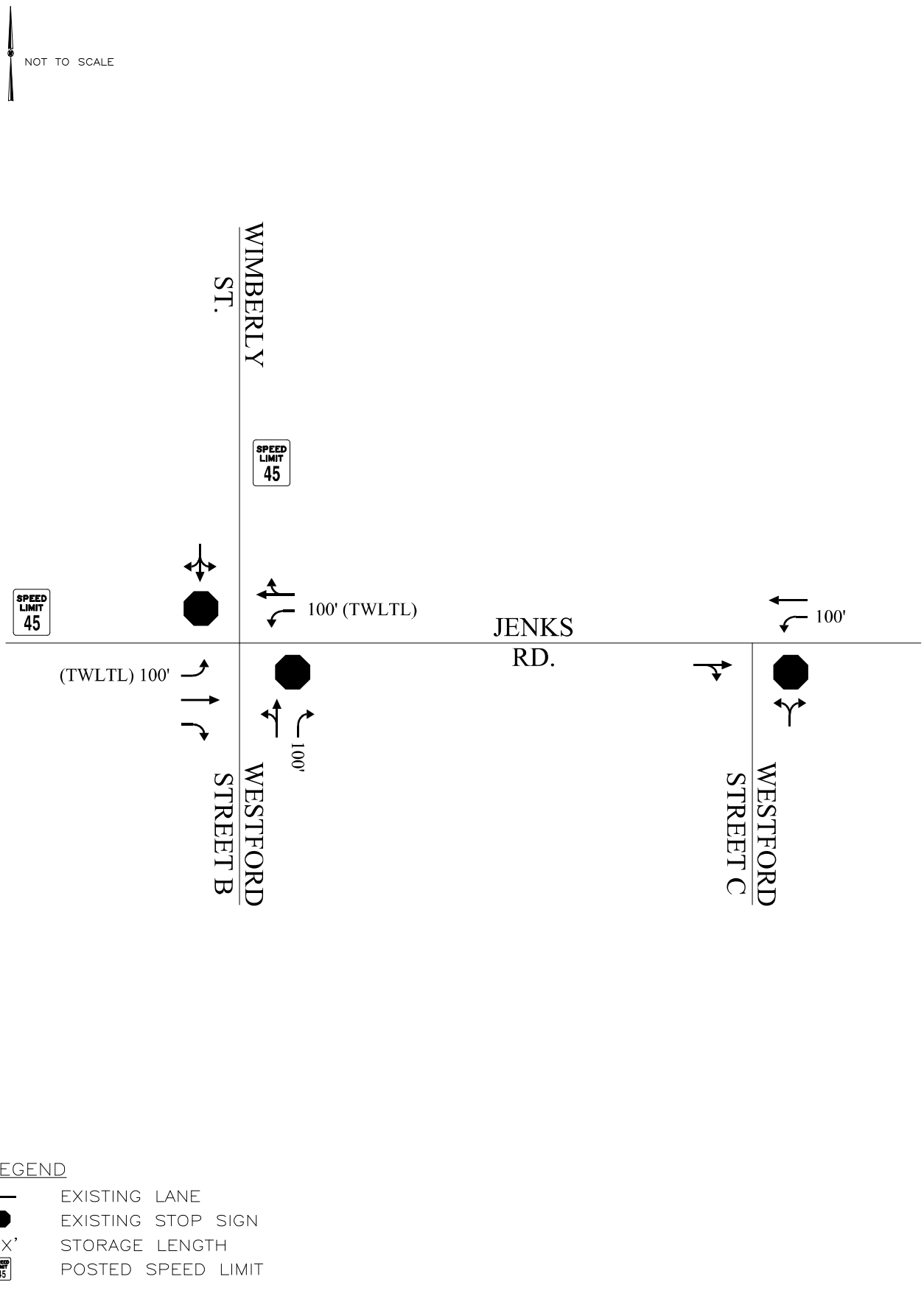
2.2 *Existing Conditions*

The proposed development is located generally northeast of the Jenks Road – Wimberly Road intersection, and major roadways in the vicinity of the site include Jenks Road and Wimberly Road. **Figure 2.2** shows the existing roadway laneage.

Jenks Road is generally a three-lane undivided roadway with a posted speed limit of 45 mph in the vicinity of the site. The estimated 2021 average daily traffic (ADT) volume is approximately 2,900 vehicles per day (vpd) east of Wimberly Road.

Wimberly Road is generally a two undivided roadway with a posted speed limit of 45 mph in the vicinity of the site. The estimated 2021 ADT volume is approximately 1,800 vpd at Jenks Road.

Kimley»Horn	THE RETREAT AT THE PRESERVE AT WHITE OAK APEX, NC TRAFFIC IMPACT ANALYSIS	SITE LOCATION	FIGURE 2.1



Kimley»Horn	THE RETREAT AT THE PRESERVE AT WHITE OAK APEX, NC TRAFFIC IMPACT ANALYSIS	EXISTING ROADWAY LANEAGE	FIGURE 2.2

3.0 Traffic Generation

The traffic generation potential of the proposed development was determined using the traffic generation data published in *Trip Generation* (Institute of Transportation Engineers, Tenth Edition, 2017). As currently envisioned, the redevelopment is expected to include 80 townhomes and 22,000 square feet (SF) of commercial space, which are anticipated to be completed as two separate projects: Scenario #1 (residential only) and Scenario #2 (commercial + residential). Specific commercial uses are not known at this time, but this analysis assumed the commercial space would include a 14,000 SF daycare center and 8,000 SF of medical office space.

As shown in Table 3.1, Scenario #1 has the potential to generate 39 net new external trips in the AM peak hour and 48 net new external trips in the PM peak hour on a typical weekday, which are well below the Town of Apex peak hour thresholds for requiring a TIA.

Table 3.1
ITE Traffic Generation (Vehicles) – Scenario #1 (Residential Only)

Land Use Code	Land Use	Intensity		AM Peak Hour		PM Peak Hour	
				In	Out	In	Out
221	Multifamily Housing (Low-Rise)	80	d.u.	9	30	30	18

As shown in Table 3.2, Scenario #2 has the potential to generate 215 net new external trips in the AM peak hour and 231 net new external trips in the PM peak hour on a typical weekday.

Table 3.2
ITE Traffic Generation (Vehicles) – Scenario #2 (Commercial + Residential)

Land Use Code	Land Use	Intensity		AM Peak Hour		PM Peak Hour	
				In	Out	In	Out
221	Multifamily Housing (Low-Rise)	80	d.u.	9	30	30	18
565	Daycare Center	14,000	s.f.	82	72	73	83
820	Medical Office	8,000	s.f.	19	5	8	21
Subtotal				110	107	111	122
Internal Capture				*1*	*1*	*1*	*1*
Total Net New External Trips				**109**	**106**	**110**	**121**

Internally captured trips are trips that begin and end on the project site and do not access the external roadway network. Institute of Transportation Engineers (ITE) capture rates published in the *Trip Generation Handbook* indicate that the internal capture between the proposed Scenario #2 land uses will be approximately 1% in both peak hours.

It should also be noted that while a significant portion of daycare trips (particularly in the PM peak hour) are anticipated to be diverted link trips per ITE, no such trip generation adjustments

were included in this analysis based on discussions with the Town and to present a conservative analysis.

Detailed trip generation calculations are included in the Appendix of this report.

4.0 Site Traffic Distribution

The proposed generated trips were assigned to the surrounding roadway network. The directional distribution and assignment are consistent with previous analyses and are based on a review surrounding land uses and existing travel patterns and discussions with Town staff. The overall site traffic distribution used for the development is listed below:

- 50% to/from the northeast on Jenks Road
- 40% to/from the southwest on Jenks Road
- 10% to/from the north on Wimberly Road

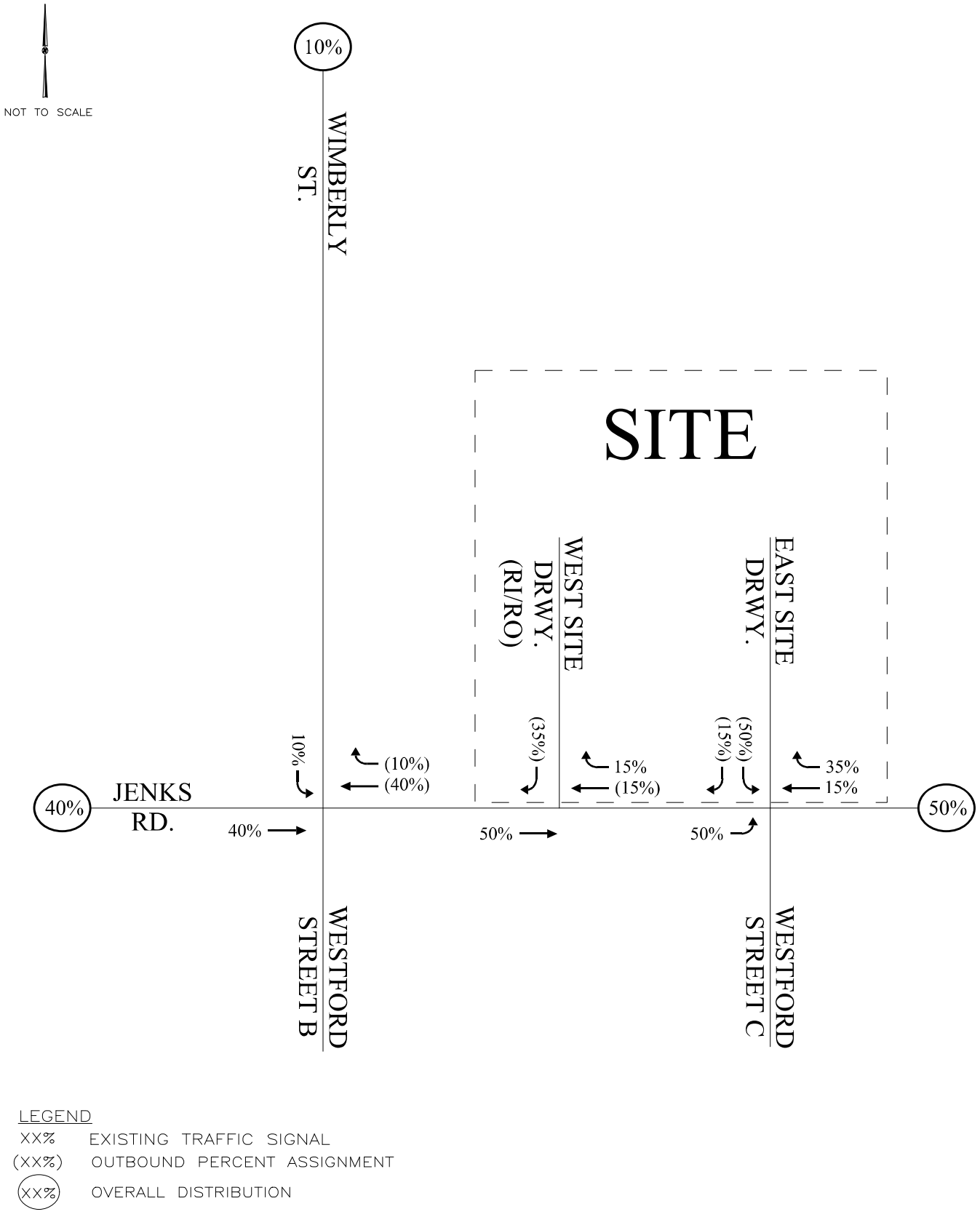
While the same overall site traffic distribution was used for each Scenario, separate approaches to site traffic assignments were developed to account for changes in access between scenarios.

Figure 4.1 shows the site traffic distribution and percent assignment for the Scenario #1 residential trips.

Figure 4.2 shows the site traffic distribution and percent assignment for the Scenario #2 residential trips.

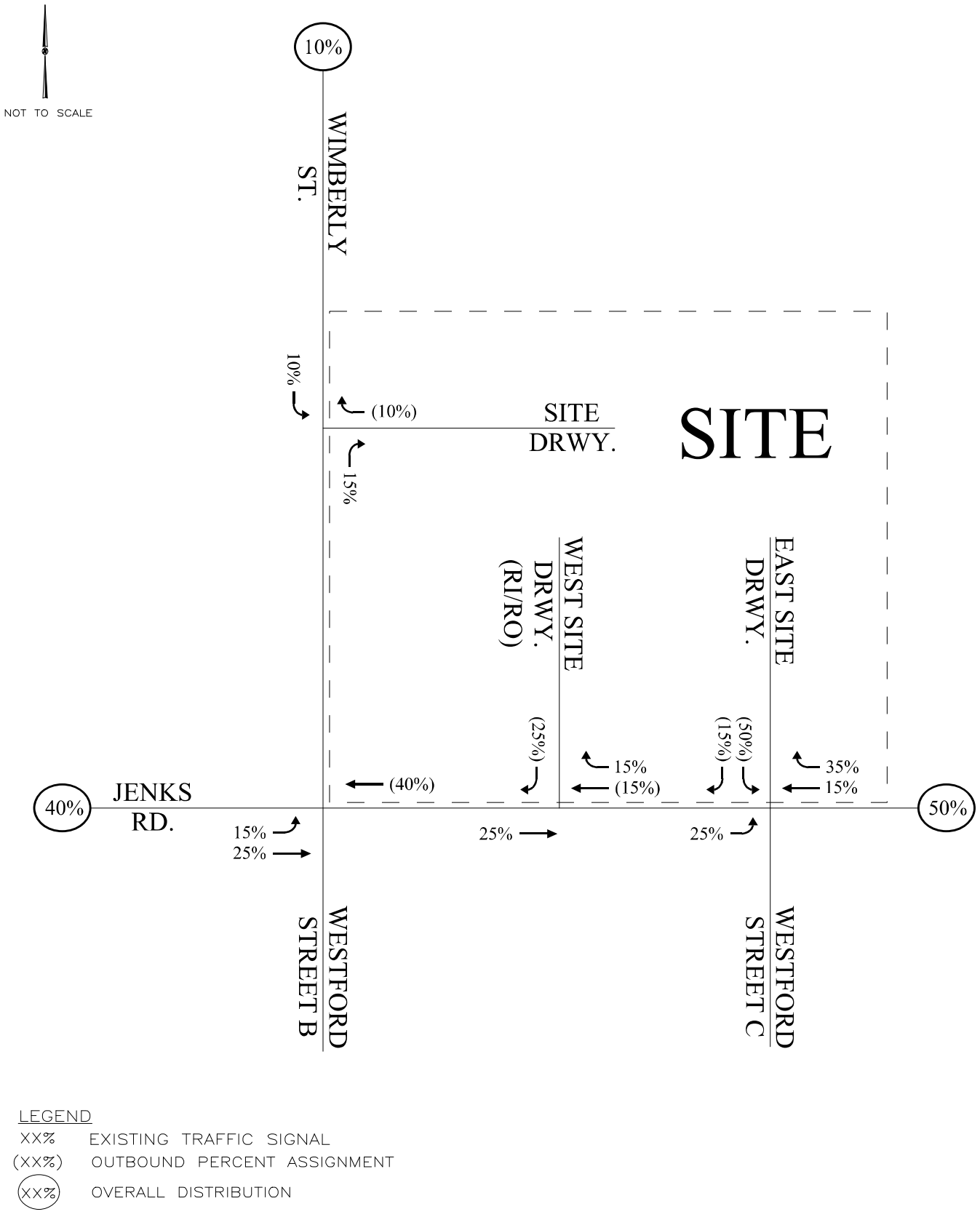
Figure 4.3 shows the site traffic distribution and percent assignment for the Scenario #2 commercial trips.

SCENARIO #1: RESIDENTIAL ONLY



Kimley»Horn	THE RETREAT AT THE PRESERVE AT WHITE OAK APEX, NC TRAFFIC IMPACT ANALYSIS	SITE TRAFFIC DISTRIBUTION & PERCENT ASSIGNMENT – SCENARIO 1	FIGURE 4.1

SCENARIO #2: COMMERCIAL + RESIDENTIAL



LEGEND

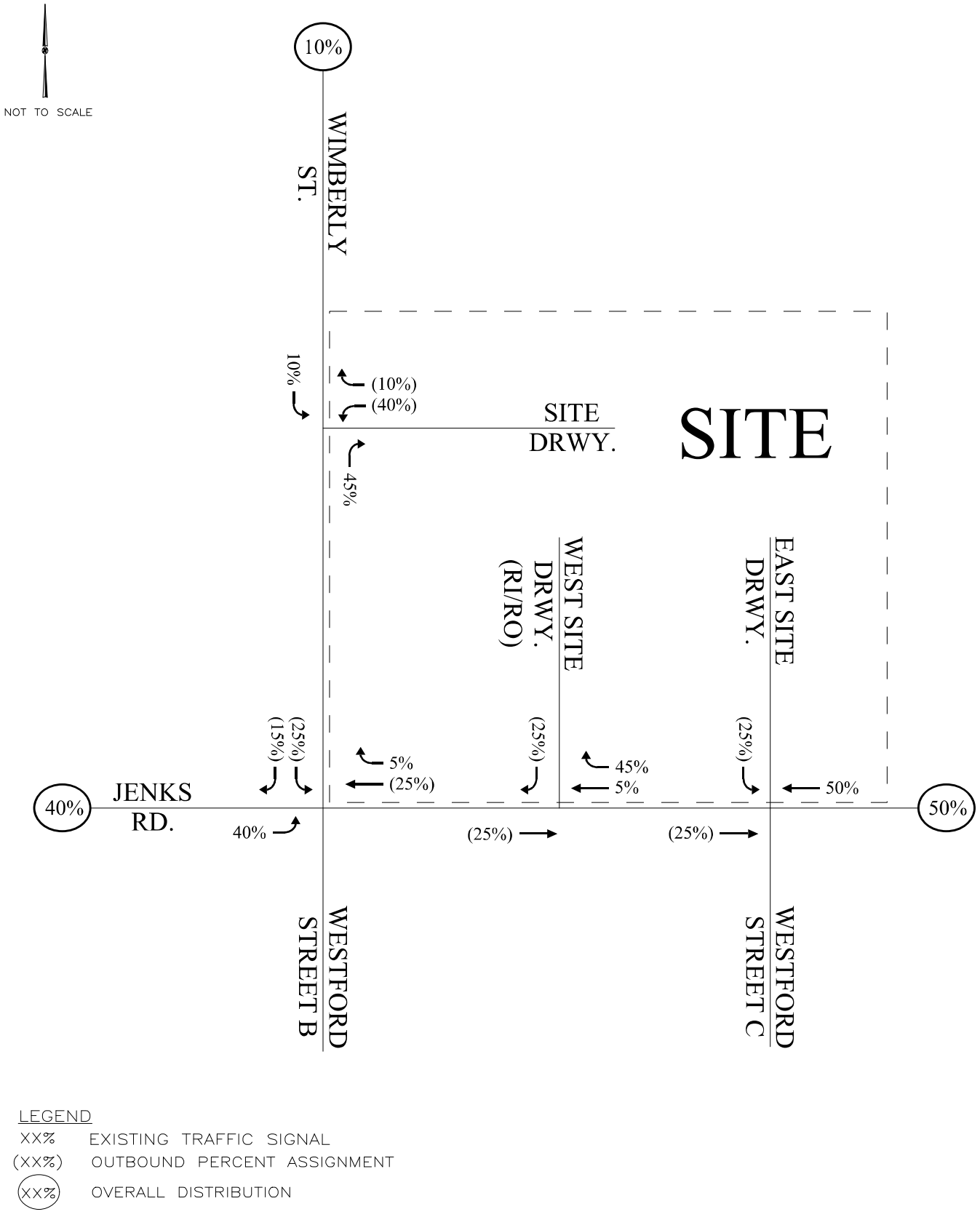
XX% EXISTING TRAFFIC SIGNAL

(XX%) OUTBOUND PERCENT ASSIGNMENT

(XX%) OVERALL DISTRIBUTION

Kimley»Horn	THE RETREAT AT THE PRESERVE AT WHITE OAK APEX, NC TRAFFIC IMPACT ANALYSIS	SITE TRAFFIC DISTRIBUTION & PERCENT ASSIGNMENT – SCENARIO 2 RESIDENTIAL TRAFFIC	FIGURE 4.2

SCENARIO #2: COMMERCIAL + RESIDENTIAL



LEGEND

XX% EXISTING TRAFFIC SIGNAL

(XX%) OUTBOUND PERCENT ASSIGNMENT

(XX%) OVERALL DISTRIBUTION

Kimley»Horn	THE RETREAT AT THE PRESERVE AT WHITE OAK APEX, NC TRAFFIC IMPACT ANALYSIS	SITE TRAFFIC DISTRIBUTION & PERCENT ASSIGNMENT – SCENARIO 2 COMMERCIAL TRAFFIC	FIGURE 4.3

5.0 Projected Traffic Volumes

5.1 *Existing Traffic*

AM peak hour (7:00 to 9:00 AM) and PM peak hour (4:00 to 6:00 PM) turning movement counts were obtained from a previous study at the following intersection:

- Jenks Road & Wimberly Road October 3, 2019

In lieu of collecting updated turning movement counts or applying an additional growth factor, volumes from the October 2019 count were increased relative to proportional build-out of adjacent developments as identified by the Town of Apex and summarized in Table 5.1.

Table 5.1
Adjacent Development Percent Occupancy Changes

Adjacent Development	October 2019 % Occupancy	March 2021 % Occupancy
Westford Residential	50%	65%
Lake Castleberry	40%	65%
Preserve at White Oak	75%	100%

Peak hour traffic volumes at the intersection of Jenks Road at Westford Street C were calculated as a proportion of the anticipated full build-out volumes at that intersection, with volume balancing calculated with the Wimberly Road intersection.

The existing AM and PM peak-hour traffic volumes are shown on **Figures 5.1 and 5.2**, respectively. Traffic count data is included in the Appendix.

5.2 *Historic Growth Traffic*

Historic growth traffic is the increase in traffic due to usage increases and non-specific growth throughout the area. Based on discussions with the Town of Apex, a 2% annual growth rate was applied to the existing traffic to calculate background traffic volumes expected in 2025, though no growth was applied into/out of the Westford development driveways since volumes on those movements are accounted for as approved development traffic.

5.3 *Approved Development Traffic*

Approved development traffic is generated by approved, but not yet constructed, projects in the vicinity of the proposed project. Based on discussions with Town of Apex staff, site traffic from the remaining unoccupied portions of the following developments were included in this analysis as background traffic: Westford Residential, Lake Castleberry, and the Park at Wimberly (formerly "Wolfe Properties PUD").

The Westford residential project proposes the construction of 90 single-family homes, 300 apartments, and 225 townhomes between US 64 and Jenks Road at Wimberly Road. Town staff indicated that the project is currently approximately 65% built-out, and the development is expected to be occupied prior to the build-out of The Retreat at the Preserve at White Oak. Full build-out site traffic volumes for this development were obtained from the *Westford TIA (*Kimley-Horn, December 2016).

The Lake Castleberry residential development proposes the construction of 172 single-family homes west of Wimberly Road between Green Level West Road and Castleberry Road. Town staff indicated that the project is approximately 65% built-out, and the development is expected to be fully occupied prior to the build-out of The Retreat at the Preserve at White Oak. Traffic volumes were obtained from the *Traffic Impact Analysis for Lake Castleberry* (VHB Engineering NC, January 2014).

The Park at Wimberly residential development proposes the construction of 70 single-family homes and 50 townhomes on the east side of Wimberly Road between Green Level West Road and Jenks Road. Town staff indicated that no construction has begun on the project, and the development is expected to be fully occupied prior to the build-out of The Retreat at the Preserve at White Oak. Traffic volumes were obtained from the *Wolfe Properties PUD TIA* (Curry Engineering, November 2019).

Based on discussions with the Town, the Westford Commercial site will require a new TIA and therefore site trips form that project were not included in the analysis.

5.4 *Background Traffic*

Background traffic volumes consisting of existing, historic growth, and approved development traffic are shown on **Figures 5.1 and 5.2** for the AM and PM peak hours, respectively.

5.5 *Site Traffic*

Traffic from the proposed development was generated and assigned to the adjacent roadway network per the distribution described in *Section 4.0*.

Figures 5.3 and 5.4 show the peak hour site trips at the study intersections for the Scenario #1 (Residential Only) build-out condition.

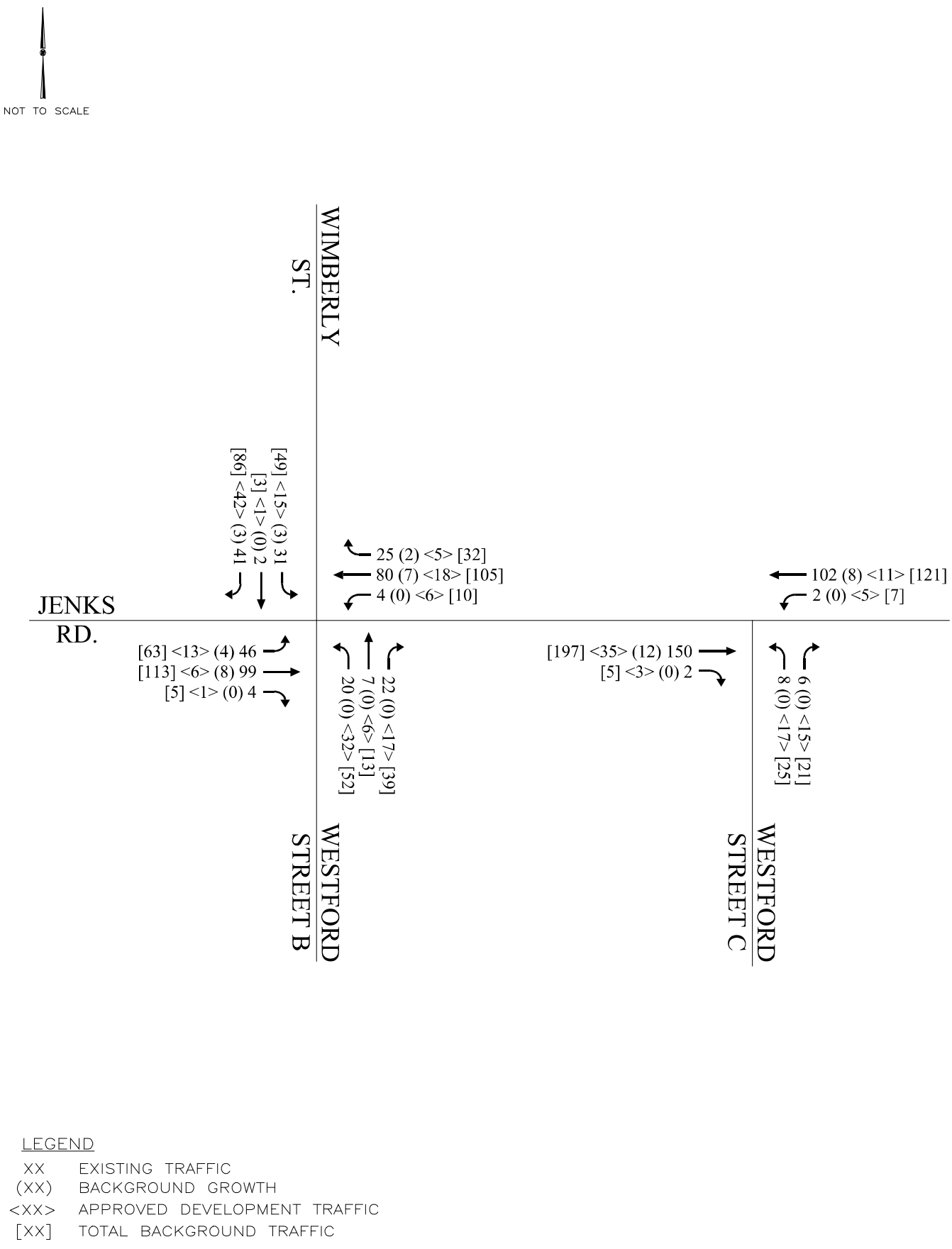
Figures 5.5 and 5.6 show the peak hour site trips at the study intersections for the Scenario #2 (Commercial + Residential) build-out condition.

5.6 *Build-out Traffic*

To obtain the 2025 build-out traffic volumes, the projected site traffic was added to the projected (2025) background traffic. Traffic volume calculations are detailed in intersection spreadsheets in the Appendix of this report.

Figures 5.3 and 5.4 show the peak hour build-out traffic volumes at the study intersections for the Scenario #1 (Residential Only) condition.

Figures 5.5 and 5.6 show the peak hour build-out traffic volumes at the study intersections for the Scenario #2 (Commercial + Residential) condition.

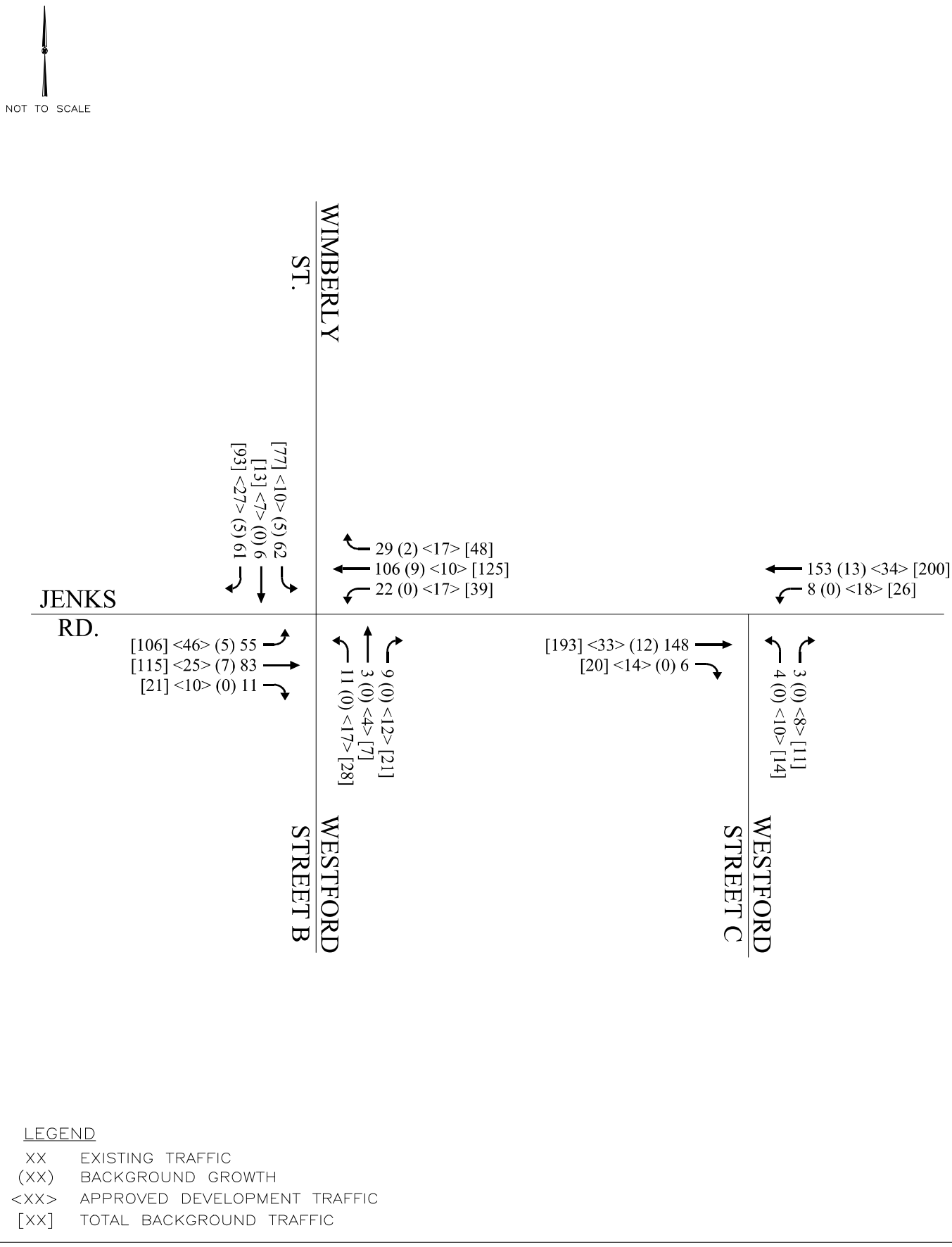


Kimley»Horn

THE RETREAT AT THE PRESERVE
AT WHITE OAK
APEX, NC
TRAFFIC IMPACT ANALYSIS

EXISTING AND PROJECTED (2025)
BACKGROUND AM PEAK HOUR
TRAFFIC VOLUMES

FIGURE
5.1



Kimley»Horn

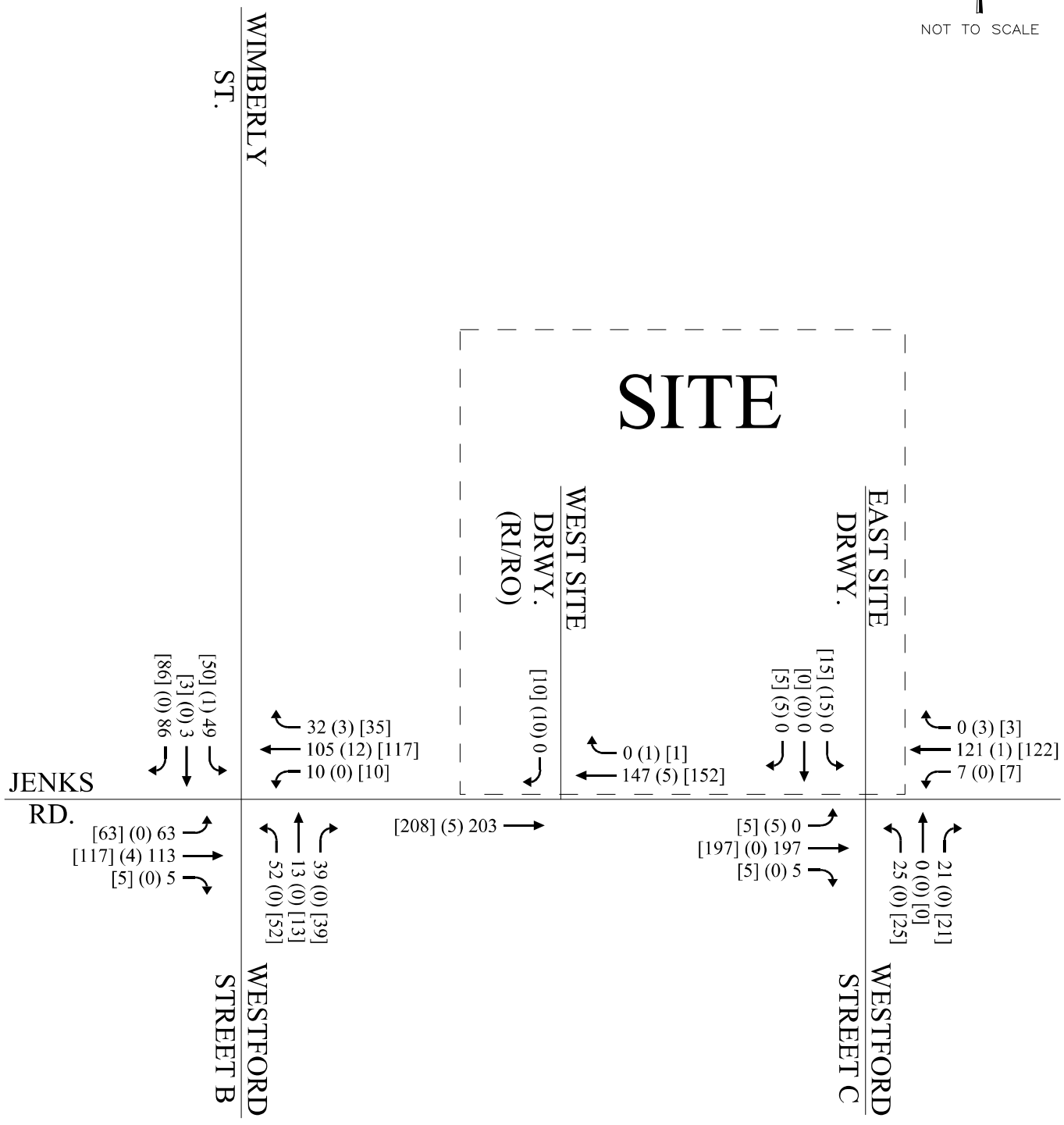
THE RETREAT AT THE PRESERVE
AT WHITE OAK
APEX, NC
TRAFFIC IMPACT ANALYSIS

EXISTING AND PROJECTED (2025)
BACKGROUND PM PEAK HOUR
TRAFFIC VOLUMES

FIGURE
5.2

SCENARIO #1: RESIDENTIAL ONLY

NOT TO SCALE



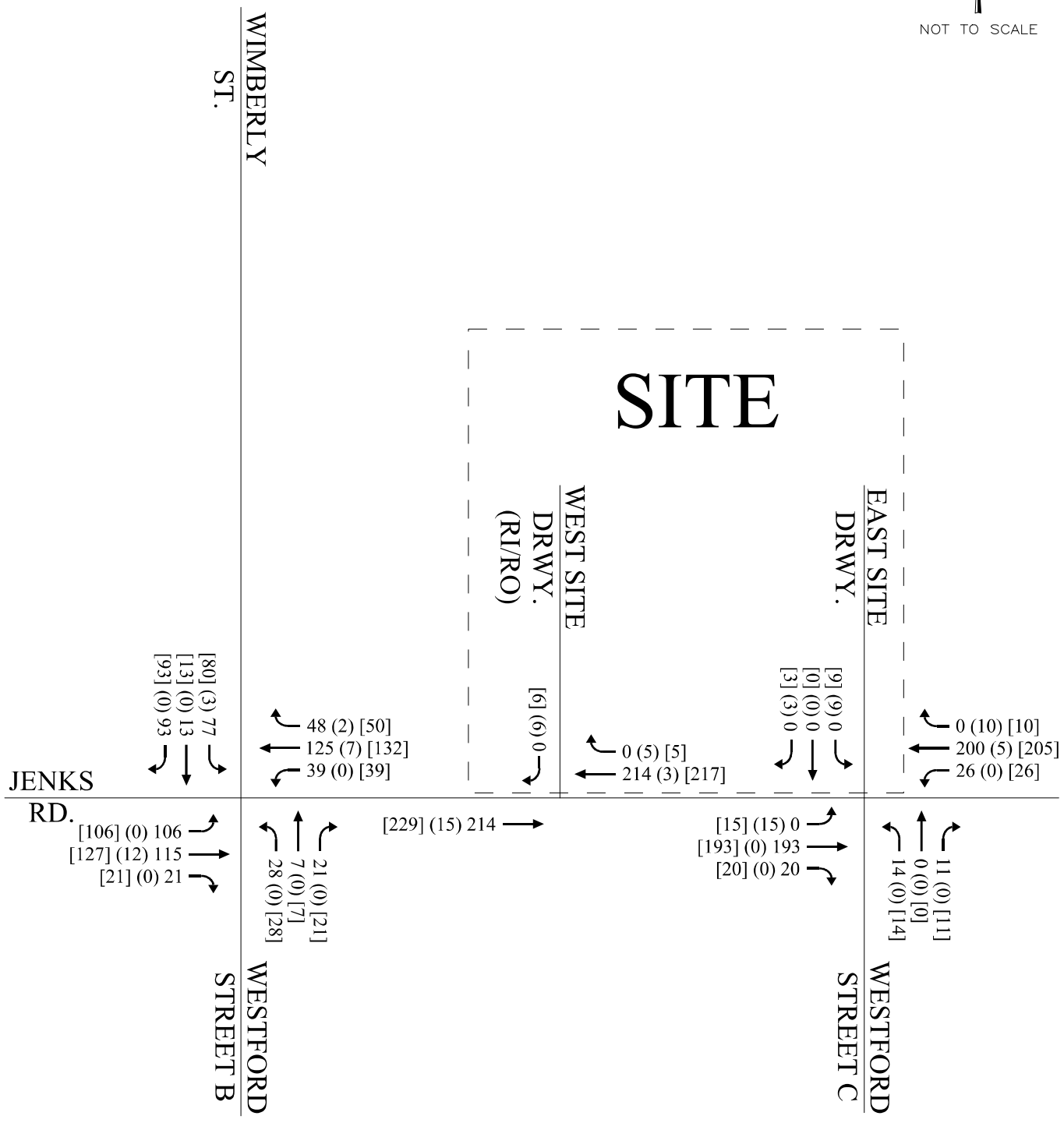
LEGEND

XX BACKGROUND TRAFFIC
(XX) SITE TRAFFIC
[XX] TOTAL BUILD-OUT TRAFFIC

Kimley»Horn	THE RETREAT AT THE PRESERVE AT WHITE OAK APEX, NC TRAFFIC IMPACT ANALYSIS	PROJECTED (2025) BUILD AM PEAK HOUR TRAFFIC VOLUMES – SCENARIO 1 (RESIDENTIAL ONLY)	FIGURE 5.3

SCENARIO #1: RESIDENTIAL ONLY

NOT TO SCALE

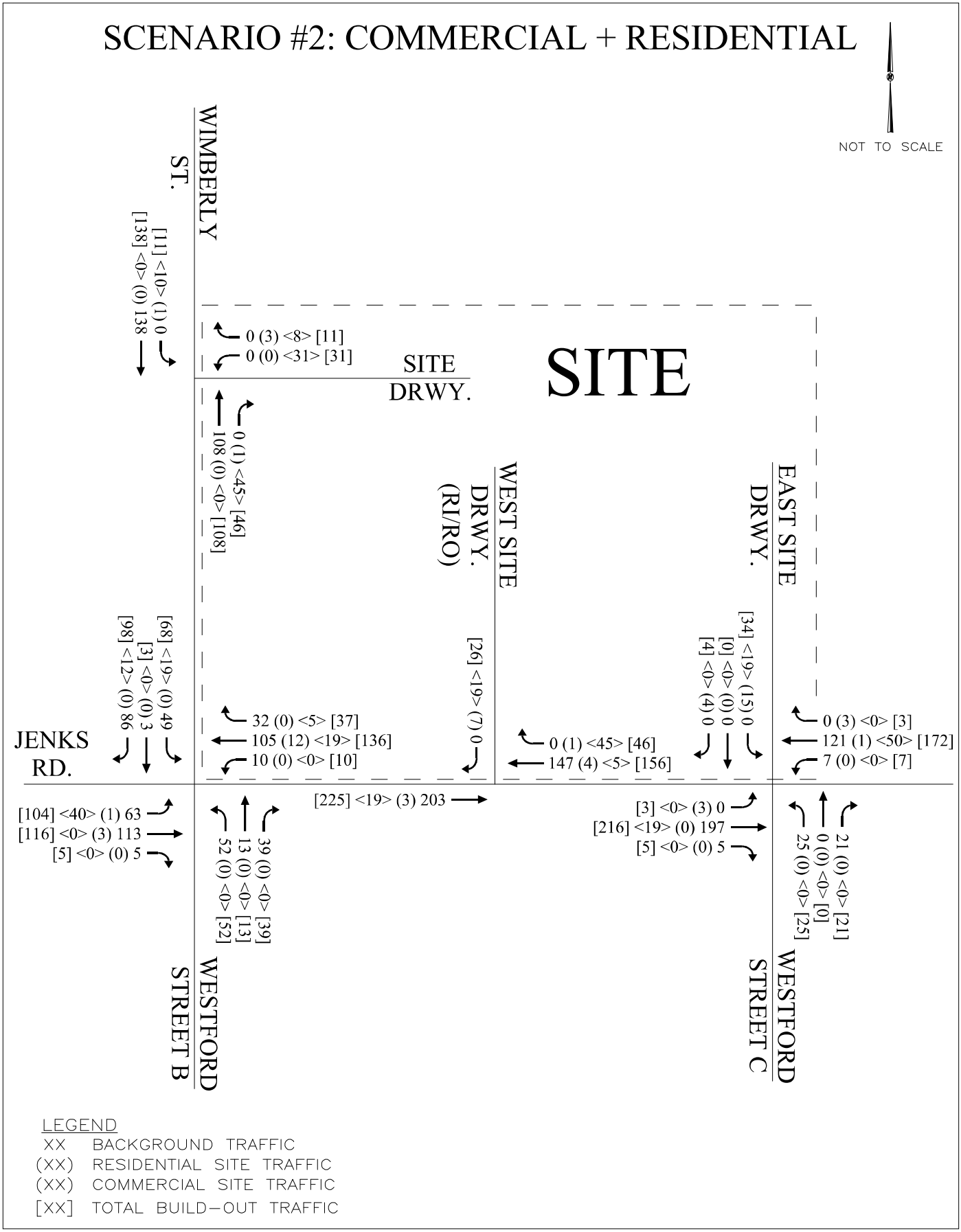


LEGEND

XX BACKGROUND TRAFFIC
(XX) SITE TRAFFIC
[XX] TOTAL BUILD-OUT TRAFFIC

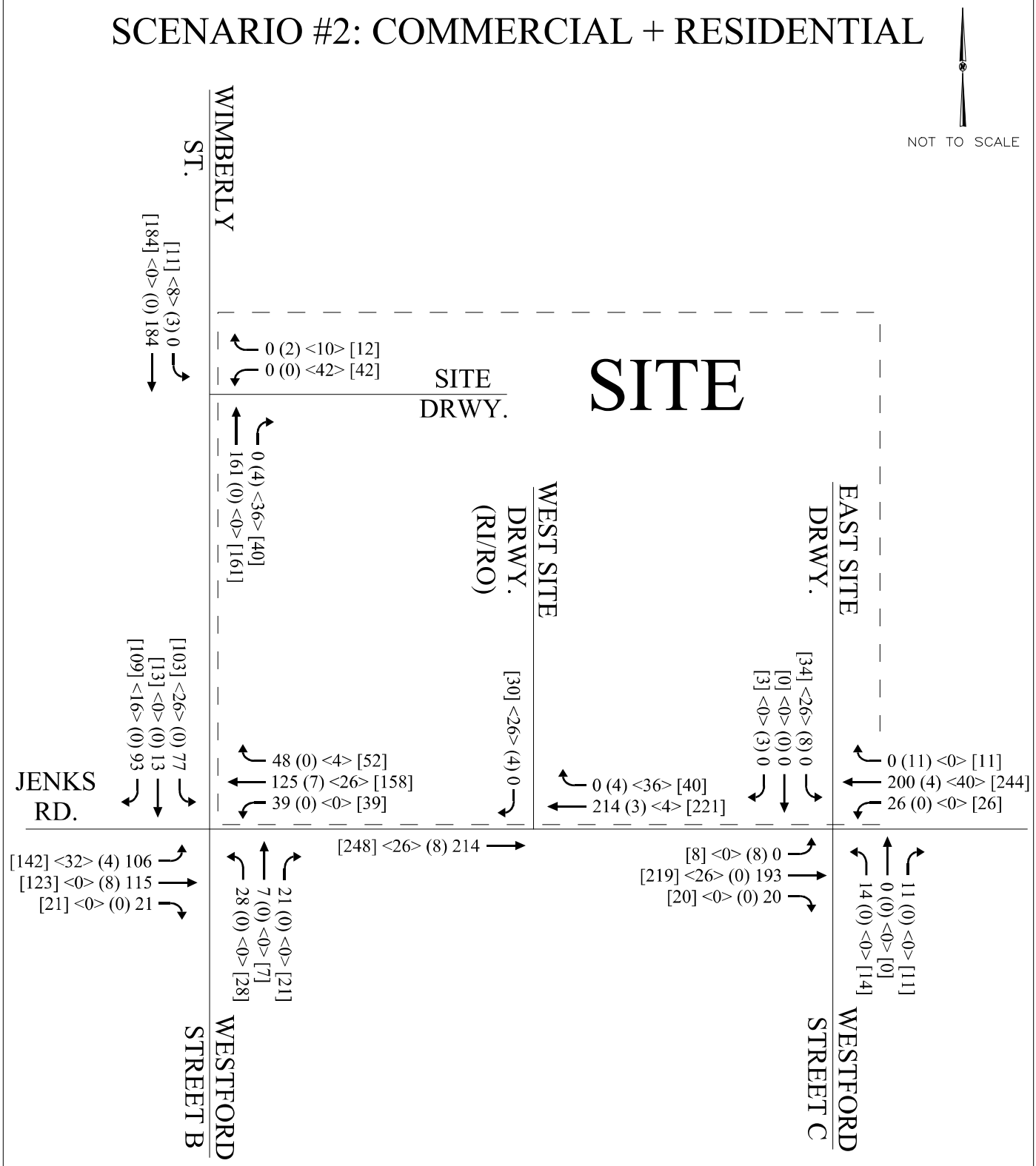
Kimley»Horn	THE RETREAT AT THE PRESERVE AT WHITE OAK APEX, NC TRAFFIC IMPACT ANALYSIS	PROJECTED (2025) BUILD PM PEAK HOUR TRAFFIC VOLUMES – SCENARIO 1 (RESIDENTIAL ONLY)	FIGURE 5.4

SCENARIO #2: COMMERCIAL + RESIDENTIAL



Kimley»Horn	THE RETREAT AT THE PRESERVE AT WHITE OAK APEX, NC TRAFFIC IMPACT ANALYSIS	PROJECTED (2025) BUILD AM PEAK HOUR TRAFFIC VOLUMES – SCENARIO 2 (COMMERCIAL + RESIDENTIAL)	FIGURE 5.5

SCENARIO #2: COMMERCIAL + RESIDENTIAL



LEGEND

XX BACKGROUND TRAFFIC
(XX) RESIDENTIAL SITE TRAFFIC
(XX) COMMERCIAL SITE TRAFFIC
[XX] TOTAL BUILD-OUT TRAFFIC

Kimley»Horn	THE RETREAT AT THE PRESERVE AT WHITE OAK APEX, NC TRAFFIC IMPACT ANALYSIS	PROJECTED (2025) BUILD PM PEAK HOUR TRAFFIC VOLUMES – SCENARIO 2 (COMMERCIAL + RESIDENTIAL)	FIGURE 5.6

6.0 Capacity Analysis

Capacity analyses (see Appendix) were performed for the AM and PM peak hours for the existing (2021) traffic condition and the projected (2025) background and build-out traffic conditions using Synchro Version 10 software to determine the operating characteristics of the adjacent road network and the impacts of the proposed project.

Capacity is defined as the maximum number of vehicles that can pass over a particular road segment or through a particular intersection within a set time duration. Capacity is combined with Level-of-Service (LOS) to describe the operating characteristics of a road segment or intersection. LOS is a qualitative measure that describes operational conditions and motorist perceptions within a traffic stream. The *Highway Capacity Manual* defines six levels of service, LOS A through LOS F, with A representing the shortest average delays and F representing the longest average delays. LOS D is the typically accepted standard for signalized intersections in urbanized areas. For signalized intersections, LOS is defined for the overall intersection operation.

For unsignalized intersections, only the movements that must yield right-of-way experience control delay. Therefore, LOS criteria for the overall intersection is not reported by Synchro Version 10 or computable using methodology published in the *Highway Capacity Manual.* It is typical for stop sign controlled side streets and driveways intersecting major streets to experience long delays during peak hours, while the majority of the traffic moving through the intersection on the major street experiences little or no delay. Table 6.0 lists the LOS control delay thresholds published in the *Highway Capacity Manual* for signalized and unsignalized intersections.

Table 6.0
Level-of-Service Control Delay Thresholds

Level-of-Service	Signalized Intersections – Control Delay Per Vehicle [sec/veh]	Unsignalized Intersections – Average Control Delay [sec/veh] & Qualitative Operational Description	
A	≤ 10	≤ 10	Short Delays
B	> 10 – 20	> 10 – 15	
C	> 20 – 35	> 15 – 25	
D	> 35 – 55	> 25 – 35	Moderate Delays
E	> 55 – 80	> 35 – 50	
F	> 80	> 50	Long Delays

Where count or projected volumes are between 1 and 4 trips, a minimum volume of 4 was used in the Synchro analysis to be conservative, though volume figures and volume development spreadsheets reflect actual volumes for all movements. Per Congestion Management guidelines, a peak hour factor (PHF) of 0.90 was used for each study condition.

6.1 *Jenks Road at Wimberly Road/Westford Street B*

Analyses indicate that the unsignalized Jenks Road – Wimberly Road/Westford Street B intersection currently operates with short delays on the minor street approaches (Wimberly Road and Westford Street B) in both the AM and PM peak hours. The intersection is expected to operate with short to moderate delays and queues in the year 2025 with or without the proposed project in place. Synchro indicates that 95th percentile queues on the minor street approaches will be less than 100' at project build-out, and the addition of site traffic results in only minor increases in approach delays. Therefore, no roadway improvements are recommended at this intersection to accommodate projected site traffic.

Table 6.1 summarizes the operation of the intersection for the existing (2021) and projected (2025) background and build-out traffic conditions.

Table 6.1
Level-of-Service
Jenks Road – Wimberly Road/Westford Street B (Unsignalized)*

Condition	AM Peak Hour LOS (Delay)	PM Peak Hour LOS (Delay)
Existing (2021) Traffic	NB – B (10.5) SB – B (10.6) EBL – A (7.5) WBL – A (7.4)	NB – B (11.4) SB – B (12.1) EBL – A (7.6) WBL – A (7.5)
Projected (2025) Background Traffic w/ Improvement by Others	NB – B (12.7) SB – B (11.1) EBL – A (7.7) WBL – A (7.5)	NB – C (15.2) SB – B (14.7) EBL – A (7.8) WBL – A (7.6)
Projected (2025) Build-out Traffic w/ Improvement by Others – *Scenario #1 (Residential Only)*	NB – B (13.0) SB – B (11.4) EBL – A (7.7) WBL – A (7.5)	NB – C (15.6) SB – C (15.3) EBL – A (7.9) WBL – A (7.6)
Projected (2025) Build-out Traffic w/ Improvement by Others – *Scenario #2 (Commercial + Residential)*	NB – C (15.0) SB – B (13.0) EBL – A (7.8) WBL – A (7.5)	NB – C (18.4) SB – C (20.2) EBL – A (8.1) WBL – A (7.6)

** Note: HCM methodology does not report an overall level of service for unsignalized intersections. The level of service and delay for the worst approach are reported above.*

6.2 *Jenks Road at Westford Street C/East Site Driveway*

The Westford Residential "Street C" is a full-movement driveway on Jenks Road approximately 1,100' east of Wimberly Road. The intersection currently operates with short delays and queues on the minor street approach (Westford Street C), and short delays are anticipated in the projected (2025) background traffic condition.

The Retreat at the Preserve at White Oak development proposes to construct a full-movement site driveway aligning with Street C with one ingress lane and one egress lane. The following roadway improvement is recommended as part of the proposed project:

- Restripe the eastbound approach of Jenks Road to provide a left-turn lane with 100 feet of storage

Analyses indicate that the intersection is expected to continue to operate with short delays and queues in both peak hours at project build-out, and projected peak hour volumes at project build-out do not meet turn lane warrants per the Roadway Design Manual. Therefore, no additional roadway improvements are recommended at this intersection to accommodate projected site traffic.

Table 6.2 summarizes the operation of the intersection for the projected (2025) background and build-out traffic conditions.

Table 6.2
Level-of-Service
Wimberly Road – Westford Street C/East Site Driveway (Unsignalized)*

Condition	AM Peak Hour LOS (Delay)	PM Peak Hour LOS (Delay)
Existing (2021) Traffic	NB – A (9.7) WBL – A (7.6)	NB – A (9.8) WBL – A (7.6)
Projected (2025) Background Traffic	NB – B (10.3) WBL – A (7.7)	NB – B (10.6) WBL – A (7.8)
Projected (2025) Build-out Traffic – *Scenario #1 (Residential Only)*	NB – B (11.2) SB – B (11.4) EBL – A (7.5) WBL – A (7.7)	NB – B (12.4) SB – B (12.9) EBL – A (7.7) WBL – A (7.8)
Projected (2025) Build-out Traffic – *Scenario #2 (Commercial + Residential)*	NB – B (11.7) SB – B (12.9) EBL – A (7.6) WBL – A (7.7)	NB – B (13.2) SB – C (15.1) EBL – A (7.8) WBL – A (7.8)

** Note: HCM methodology does not report an overall level of service for unsignalized intersections. The level of service and delay for the minor-street approaches are reported above.*

6.3 *Jenks Road – West Site Driveway (RI/RO)*

A right-in/right-out (RI/RO) site driveway is proposed to be constructed on Jenks Road approximately 470 feet east of Wimberly Road as part of this project. Analyses indicate that the intersection is expected to operate with short delays and queues at project build-out, and projected peak hour volumes at project build-out do not meet turn lane warrants per the Roadway Design Manual. Town staff has indicated that this intersection is to be restricted to right turns only via construction of a raised concrete median within Jenks Road. No additional roadway improvements are recommended at this intersection to accommodate projected site traffic.

Table 6.3 summarizes the operation of the intersection for the projected (2025) build-out traffic conditions.

Table 6.3
Level-of-Service
Wimberly Road – West Site Driveway (Unsignalized)*

Condition	AM Peak Hour LOS (Delay)	PM Peak Hour LOS (Delay)
Projected (2025) Build-out Traffic – *Scenario #1 (Residential Only)*	SB – A (9.2)	SB – A (9.6)
Projected (2025) Build-out Traffic – *Scenario #2 (Commercial + Residential)*	SB – A (9.4)	SB – A (9.9)

** Note: HCM methodology does not report an overall level of service for unsignalized intersections. The level of service and delay for the minor-street approaches are reported above.*

6.4 *Wimberly Road – Site Driveway*

A full-movement site driveway is proposed to be constructed as part of Scenario #2 on Wimberly Road approximately 480 feet north of Jenks Road as part of this project. The site driveway is proposed to be constructed with one ingress lane and one egress lane, and analyses indicate that the intersection is expected to operate with short delays and queues at project build-out. Furthermore, projected peak hour volumes at project build-out do not meet turn lane warrants per the Roadway Design Manual. Therefore, no roadway improvements are recommended at this intersection as part of the Jenks Road Assemblage project.

Table 6.4 summarizes the operation of the intersection for the projected (2025) build-out traffic condition.

Table 6.4
Level-of-Service
Wimberly Road – West Site Driveway (Unsignalized)*

Condition	AM Peak Hour LOS (Delay)	PM Peak Hour LOS (Delay)
Projected (2025) Build-out Traffic – *Scenario #2 (Commercial + Residential)*	WB – B (10.4) SBL – A (7.6)	WB – B (11.4) SBL – A (7.7)

** Note: HCM methodology does not report an overall level of service for unsignalized intersections. The level of service and delay for the minor-street approach are reported above.*

7.0 Recommendations

Background Improvements
The following improvements are committed as part of The Park at Wimberly (Wolfe Property PUD) development:

Jenks Road – Wimberly Road:
- Construct an exclusive southbound right-turn lane on Wimberly Road with 50 feet of storage and appropriate tapers

Recommended Improvements
The following improvements are recommended as part of The Retreat at the Preserve at White Oak development:

Scenario #1
Jenks Road – Westford Street C/East Site Driveway (Full-Movement):
- Construct the East Site Driveway with one ingress lane and one egress lane
- Provide an eastbound left-turn lane on Jenks Road with 100 feet of storage

Scenario #1
Jenks Road – West Site Driveway (Right-in/Right-out):
- Construct the West Site Driveway as a right-in/right-out driveway with one ingress lane and one egress lane

Scenario #2
Wimberly Road – Site Driveway (Full-Movement):
- Construct the Site Driveway with one ingress lane and one egress lane

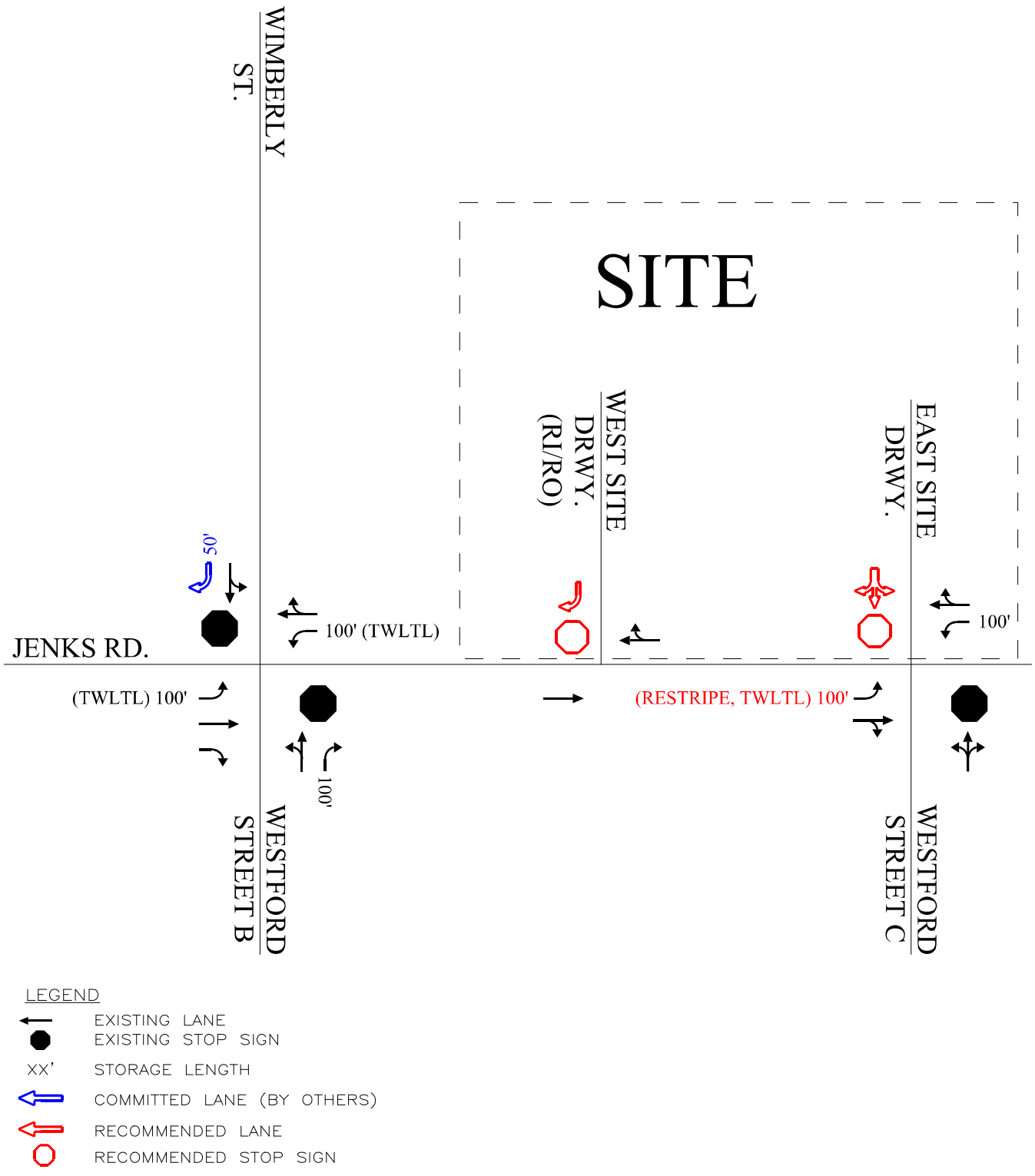
Analyses indicate that with the committed and recommended improvements in place, all of the study intersections are expected to operate acceptably at project build-out. Synchro indicates that all minor-street approaches will operate at LOS C or better, and with 95th percentile queues of less than 100' at project build-out.

As no long delays or queues are anticipated in either of the future build-out scenarios, and since turn lanes are not warranted at site driveways per the Roadway Design Manual, no additional improvements are recommended as part of this development.

Figures 7.1 and **7.2** show the committed and recommended roadway laneage for the Scenario #1 and Scenario #2 build-out conditions, respectively.

SCENARIO #1: RESIDENTIAL ONLY

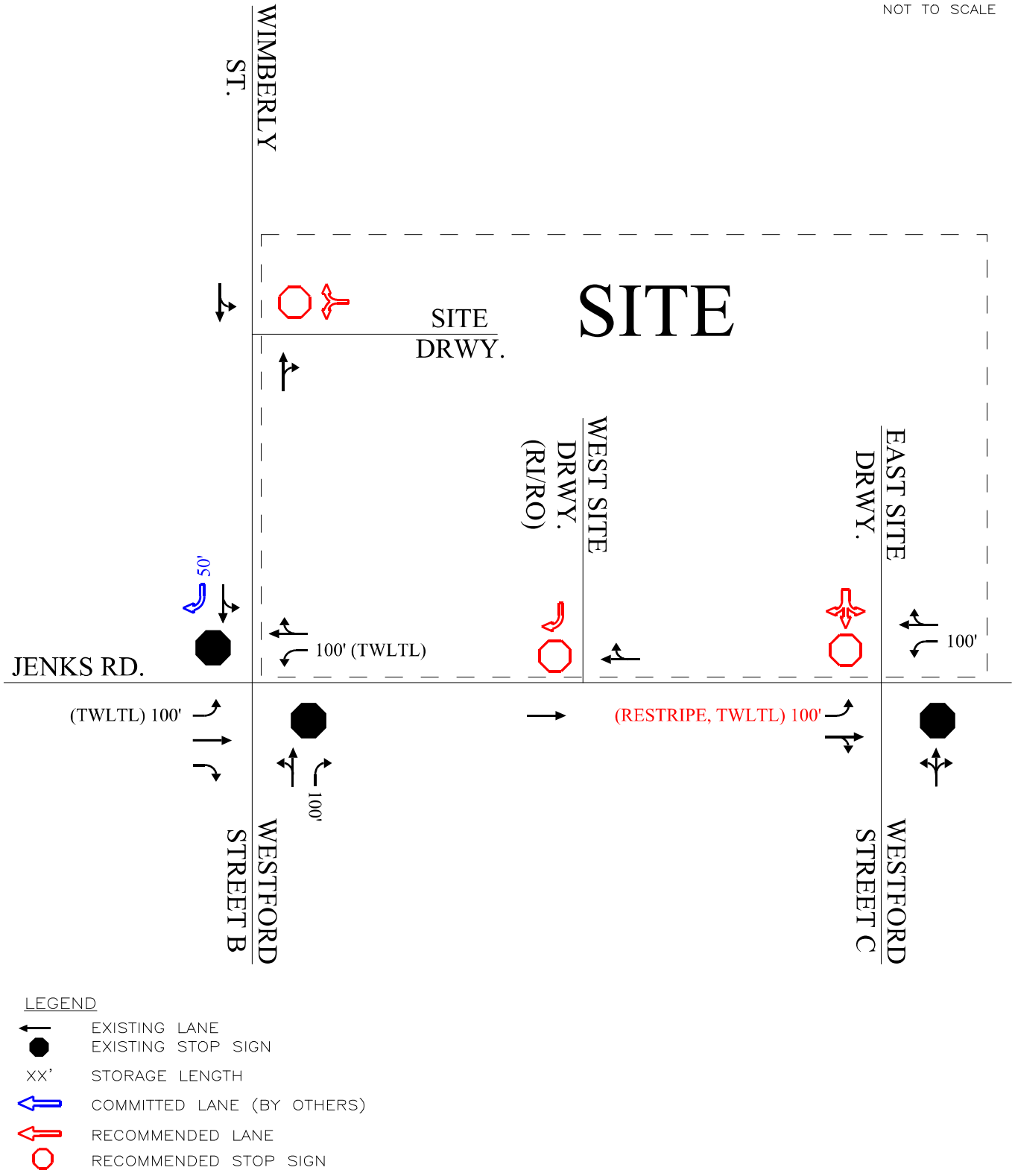
NOT TO SCALE



Kimley»Horn	THE RETREAT AT THE PRESERVE AT WHITE OAK APEX, NC TRAFFIC IMPACT ANALYSIS	COMMITTED AND RECOMMENDED ROADWAY LANEAGE – SCENARIO #1 (RESIDENTIAL ONLY)	FIGURE 7.1

SCENARIO #2: COMMERCIAL + RESIDENTIAL

NOT TO SCALE



Kimley»Horn	THE RETREAT AT THE PRESERVE AT WHITE OAK APEX, NC TRAFFIC IMPACT ANALYSIS	COMMITTED AND RECOMMENDED ROADWAY LANEAGE – SCENARIO #2 (COMMERCIAL + RESIDENTIAL)	FIGURE 7.2

Appendix

Appendix A:

Approved Memorandum of Understanding

Kimley»Horn

MEMORANDUM

To:	Amy Neidringhaus, NCDOT District Office Russell Dalton, P.E., Town of Apex
From:	Earl Lewellyn, P.E. Kimley-Horn and Associates, Inc.
Date:	March 8, 2021
Subject:	Updated Jenks Road Assemblage (The Retreat at the Preserve at White Oak) TIA – Memorandum of Understanding

The following assumptions will be incorporated into the traffic impact analysis for the proposed Retreat at the Preserve at White Oak (formerly "Jenks Road Assemblage") mixed-use development based on a scoping meeting held March 5, 2021 with Town of Apex staff and generally consistent with previous analyses performed for the site. This project is located generally northeast of the Jenks Road – Wimberly Road intersection in Apex, North Carolina. The site is currently occupied by a few single-family homes, and the redevelopment (proposed as two separate projects) is expected to include approximately 80 townhomes and 22,000 SF of commercial space. While specific commercial uses are unknown at this time, for this analysis it is assumed that the commercial space will include a 14,000 SF daycare center and 8,000 SF of medical office space.

The project build-out is expected in 2025 and the site will be accessed via a full-movement site driveway on Jenks Road (across from the Westford East Site Driveway), a right-in/right-out driveway on Jenks Road (between Wimberly Road and the East Site Driveway), and a full-movement site driveway on Wimberly Road.

STUDY AREA

Based on scoping discussions, the following intersections will be studied as part of this analysis:

- Jenks Road – Wimberly Road
- Jenks Road – Westford East Site Driveway/Proposed East Site Driveway
- Jenks Road – Proposed West Site Driveway (RI/RO)
- Wimberly Road – Proposed Site Driveway

Consistent with Congestion Management methodology, a consistent 0.90 peak hour factor (PHF) will be used at all study intersections, and no changes will be made to standard saturation flow rate inputs.

ANALYSIS SCENARIOS

We will analyze the weekday AM peak hour (7:00 to 9:00 AM) and PM peak hour (4:00 PM to 6:00 PM) for the following traffic conditions:

- Existing Traffic (2021)
- Projected (2025) No-Build Traffic

- Projected (2025) Build-Out Traffic: Scenario #1 (Residential Only)
- Projected (2025) Build-Out Traffic: Scenario #2 (Residential + Commercial)

EXISTING VOLUME DEVELOPMENT

In-lieu of collecting updated turning movement counts at the existing Jenks Road – Wimberly Road study intersection, volumes from the turning movement count collected in October 2019 will be increased relative to proportional development build-out of previously-identified approved developments since those counts were collected as follows:

- Westford Residential:
  - Build-out % in October 2019: 50%
  - Current build-out %: 65%

- Westford Commercial:
  - Build-out % in October 2019: 0%
  - Current build-out %: 0%
    - Will require a TIA update, so do not include trips

- Lake Castleberry:
  - Build-out % in October 2019: 40%
  - Current build-out %: 65%

- Preserve at White Oak:
  - Build-out % in October 2019: 75%
  - Current build-out %: 100%

Based on discussions with Town staff, no additional growth factor will be applied to turning movement counts from 2019.

BACKGROUND GROWTH

A 2% annual growth rate will be applied to existing traffic volumes in the study area up to the study year 2025, though no growth will be applied for volumes into/out of the Westford development driveways since those trips are specifically account for in volume adjustments.

APPROVED DEVELOPMENT TRAFFIC

Site traffic from the remaining unoccupied portions (as indicated by the Town) of the following approved developments will be included in this analysis as background traffic: Westford Residential (assume currently 65% occupied), Lake Castleberry (assume currently 65% occupied), and the Park at Wimberly (formerly "Wolfe Properties PUD", currently 0% occupied).

Based on discussions with the Town of Apex, the construction of a southbound right-turn lane on Wimberly Road at Jenks Road is a committed improvement as part of the Park at Wimberly development and will be included in each of the future traffic conditions.

TRIP GENERATION

Trip generation for the proposed uses at site build-out will generally be determined using the *ITE Trip Generation, 10th Edition* rates and equations as summarized in the following tables. Trip generation totals for Scenario #1 (Residential Only) are shown in **Table 1**.

Table 1
ITE Traffic Generation (Vehicles) – Scenario #1

Land Use Code	Land Use	Intensity		AM Peak Hour		PM Peak Hour	
				In	Out	In	Out
220	Multifamily Housing (Low-Rise)	80	d.u.	9	30	30	18

Trip generation totals for Scenario #2 (Residential + Commercial) are shown below in **Table 2**.

Table 2
ITE Traffic Generation (Vehicles) – Scenario #2

Land Use Code	Land Use	Intensity		AM Peak Hour		PM Peak Hour	
				In	Out	In	Out
220	Multifamily Housing (Low-Rise)	80	d.u.	9	30	30	18
565	Daycare Center	14,000	s.f.	82	72	73	83
720	Medical Office Building	8,000	s.f.	19	5	8	21
Subtotal				110	107	111	122
Internal Capture				*1*	*1*	*1*	*1*
Total Net New External Trips				**109**	**106**	**110**	**121**

It should be noted that the ITE Trip Gen Handbook (3rd Edition) notes that a significant portion of PM peak hour daycare center traffic is diverted link traffic, with data from studied sites ranging from 54%-58% of traffic as diverted link. However, based on the proposed study area, no diverted link or pass-by reductions will be applied to daycare site traffic volumes.

TRIP DISTRIBUTION

Primary site traffic distribution is based on a review of origins and destinations within the area. General distribution percentages are as follows:

- 50% to/from the northeast on Jenks Road
- 40% to/from the southwest on Jenks Road
- 10% to/from the north on Wimberly Road

While the same overall primary trip distribution will be used for both study scenarios, separate site traffic assignments will be developed to account for the additional access provided along Wimberly Road at full build-out.

Jenks Road Assemblage

Table 1 - Trip Generation - Scenario #1 (Residential Only)

Land Use	Intensity	Daily	AM Peak Hour			PM Peak Hour		
		Total	Total	In	Out	Total	In	Out
220 Multifamily Housing (Low-Rise)	80 d.u.	564	39	9	30	48	30	18

Jenks Road Assemblage

Table 2 - Trip Generation - Scenario #2 (Residential + Commercial)

Land Use	Intensity		Daily	AM Peak Hour			PM Peak Hour		
			Total	Total	In	Out	Total	In	Out
220 Multifamily Housing (Low-Rise)	80	d.u.	564	39	9	30	48	30	18
565 Day Care Center	14,000	s.f.	668	154	82	72	156	73	83
720 Medical Office Building	8,000	s.f.	220	24	19	5	29	8	21
Subtotal			**1,452**	**217**	**110**	**107**	**233**	**111**	**122**
Internal Capture									
220 Multifamily Housing (Low-Rise)			10	1	0	1	1	0	1
720 Medical Office Building			10	1	1	0	1	1	0
	AM	**PM**							
Internal Capture Total per ITE	**0.92%**	**0.86%**	*20*	*2*	*1*	*1*	*2*	*1*	*1*
Total Net New External Trips			**1,432**	**215**	**109**	**106**	**231**	**110**	**121**

Internal Capture Reduction Calculations

Methodology for A.M. Peak Hour and P.M. Peak Hour
based on the *Trip Generation Handbook* , 3rd Edition, published by the Institute of Transportation Engineers

Methodology for Daily
based on the average of the Unconstrained Rates for the A.M. Peak Hour and P.M. Peak Hour

SUMMARY

GROSS TRIP GENERATION

	Land Use	Daily		A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit	Enter	Exit
INPUT	Office	110	110	19	5	8	21
	Retail	0	0	0	0	0	0
	Restaurant	0	0	0	0	0	0
	Cinema/Entertainment	0	0	0	0	0	0
	Residential	282	282	9	30	30	18
	Hotel	0	0	0	0	0	0
		392	392	28	35	38	39

INTERNAL TRIPS

	Land Use	Daily		A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit	Enter	Exit
OUTPUT	Office	8	2	1	0	1	0
	Retail	0	0	0	0	0	0
	Restaurant	0	0	0	0	0	0
	Cinema/Entertainment	0	0	0	0	0	0
	Residential	2	8	0	1	0	1
	Hotel	0	0	0	0	0	0
		10	10	1	1	1	1
	% Reduction	2.6%		3.2%		2.6%	

EXTERNAL TRIPS

	Land Use	Daily		A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit	Enter	Exit
OUTPUT	Office	102	108	18	5	7	21
	Retail	0	0	0	0	0	0
	Restaurant	0	0	0	0	0	0
	Cinema/Entertainment	0	0	0	0	0	0
	Residential	280	274	9	29	30	17
	Hotel	0	0	0	0	0	0
		382	382	27	34	37	38

Appendix B:
Traffic Count Data

Your Company Name Here

Default Comments
Change These in The Preferences Window
Select File/Preference in the Main Scree
Then Click the Comments Tab

File Name : Jenks - Wimberly combined
Site Code : 00000000
Start Date : 10/3/2019
Page No : 1

Groups Printed- Unshifted

	Jenks Eastbound					Jenks Westbound					Wlmberly Northbound					Wimberly Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	12	24	2	0	38	1	4	4	0	9	0	0	4	0	4	4	0	2	0	6	57
07:15 AM	9	23	0	0	32	1	15	4	0	20	1	1	4	0	6	6	0	4	0	10	68
07:30 AM	11	21	2	0	34	0	17	6	0	23	0	3	5	0	8	3	0	7	0	10	75
07:45 AM	12	31	1	0	44	1	12	7	0	20	3	1	3	0	7	7	1	8	0	16	87
Total	44	99	5	0	148	3	48	21	0	72	4	5	16	0	25	20	1	21	0	42	287
08:00 AM	7	18	1	0	26	1	19	6	0	26	0	1	2	0	3	8	1	6	0	15	70
08:15 AM	12	24	0	0	36	0	17	2	0	19	3	0	5	0	8	2	0	8	0	10	73
08:30 AM	10	20	2	0	32	0	10	8	0	18	1	2	7	0	10	4	0	7	0	11	71
08:45 AM	15	15	0	0	30	0	9	5	0	14	0	0	2	0	2	8	0	10	0	18	64
Total	44	77	3	0	124	1	55	21	0	77	4	3	16	0	23	22	1	31	0	54	278
*** BREAK ***																					
04:00 PM	7	9	0	0	16	1	19	1	0	21	1	0	0	0	1	3	0	10	0	13	51
04:15 PM	6	13	2	0	21	2	19	8	0	29	2	0	2	0	4	6	1	8	0	15	69
04:30 PM	9	19	2	0	30	3	22	2	0	27	1	0	2	0	3	7	1	2	0	10	70
04:45 PM	10	21	1	0	32	2	24	3	0	29	0	0	2	0	2	10	0	13	0	23	86
Total	32	62	5	0	99	8	84	14	0	106	4	0	6	0	10	26	2	33	0	61	276
05:00 PM	16	16	2	0	34	7	20	4	0	31	0	0	0	0	0	11	0	13	0	24	89
05:15 PM	7	9	2	0	18	3	25	3	0	31	2	1	1	0	4	17	2	16	0	35	88
05:30 PM	9	19	1	0	29	2	29	6	0	37	2	0	1	0	3	16	1	11	0	28	97
05:45 PM	14	12	0	0	26	2	17	4	0	23	1	0	0	0	1	12	0	11	0	23	73
Total	46	56	5	0	107	14	91	17	0	122	5	1	2	0	8	56	3	51	0	110	347
Grand Total	166	294	18	0	478	26	278	73	0	377	17	9	40	0	66	124	7	136	0	267	1188
Apprch %	34.7	61.5	3.8	0		6.9	73.7	19.4	0		25.8	13.6	60.6	0		46.4	2.6	50.9	0		
Total %	14	24.7	1.5	0	40.2	2.2	23.4	6.1	0	31.7	1.4	0.8	3.4	0	5.6	10.4	0.6	11.4	0	22.5	

	Jenks Eastbound					Jenks Westbound					Wlmberly Northbound					Wimberly Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	11	21	**2**	0	34	0	17	6	0	23	0	**3**	**5**	0	**8**	3	0	7	0	10	75
07:45 AM	**12**	**31**	1	0	**44**	**1**	12	**7**	0	20	**3**	1	3	0	7	7	**1**	**8**	0	**16**	**87**
08:00 AM	7	18	1	0	26	1	**19**	6	0	**26**	0	1	2	0	3	**8**	1	6	0	15	70
08:15 AM	12	24	0	0	36	0	17	2	0	19	3	0	5	0	8	2	0	8	0	10	73
Total Volume	42	94	4	0	140	2	65	21	0	88	6	5	15	0	26	20	2	29	0	51	305
% App. Total	30	67.1	2.9	0		2.3	73.9	23.9	0		23.1	19.2	57.7	0		39.2	3.9	56.9	0		
PHF	.875	.758	.500	.000	.795	.500	.855	.750	.000	.846	.500	.417	.750	.000	.813	.625	.500	.906	.000	.797	.876
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	10	**21**	1	0	32	2	24	3	0	29	0	0	**2**	0	2	10	0	13	0	23	86
05:00 PM	**16**	16	**2**	0	**34**	**7**	20	4	0	31	0	0	0	0	0	11	0	13	0	24	89
05:15 PM	7	9	2	0	18	3	25	3	0	31	**2**	**1**	1	0	**4**	**17**	**2**	**16**	0	**35**	88
05:30 PM	9	19	1	0	29	2	**29**	**6**	0	**37**	2	0	1	0	3	16	1	11	0	28	**97**
Total Volume	42	65	6	0	113	14	98	16	0	128	4	1	4	0	9	54	3	53	0	110	360
% App. Total	37.2	57.5	5.3	0		10.9	76.6	12.5	0		44.4	11.1	44.4	0		49.1	2.7	48.2	0		
PHF	.656	.774	.750	.000	.831	.500	.845	.667	.000	.865	.500	.250	.500	.000	.563	.794	.375	.828	.000	.786	.928

Study Year	Adjacent Dev	Projected Occupancy	Remaining Trip Factor
2019 Counts	Lake Castleberry	40%	-
	Preserve at White Oak	75%	-
	Westford Residential	50%	-
2021 Exist	Lake Castleberry	65%	0.42
	Preserve at White Oak	100%	1.00
	Westford Residential	65%	0.30
2025 Build	Lake Castleberry	100%	0.58
	Preserve at White Oak	100%	0.00
	Westford Residential	100%	0.70

Appendix C:
Approved Development Data

Lake Castleberry Development

Apex, NC

Prepared for
Withers & Ravenel
c/o Craig Duerr, PE, LEED AP
115 MacKenan Drive
Cary, NC 28511

Prepared by
VHB Engineering NC, P.C. (C-3705)
4000 Westchase Boulevard, Suite 530
Raleigh, NC 27607
919.829.0328 • Fax 919.829.0329
www.vhb.com

1-10-2014

January 10, 2014

VHB Transportation | Land Development | Environmental

Table 5: Trip Generation Rates (Vehicle Trips)

AM Peak Hour Total Trips						
ITE Land Use Code	USE	Units	ITE MANUAL RATES*			
			ADT	AM Enter	AM Exit	AM Total
210	Single-Family Detached Housing	172 units	1,730	33	97	130
		Total Trips	*1,730*	*33*	*97*	*130*

PM Peak Hour Total Trips						
ITE Land Use Code	USE	Units	ITE MANUAL RATES*			
			ADT	PM Enter	PM Exit	PM Total
220	Single-Family Detached Housing	172 units	1,730	108	63	171
		Total Trips	*1,730*	*108*	*63*	*171*

* ITE Trip Generation, 9th Edition

Traffic Distribution and Assignment

The generated site trips were distributed in accordance with the existing traffic patterns and land uses in the vicinity of the study area as follows:

- Green Level West Road to the west – 30%
- Green Level West Road to the east – 40%
- Green Level Church Road to the north – 5%
- Green Level Church Road to the south – 5%
- Jenks Road to the west – 10%
- Jenks Road to the east – 10%

The site trip percentages are depicted in Figure 6, with the resulting site trips shown in Figure 7.

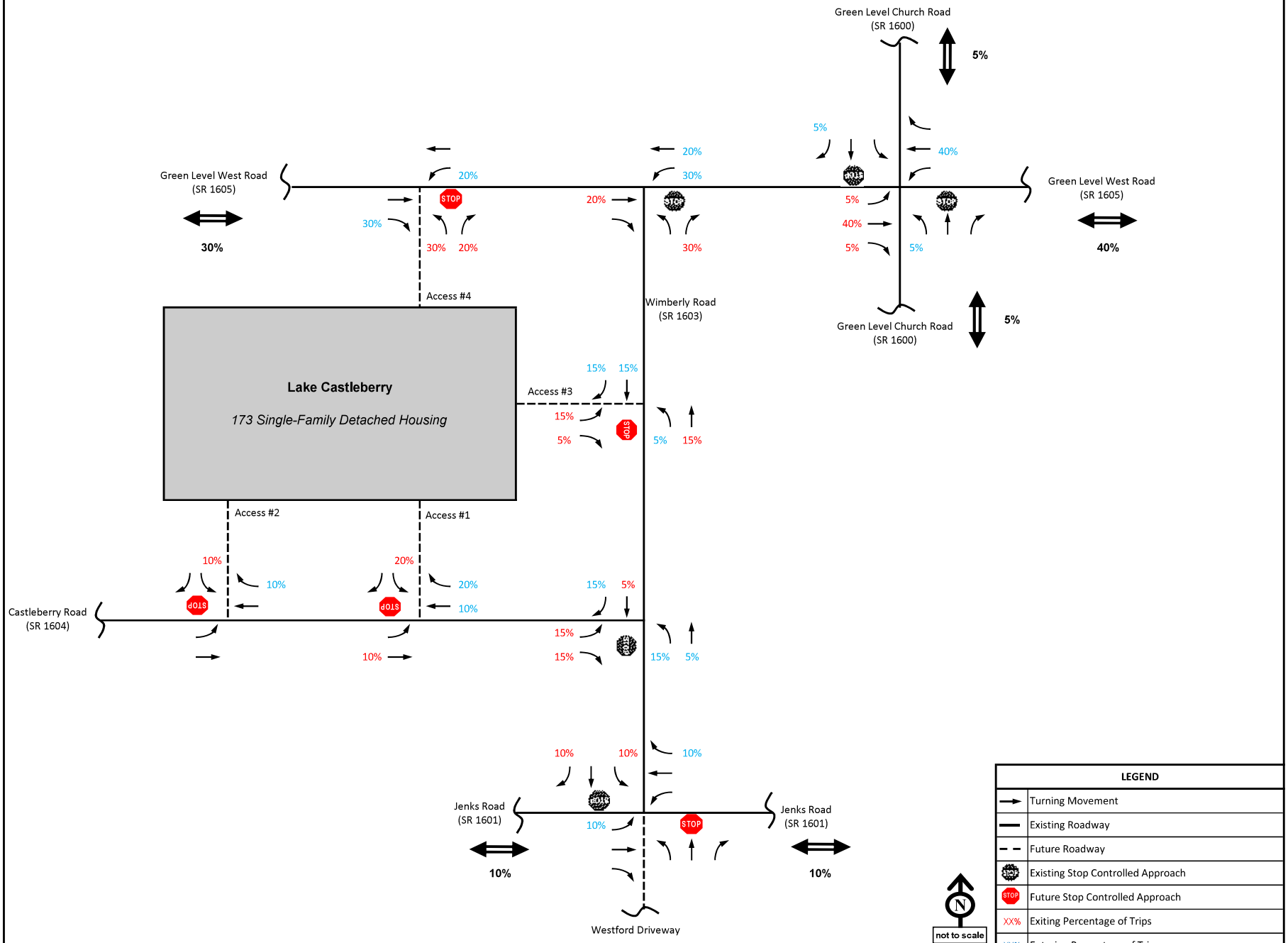


Figure 6
Peak Hour Directional Distribution Percentages

Lake Castleberry TIA
Town of Apex, NC

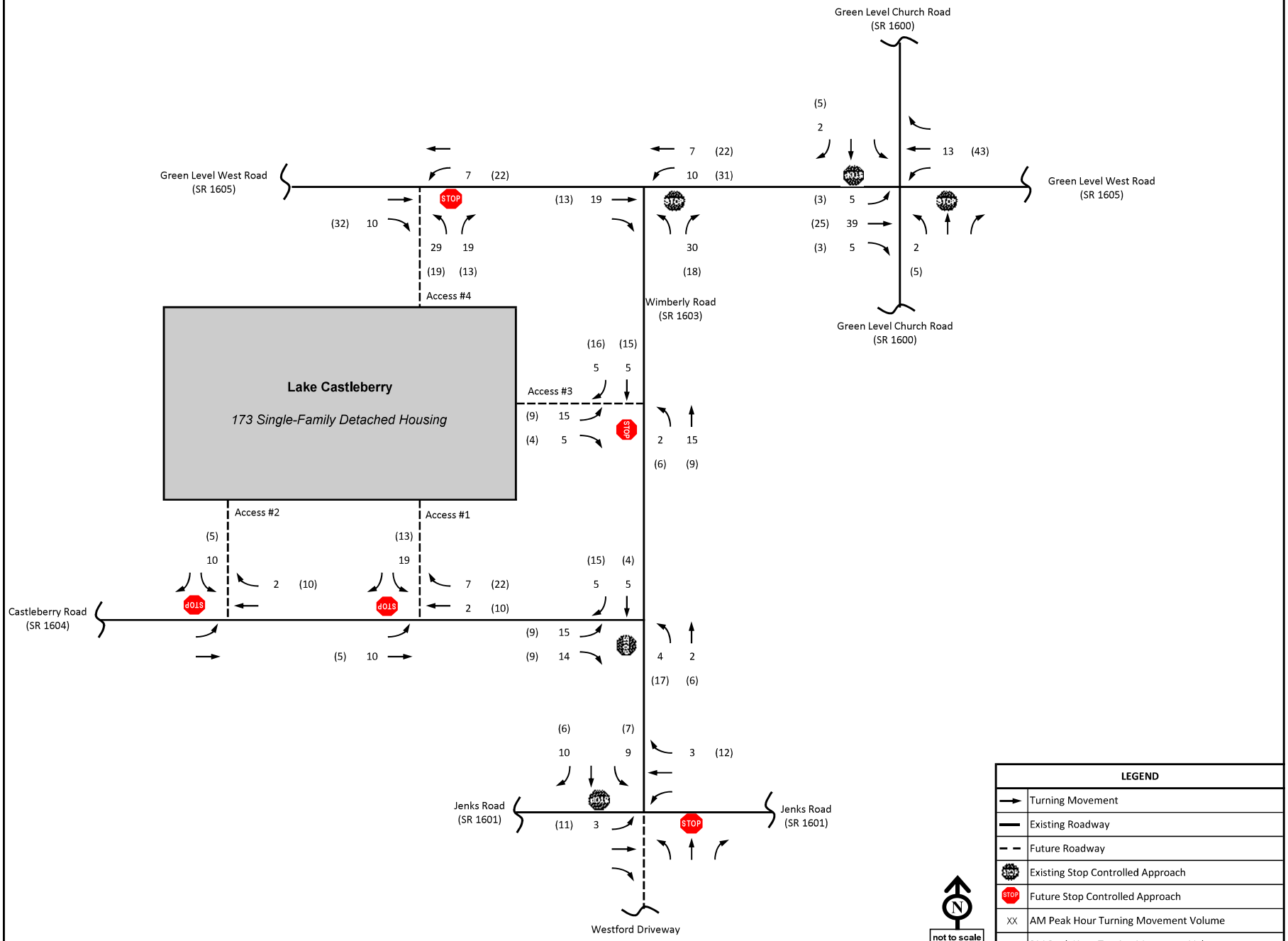
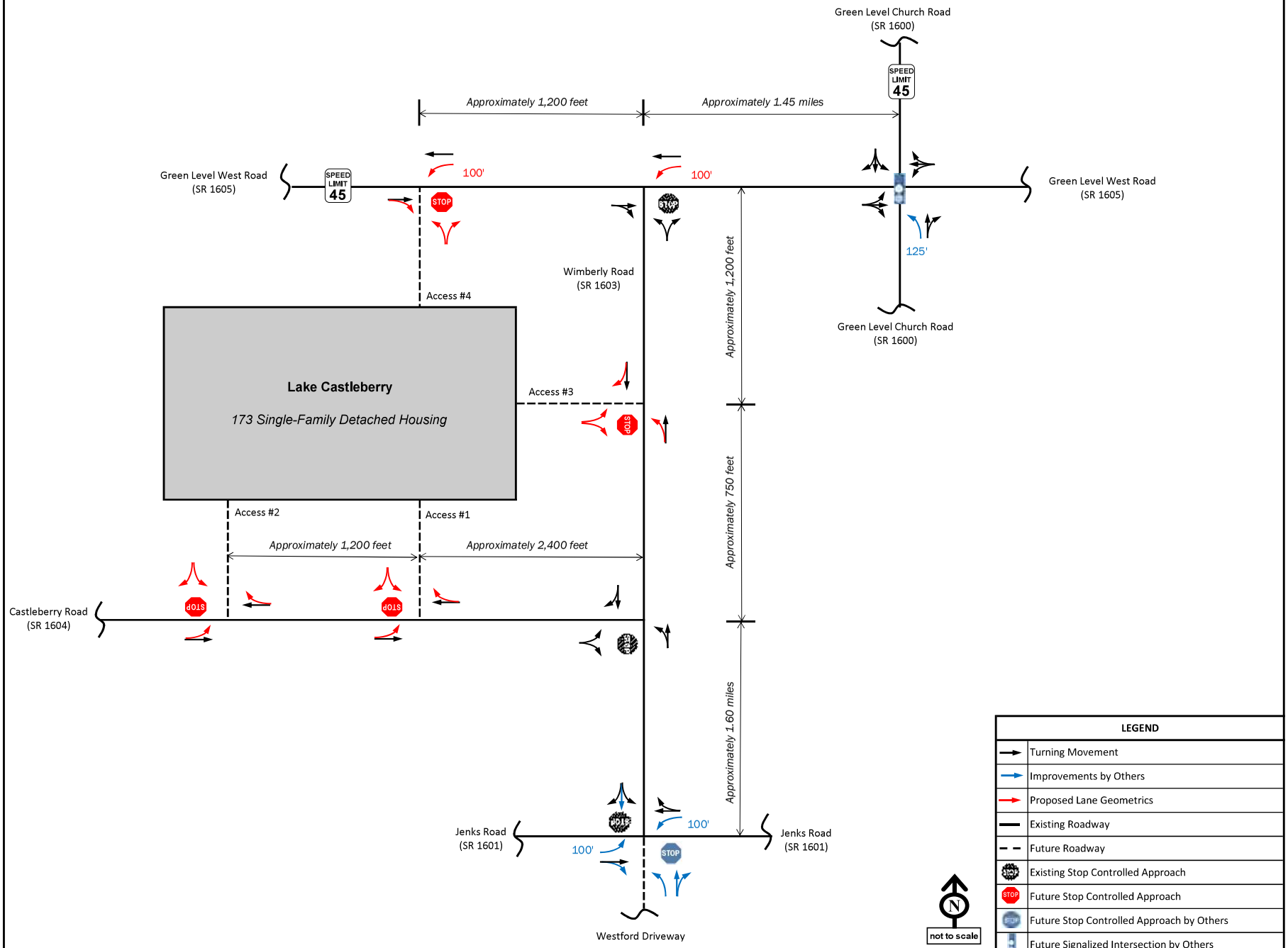


Figure 7
AM and PM Peak Hour Site Trips

Lake Castleberry TIA
Town of Apex, NC



VHB

Figure 9
Recommended (2018) Lane Geometrics and Traffic Control

Lake Castleberry TIA
Town of Apex, NC

Traffic Impact Analysis
for
Tunstall Property
Apex, North Carolina

Prepared for:
Raleigh Land Fund I, LLC
Raleigh, NC

Prepared By:
Kimley-Horn and Associates, Inc.
NC License # F-0102
3001 Weston Parkway
Cary, North Carolina 27513
(919) 677-2000

011657000
June 2013

6/28/13

4.0 Traffic Generation

The traffic generation potential of the proposed development was determined using the traffic generation rates published in *Trip Generation* (Institute of Transportation Engineers, 9th Edition, 2012). Table 4.0 summarizes the estimated traffic generation potential of the site during a typical weekday.

Table 4.0
ITE Traffic Generation
(Average Weekday Traffic)

Land Use	AM Peak		PM Peak	
	Enter	Exit	Enter	Exit
250 Single Family Homes	46	139	151	89
100 Townhomes	9	43	40	20
Total Net New External Vehicle Trips	**55**	**182**	**191**	**109**

Table 4.1 indicates that the development is expected to generate 55 trips entering and 182 trips exiting in the AM peak hour and 191 trips entering and 109 trips exiting in the PM peak hour.

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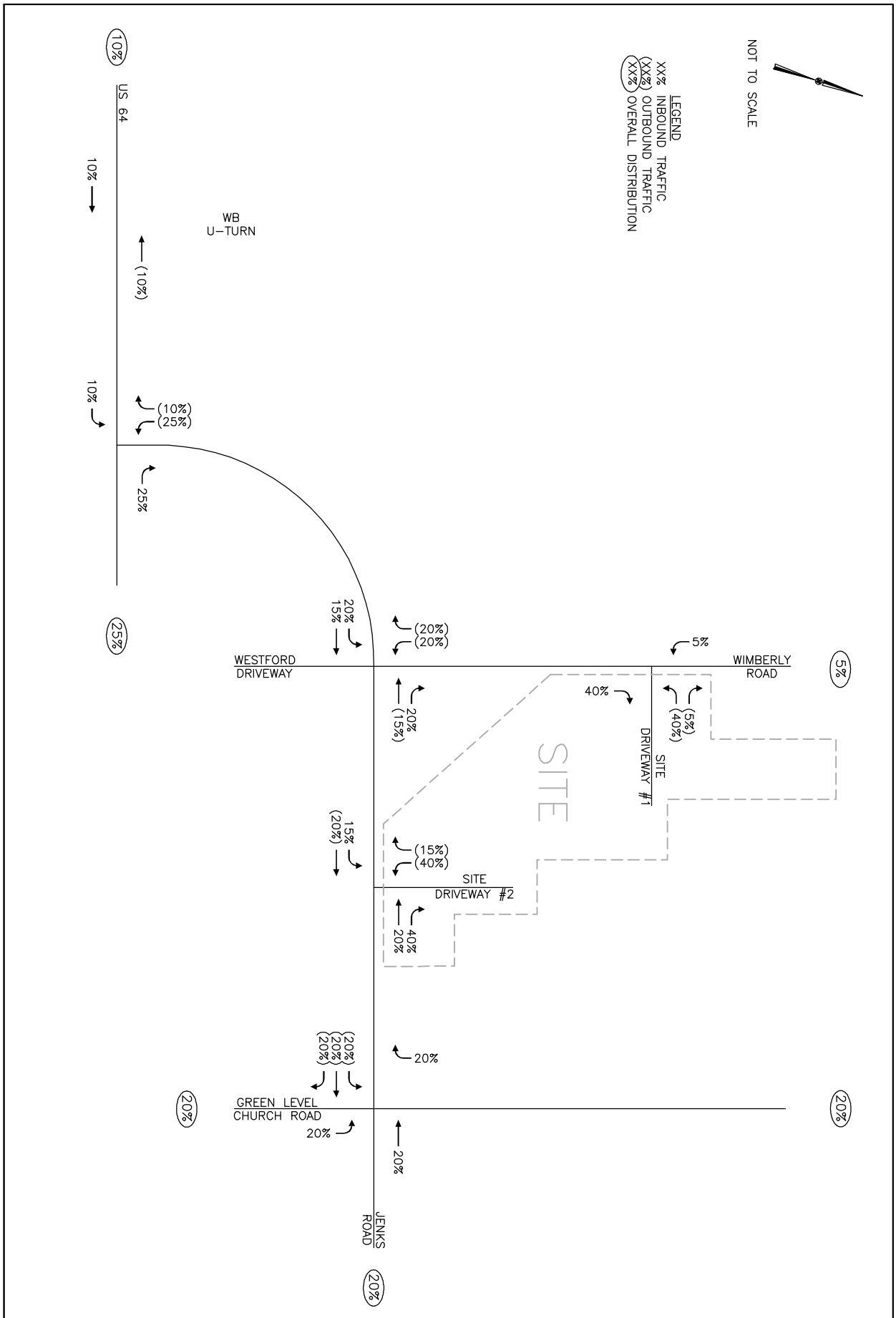

Kimley-Horn and Associates, Inc.	TUNSTALL PROPERTY TRAFFIC IMPACT ANALYSIS	PRIMARY SITE TRIP DISTRIBUTION AND PERCENT ASSIGNMENT WITHOUT SECLUDED ACRES ACCESS	FIGURE 4B

Kimley-Horn and Associates, Inc.	TUNSTALL PROPERTY TRAFFIC IMPACT ANALYSIS	PROJECTED (2017) AM PEAK HOUR BUILD-OUT TRAFFIC VOLUMES - WITHOUT SECLUDED ACRES	FIGURE 7C

Kimley-Horn and Associates, Inc.

TUNSTALL PROPERTY
TRAFFIC IMPACT ANALYSIS

PROJECTED (2017)
PM PEAK HOUR
BUILD-OUT TRAFFIC VOLUMES
- WITHOUT SECLUDED ACRES

FIGURE
8C

Traffic Impact Analysis

for

Westford

Apex, North Carolina

Prepared for:

The Halle Companies

Apex, North Carolina

Prepared by:

Kimley-Horn and Associates, Inc.

NC License #F-0102

421 Fayetteville Street Suite 600

Raleigh, NC 27601

(919) 677-2000

12/7/2016

December 2016

018995001

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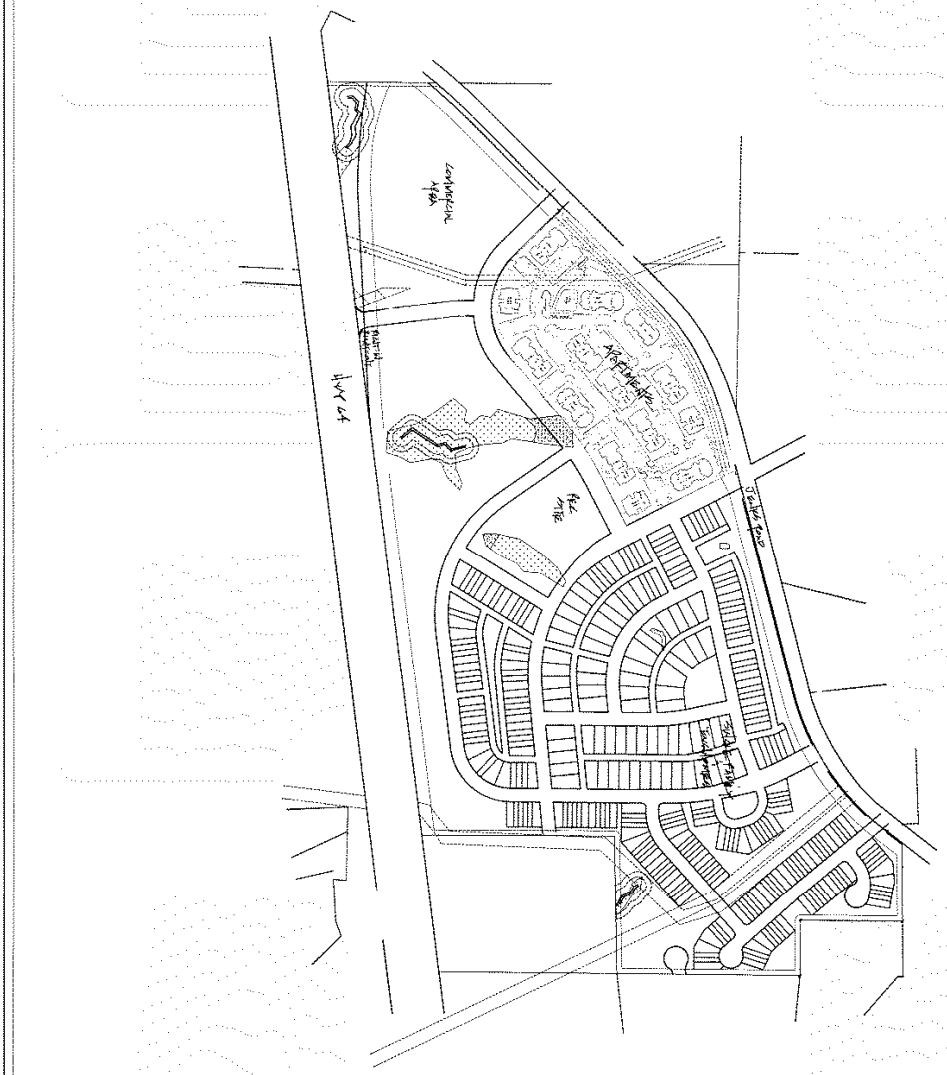

GRAPHIC SCALE

WESTFORD
MASTER SITE PLAN
TOWN OF APEX
WAKE COUNTY, NORTH CAROLINA
PRELIMINARY SITE PLAN

PRELIMINARY PLAN

Jones & Cnossen ENGINEERING, PLLC
Civil Engineering | Construction Management | Land Planning

Kimley»Horn	WESTFORD APEX, NC TRAFFIC IMPACT ANALYSIS	CONCEPTUAL SITE PLAN	FIGURE 2

3.0 Traffic Generation

The traffic generation potential of the proposed development was determined using the traffic generation rates published in *Trip Generation* (Institute of Transportation Engineers, Ninth Edition, 2012). As currently envisioned, Westford will consist of approximately 300 apartment units, 225 townhomes, and 90 single family detached homes. The development is expected to be completed (built-out) in 2019. Table 3.0 summarizes the trip generation for the proposed Westford development.

Table 3.0
ITE Traffic Generation (Vehicles)

Land Use Code	Land Use	Intensity		Daily		AM Peak Hour		PM Peak Hour	
				In	Out	In	Out	In	Out
210	Single Family Detached Housing	90	d.u.	472	472	18	55	60	36
220	Apartments	300	d.u.	971	971	30	121	119	64
230	Residential Townhouses	225	d.u.	651	651	17	82	78	39
Total Net New External Trips				**2,094**	**2,094**	**65**	**258**	**257**	**139**

The proposed residential development has the potential to generate 2,094 net new trips entering and 2,094 net new trips exiting during a typical weekday with 65 net new trips entering and 258 net new trips exiting during the AM peak hour and 257 net new trips entering and 139 net new trips exiting during the PM peak hour.

Detailed trip generation calculations are included in the Appendix of this report.

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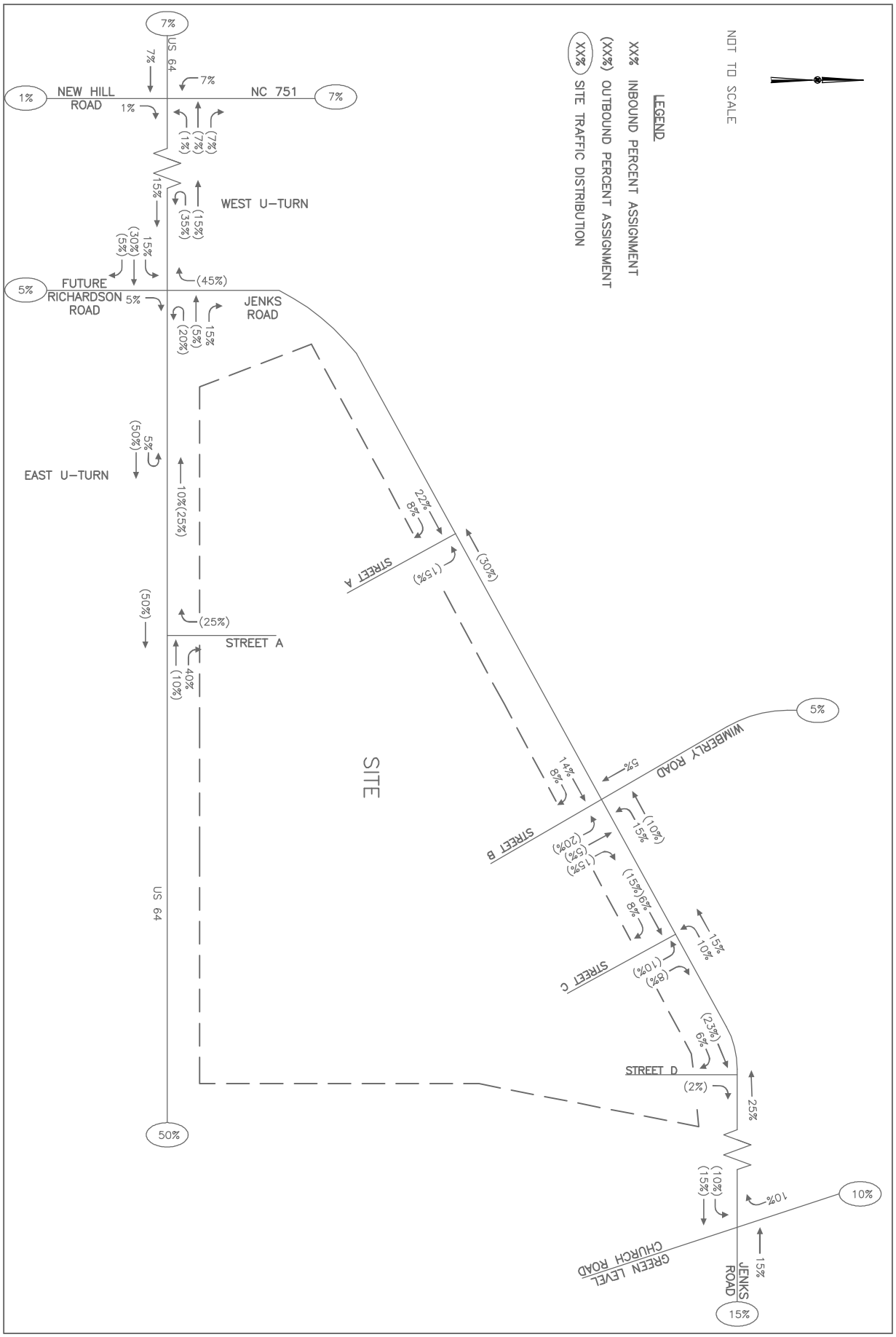

Kimley»Horn	WESTFORD APEX, NC TRAFFIC IMPACT ANALYSIS	SITE TRAFFIC DISTRIBUTION AND PERCENT ASSIGNMENT	FIGURE 4

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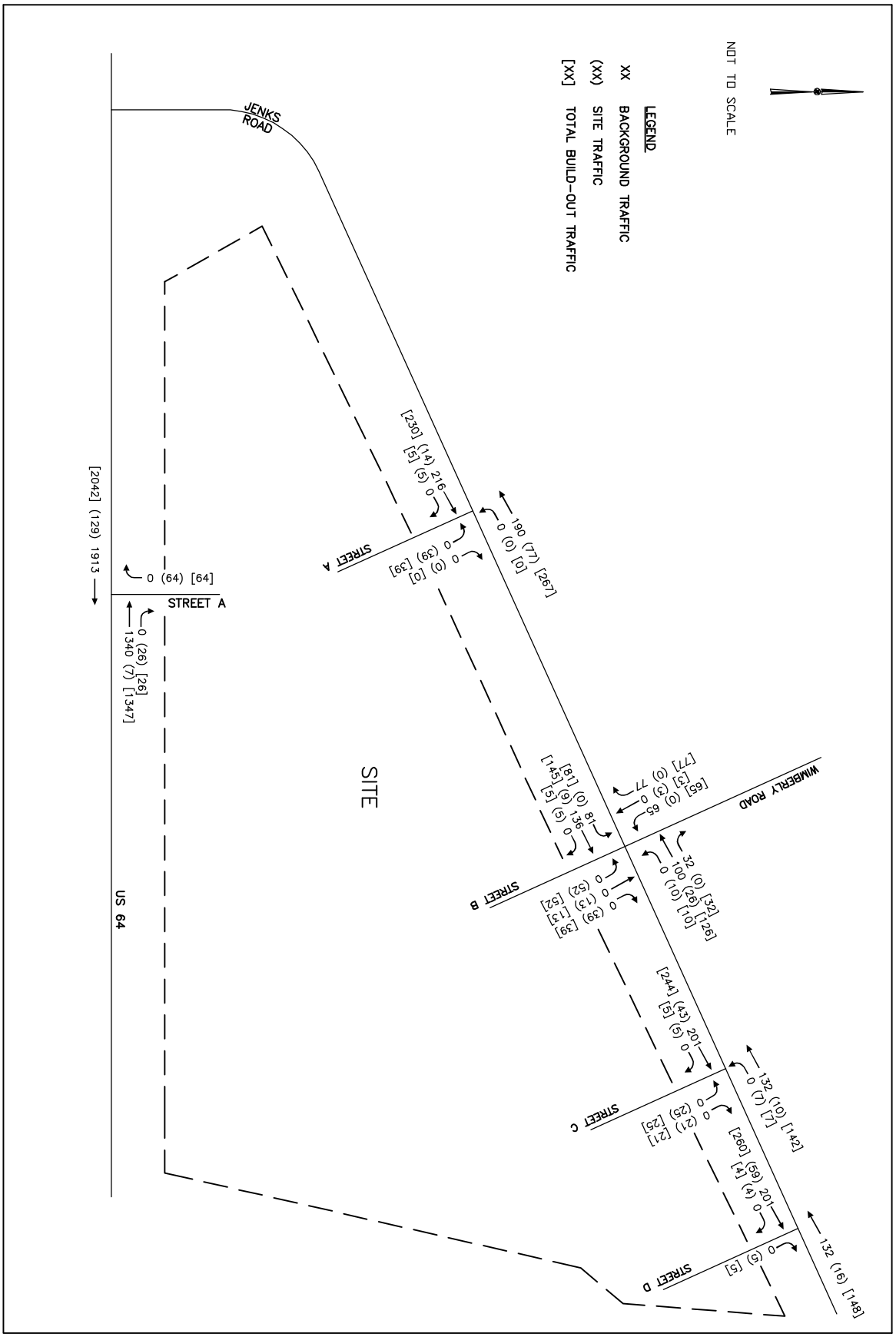

Kimley»Horn	WESTFORD APEX, NC TRAFFIC IMPACT ANALYSIS	PROJECTED (2019) BUILD-OUT AM PEAK HOUR TRAFFIC VOLUMES SITE DRIVEWAYS	FIGURE 7B

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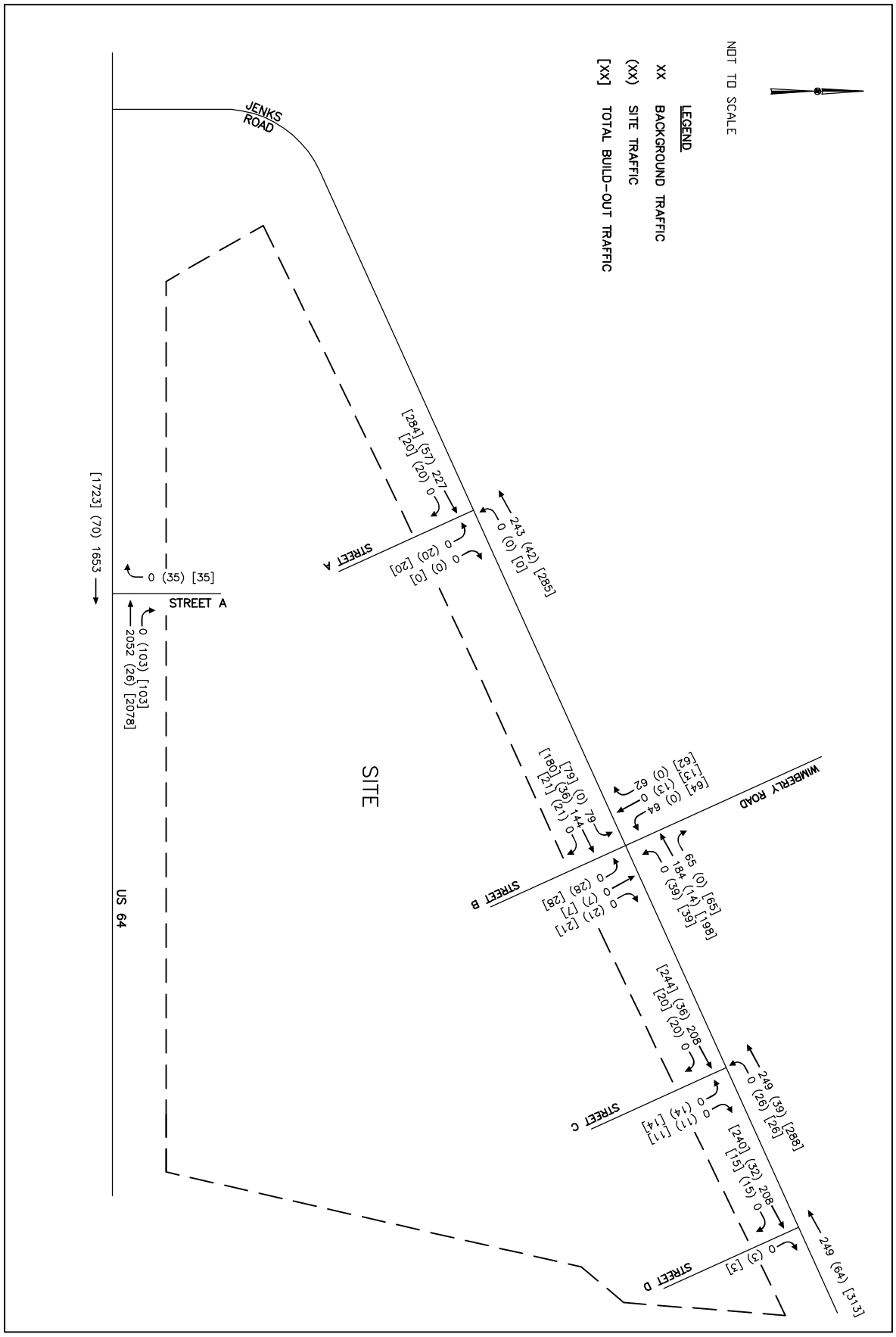

Kimley»Horn	WESTFORD APEX, NC TRAFFIC IMPACT ANALYSIS	PROJECTED (2019) BUILD-OUT PM PEAK HOUR TRAFFIC VOLUMES SITE DRIVEWAYS	FIGURE 8B

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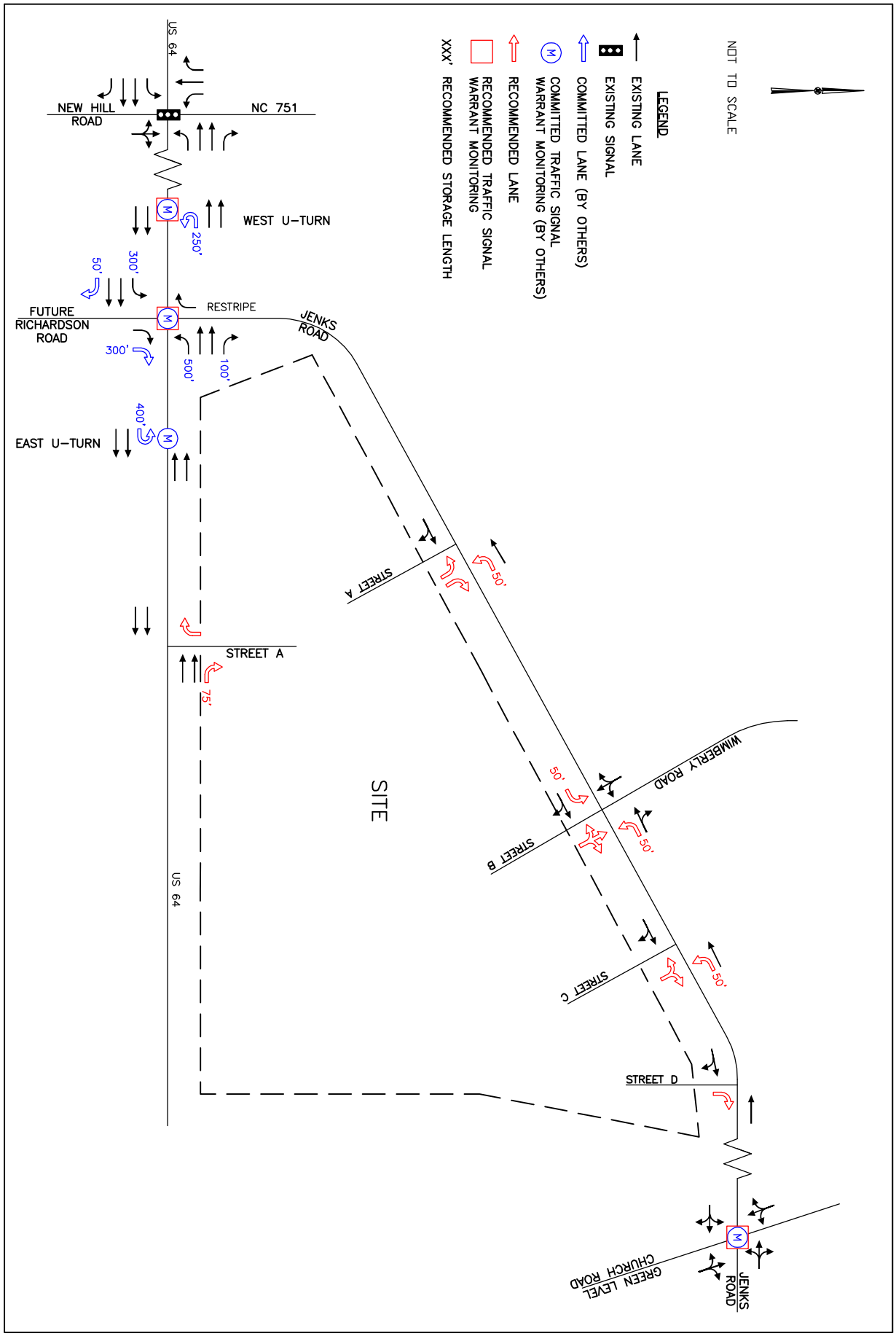


Kimley»Horn	WESTFORD APEX, NC TRAFFIC IMPACT ANALYSIS	RECOMMENDED ROADWAY LANEAGE	FIGURE 9

Mott MacDonald
(License No. F-0669)
7621 Purfoy Road
Suite 115
Fuquay-Varina NC 27526
United States of America

T +1 (919) 552 2253
F +1 (919) 552 2254
mottmac.com

Curry Engineering
205 S Fuquay Avenue
Fuquay-Varina, NC 27526

Wolfe Properties PUD

Traffic Impact Analysis

November 2019

11/22/2019

Curry Engineering

4 Build (2025) Conditions

As previously described, a residential development consisting of 70 single-family homes and 50 townhomes is being proposed on the east side of Wimberly Road, between Green Level West Road and Jenks Road, in Apex, NC. Per the site plan, the proposed development will provide two full accesses along Wimberly Road. The northern driveway (Access #1) is approximately 0.9 miles south of Castleberry Road, while the southern driveway (Access #2) is approximately 0.4 miles north of Jenks Road. The development is anticipated to be fully constructed by 2025.

4.1 Trip Generation and Distribution

Trip generation was estimated based on the *ITE Trip Generation Manual, 10th Edition* and NCDOT Congestion Management guidelines. As shown in **Table 6**, the development is anticipated to generate 1,086 daily trips, 79 AM peak hour trips (19 entering, 60 exiting) and 104 PM peak hour trips (65 entering, 39 exiting).

Table 6: Trip Generation Results

Land Use (ITE Land Use Code)	Units	Daily	AM Peak		PM Peak	
			Enter	Exit	Enter	Exit
Single Family Detached (210)	70	749	13	41	45	27
Townhomes (220)	50	337	6	19	20	12
Total	***120***	***1,086***	***19***	***60***	***65***	***39***

Source: *ITE Trip Generation Manual, 10th Edition*

Most of the projected site trips are anticipated travel west along Jenks Road to US 64. The site trip distribution percentages for the proposed development are shown in **Figure 6**, with the resulting site trips shown in **Figure 7**.

4.2 Level of Service Analysis

The Build (2025) scenario consists of the Background (2025) traffic as discussed previously with the addition of site generated trips from the proposed development. The volumes that are used in the Build (2025) analysis are shown in **Figure 8**. The laneage and traffic control used for the Build (2025) scenario is based on the existing conditions shown in **Figure 3**. The summary level of service results are shown in **Table 7**.

As shown in **Table 7**, the stop-controlled and yield movements at both study area intersections are currently operating at LOS C or better during the AM and PM peak hours.

The newly constructed accesses along Wimberly Road are projected to operate acceptably in both the AM and PM peak hours, with the access approaches operating at LOS B or better and the southbound left-turn movements operating at LOS A in both the AM and PM peak hours.

The Build (2025) analysis results are located in **Appendix F**.

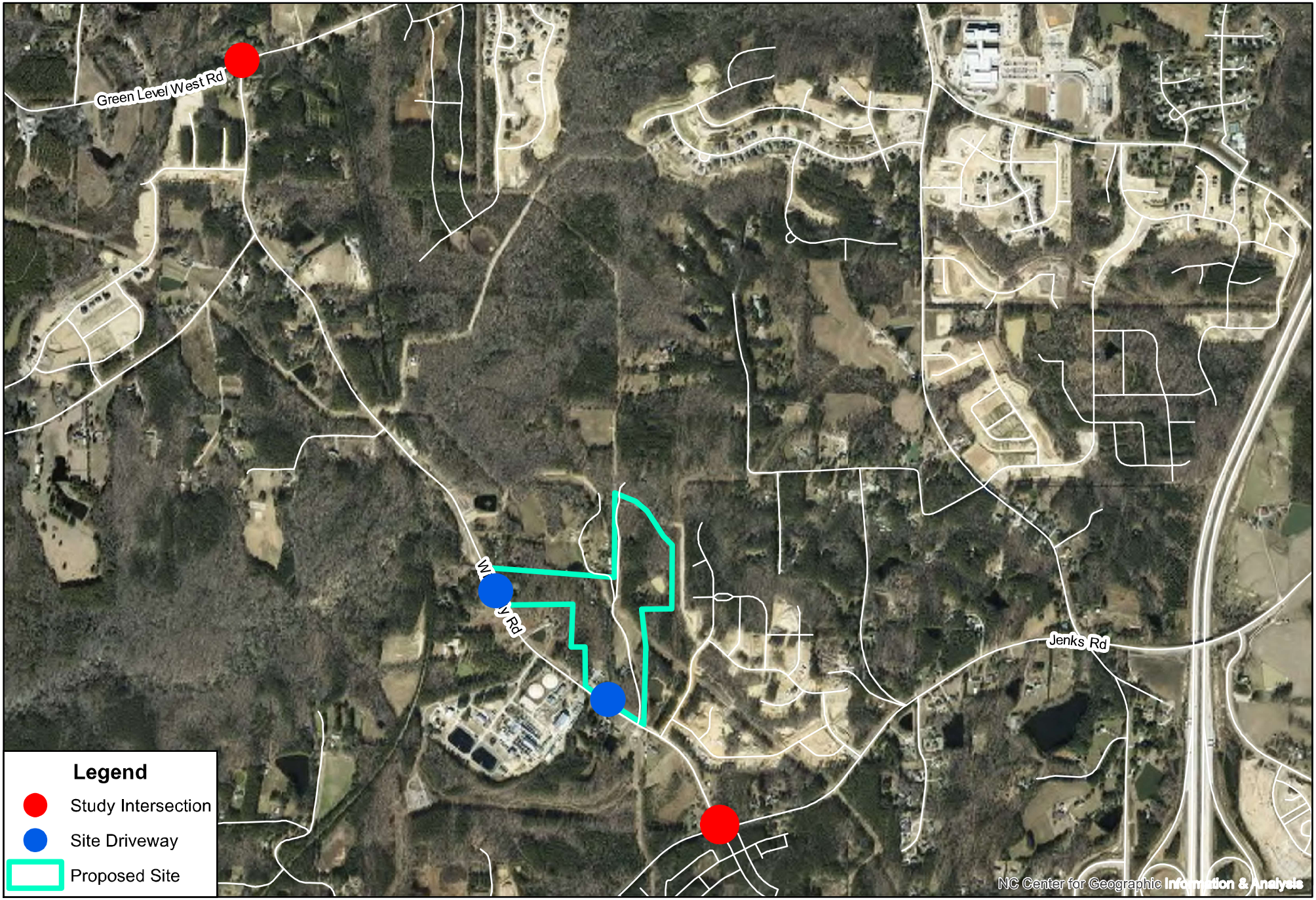
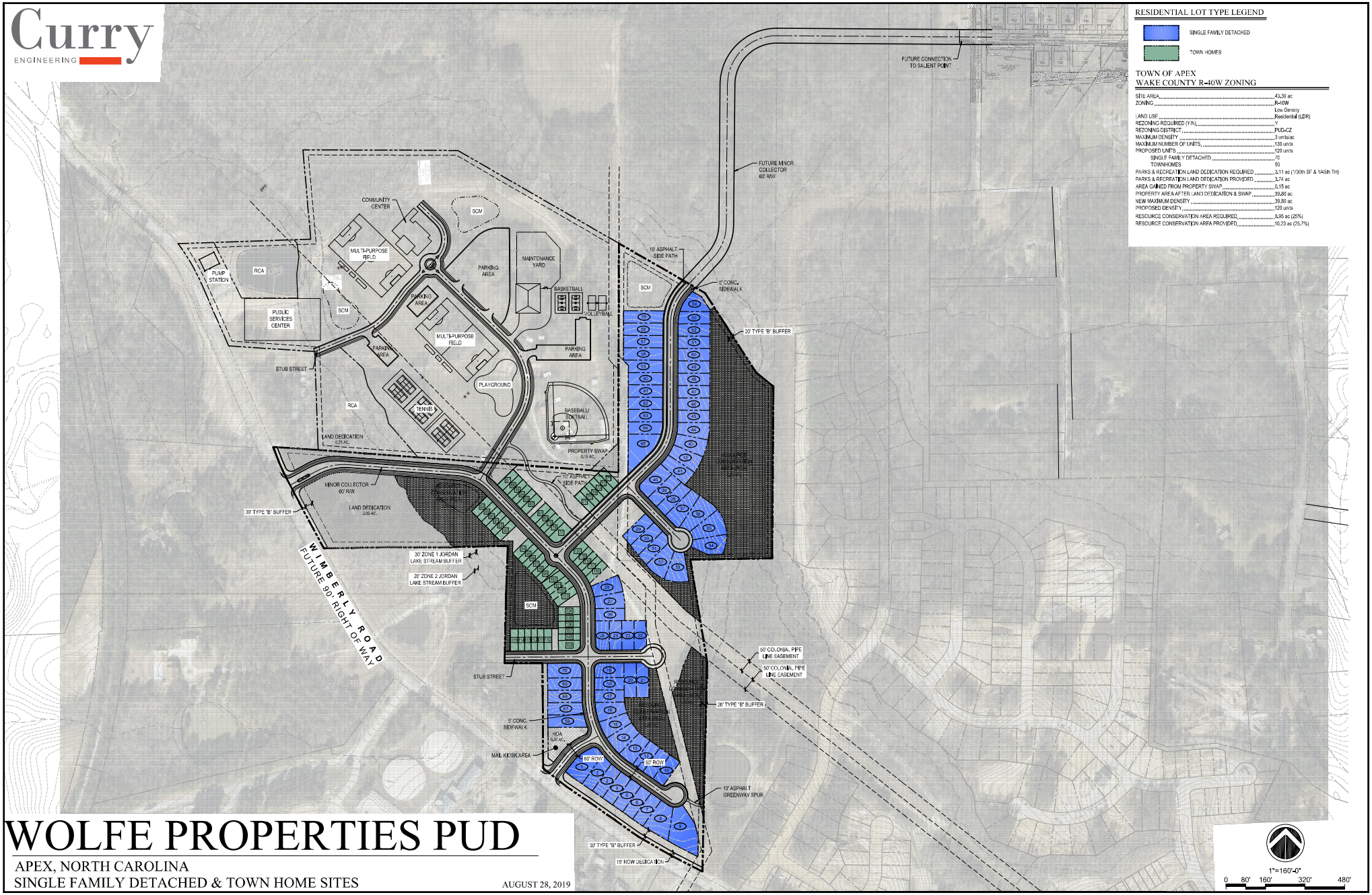


Figure 1: Vicinity Map

Wolfe Property PUD

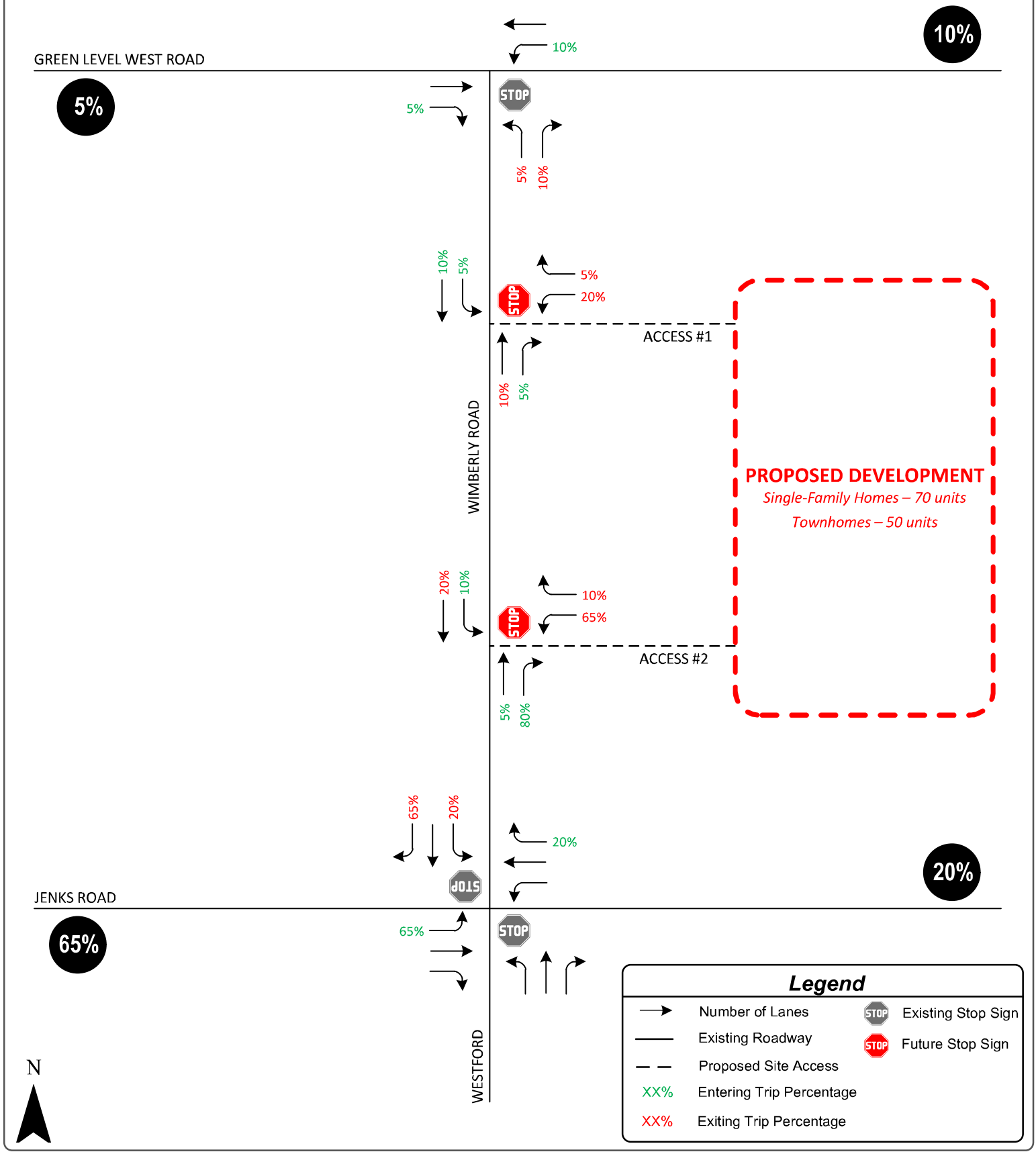
MOTT MACDONALD



WOLFE PROPERTIES PUD

APEX, NORTH CAROLINA
SINGLE FAMILY DETACHED & TOWN HOME SITES

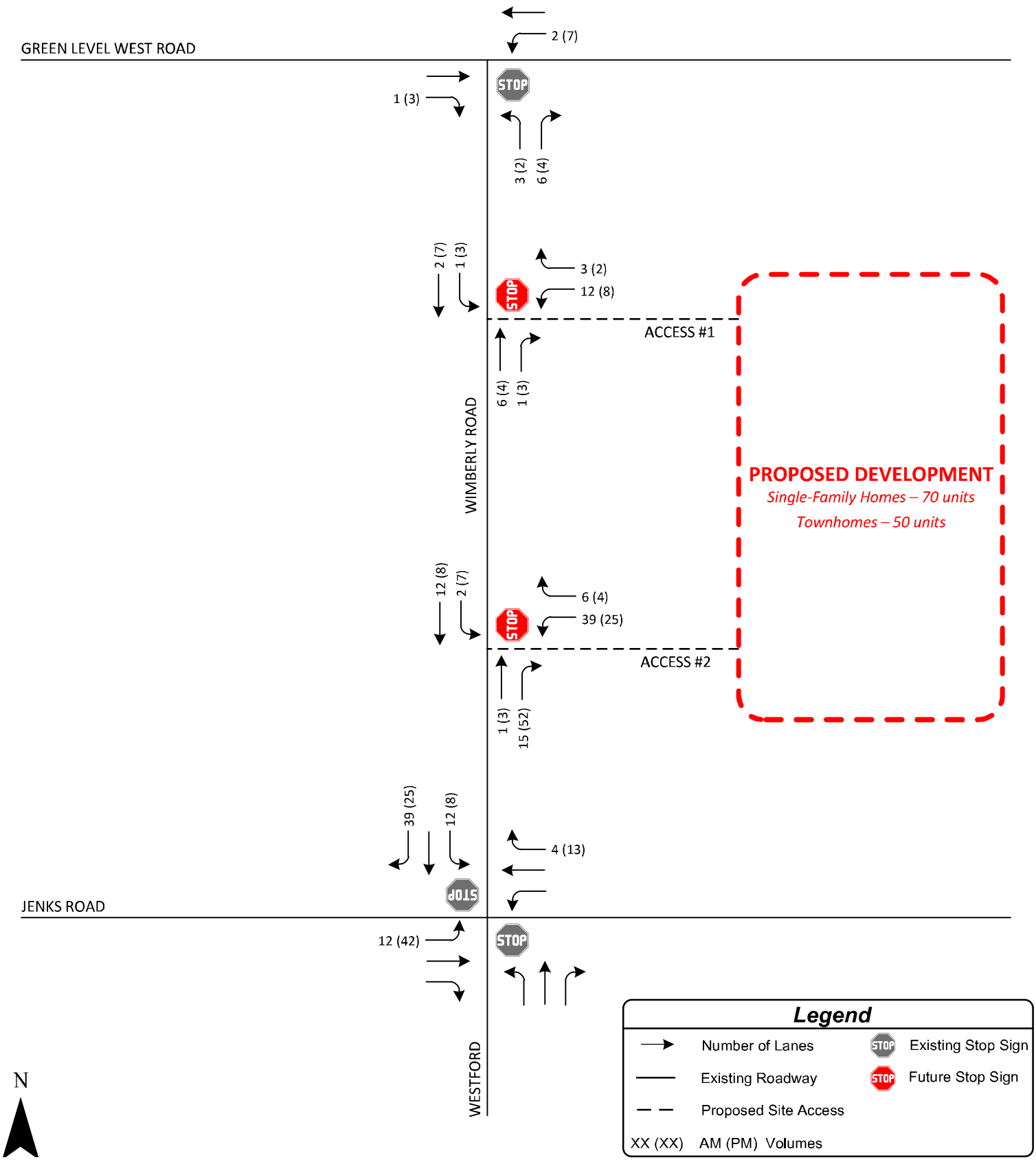
AUGUST 28, 2019



Wolfe Property PUD
Apex, NC

Figure 6
Trip Distribution Percentages

MOTT MACDONALD



Wolfe Property PUD
Apex, NC

Figure 7
Site Trips

MOTT MACDONALD

Study Year	Adjacent Dev	Projected Occupancy	Remaining Trip Factor
2019 Counts	Lake Castleberry	40%	-
	Preserve at White Oak	75%	-
	Westford Residential	50%	-
2021 Exist	Lake Castleberry	65%	0.42
	Preserve at White Oak	100%	1.00
	Westford Residential	65%	0.30
2025 Build	Lake Castleberry	100%	0.58
	Preserve at White Oak	100%	0.00
	Westford Residential	100%	0.70

Appendix D:
Trip Generation

Jenks Road Assemblage

Table 1 - Trip Generation - Scenario #1 (Residential Only)

Land Use	Intensity	Daily	AM Peak Hour			PM Peak Hour		
		Total	Total	In	Out	Total	In	Out
220 Multifamily Housing (Low-Rise)	80 d.u.	564	39	9	30	48	30	18

Jenks Road Assemblage

Table 2 - Trip Generation - Scenario #2 (Residential + Commercial)

Land Use	Intensity		Daily	AM Peak Hour			PM Peak Hour		
			Total	Total	In	Out	Total	In	Out
220 Multifamily Housing (Low-Rise)	80	d.u.	564	39	9	30	48	30	18
565 Day Care Center	14,000	s.f.	668	154	82	72	156	73	83
720 Medical Office Building	8,000	s.f.	220	24	19	5	29	8	21
Subtotal			**1,452**	**217**	**110**	**107**	**233**	**111**	**122**
Internal Capture									
220 Multifamily Housing (Low-Rise)			10	1	0	1	1	0	1
720 Medical Office Building			10	1	1	0	1	1	0
	AM	**PM**							
Internal Capture Total per ITE	**0.92%**	**0.86%**	*20*	*2*	*1*	*1*	*2*	*1*	*1*
Total Net New External Trips			**1,432**	**215**	**109**	**106**	**231**	**110**	**121**

Internal Capture Reduction Calculations

Methodology for A.M. Peak Hour and P.M. Peak Hour
based on the *Trip Generation Handbook* , 3rd Edition, published by the Institute of Transportation Engineers

Methodology for Daily
based on the average of the Unconstrained Rates for the A.M. Peak Hour and P.M. Peak Hour

SUMMARY

GROSS TRIP GENERATION

	Land Use	Daily		A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit	Enter	Exit
INPUT	Office	110	110	19	5	8	21
	Retail	0	0	0	0	0	0
	Restaurant	0	0	0	0	0	0
	Cinema/Entertainment	0	0	0	0	0	0
	Residential	282	282	9	30	30	18
	Hotel	0	0	0	0	0	0
		392	392	28	35	38	39

INTERNAL TRIPS

	Land Use	Daily		A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit	Enter	Exit
OUTPUT	Office	8	2	1	0	1	0
	Retail	0	0	0	0	0	0
	Restaurant	0	0	0	0	0	0
	Cinema/Entertainment	0	0	0	0	0	0
	Residential	2	8	0	1	0	1
	Hotel	0	0	0	0	0	0
		10	10	1	1	1	1
	% Reduction	2.6%		3.2%		2.6%	

EXTERNAL TRIPS

	Land Use	Daily		A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit	Enter	Exit
OUTPUT	Office	102	108	18	5	7	21
	Retail	0	0	0	0	0	0
	Restaurant	0	0	0	0	0	0
	Cinema/Entertainment	0	0	0	0	0	0
	Residential	280	274	9	29	30	17
	Hotel	0	0	0	0	0	0
		382	382	27	34	37	38

Appendix E:

Intersection Spreadsheets

- Scenario #1 (Residential Only)

INTERSECTION ANALYSIS SHEET

Project:	**Retreat at Preserve at White Oak**
Location:	**Apex, NC**
Scenario:	**Scenario #1: Residential Only**
Ct. Date	**10/3/2019**
N/S Street:	**Wimberly Road/Westford Street B**
E/W Street:	**Jenks Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	9	30	30	18

Annual Growth Rate:	2.0%	**Existing Year:**	2021
Growth Factor:	0.082432	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	Jenks Road Eastbound			Jenks Road Westbound			Westford Street B Northbound			Wimberly Road Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2019 Traffic Count	42	94	4	2	65	21	6	5	15	20	2	29
Lake Castleberry Occ. Increase (40-65% occ.)	1	0	0	0	0	1	0	0	0	2	0	3
Preserve @ WO Occ. Increase (75-100% occ.)	3	2	0	0	7	3	0	0	0	9	0	9
Westford Res. Occ. Increase (50-65% occ.)	0	3	0	2	8	0	14	2	7	0	0	0
2021 Existing Traffic	46	99	4	4	80	25	20	7	22	31	2	41
Growth Factor (0.02 per year)	0.082	0.082	0.000	0.000	0.082	0.082	0.000	0.000	0.000	0.082	0.000	0.082
2025 Background Growth	4	8	0	0	7	2	0	0	0	3	0	3
Committed Projects (Remaining Portions)												
Lake Castleberry (Remaining Build: 65-100%)	1	0	0	0	0	1	0	0	0	3	0	3
Wolfe Property (Remaining Build: 0-100%)	12	0	0	0	0	4	0	0	0	12	0	39
Westford Res. (Remaining Build: 50-100%)	0	6	1	6	18	0	32	6	17	0	1	0
Total Committed Traffic	13	6	1	6	18	5	32	6	17	15	1	42
2025 Background Traffic	63	113	5	10	105	32	52	13	39	49	3	86
Project Traffic												
Percent Assignment Inbound	0%	40%	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%
Inbound Project Traffic	0	4	0	0	0	0	0	0	0	1	0	0
Percent Assignment Outbound	0%	0%	0%	0%	40%	10%	0%	0%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	12	3	0	0	0	0	0	0
Total Project Traffic	0	4	0	0	12	3	0	0	0	1	0	0
2025 Buildout Total	63	117	5	10	117	35	52	13	39	50	3	86
Percent Impact (Approach)		2.2%			9.3%			0.0%			0.7%	

Overall Percent Impact 3.4%

PM PEAK HOUR
PM PHF = 0.90

Description	Jenks Road Eastbound			Jenks Road Westbound			Westford Street B Northbound			Wimberly Road Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2019 Traffic Count	42	65	6	14	98	16	4	1	4	54	3	53
Lake Castleberry Occ. Increase (40-65% occ.)	3	0	0	0	0	3	0	0	0	2	0	2
Preserve @ WO Occ. Increase (75-100% occ.)	10	7	0	0	4	10	0	0	0	6	0	6
Westford Res. Occ. Increase (50-65% occ.)	0	11	5	8	4	0	7	2	5	0	3	0
2021 Existing Traffic	55	83	11	22	106	29	11	3	9	62	6	61
Growth Factor (0.02 per year)	0.082	0.082	0.000	0.000	0.082	0.082	0.000	0.000	0.000	0.082	0.000	0.082
2025 Background Growth	5	7	0	0	9	2	0	0	0	5	0	5
Committed Projects												
Lake Castleberry (Remaining Build: 65-100%)	4	0	0	0	0	4	0	0	0	2	0	2
Wolfe Property (Remaining Build: 0-100%)	42	0	0	0	0	13	0	0	0	8	0	25
Westford Res. (Remaining Build: 50-100%)	0	25	10	17	10	0	17	4	12	0	7	0
Total Committed Traffic	46	25	10	17	10	17	17	4	12	10	7	27
2025 Background Traffic	106	115	21	39	125	48	28	7	21	77	13	93
Project Traffic												
Percent Assignment Inbound	0%	40%	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%
Inbound Project Traffic	0	12	0	0	0	0	0	0	0	3	0	0
Percent Assignment Outbound	0%	0%	0%	0%	40%	10%	0%	0%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	7	2	0	0	0	0	0	0
Total Project Traffic	0	12	0	0	7	2	0	0	0	3	0	0
2025 Buildout Total	106	127	21	39	132	50	28	7	21	80	13	93
Percent Impact (Approach)		4.7%			4.1%			0.0%			1.6%	

Overall Percent Impact 3.3%

INTERSECTION ANALYSIS SHEET

Project:	**Retreat at Preserve at White Oak**
Location:	**Apex, NC**
Scenario:	**Scenario #1: Residential Only**
Ct. Date	**Balanced with Jenks - Wimberly**
N/S Street:	**Westford Street C/East Site Driveway**
E/W Street:	**Jenks Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	9	30	30	18

Annual Growth Rate:	2.0%	**Existing Year:**	2021
Growth Factor:	0.082432	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	Jenks Road Eastbound			Jenks Road Westbound			Westford Street C Driveway Northbound			East Site Driveway (Full Mvmt.) Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2019 Volume Balancing	0	129	0	0	88	0	0	0	0	0	0	0
Lake Castleberry Interim Build (40-65% occ.)	0	2	0	0	1	0	0	0	0	0	0	0
Preserve @ WO Interim Build (75-100% occ.)	0	11	0	0	10	0	0	0	0	0	0	0
Westford Res. Interim Build (50-65% occ.)	0	8	2	2	3	0	8	0	6	0	0	0
2021 Existing Traffic	0	150	2	2	102	0	8	0	6	0	0	0
Growth Factor (0.02 per year)	0.082	0.082	0.000	0.000	0.082	0.082	0.000	0.000	0.000	0.000	0.000	0.000
2025 Background Growth	0	12	0	0	8	0	0	0	0	0	0	0
Committed Projects												
Lake Castleberry (Remaining Build: 65-100%)	0	3	0	0	1	0	0	0	0	0	0	0
Wolfe Property (Remaining Build: 0-100%)	0	12	0	0	4	0	0	0	0	0	0	0
Westford Res. (Remaining Build: 50-100%)	0	20	3	5	6	0	17	0	15	0	0	0
Total Committed Traffic	0	35	3	5	11	0	17	0	15	0	0	0
2025 Background Traffic	0	197	5	7	121	0	25	0	21	0	0	0
Project Traffic												
Percent Assignment Inbound	50%	0%	0%	0%	15%	35%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	5	0	0	0	1	3	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	15%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	15	0	5
Total Project Traffic	5	0	0	0	1	3	0	0	0	15	0	5
2025 Buildout Total	5	197	5	7	122	3	25	0	21	15	0	5
Percent Impact (Approach)		2.4%			3.0%			0.0%			100.0%	

Overall Percent Impact 7.2%

PM PEAK HOUR
PM PHF = 0.90

Description	Jenks Road Eastbound			Jenks Road Westbound			Westford Street C Driveway Northbound			East Site Driveway (Full Mvmt.) Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2019 Volume Balancing	0	123	0	0	128	0	0	0	0	0	0	0
Lake Castleberry Interim Build (40-65% occ.)	0	2	0	0	3	0	0	0	0	0	0	0
Preserve @ WO Interim Build (75-100% occ.)	0	13	0	0	14	0	0	0	0	0	0	0
Westford Res. Interim Build (50-65% occ.)	0	10	6	8	8	0	4	0	3	0	0	0
2021 Existing Traffic	0	148	6	8	153	0	4	0	3	0	0	0
Growth Factor (0.02 per year)	0.082	0.082	0.000	0.000	0.082	0.082	0.000	0.000	0.000	0.000	0.000	0.000
2025 Background Growth	0	12	0	0	13	0	0	0	0	0	0	0
Committed Projects												
Lake Castleberry (Remaining Build: 65-100%)	0	2	0	0	4	0	0	0	0	0	0	0
Wolfe Property (Remaining Build: 0-100%)	0	8	0	0	13	0	0	0	0	0	0	0
Westford Res. (Remaining Build: 50-100%)	0	23	14	18	17	0	10	0	8	0	0	0
Total Committed Traffic	0	33	14	18	34	0	10	0	8	0	0	0
2025 Background Traffic	0	193	20	26	200	0	14	0	11	0	0	0
Project Traffic												
Percent Assignment Inbound	50%	0%	0%	0%	15%	35%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	15	0	0	0	5	10	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	15%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	9	0	3
Total Project Traffic	15	0	0	0	5	10	0	0	0	9	0	3
2025 Buildout Total	15	193	20	26	205	10	14	0	11	9	0	3
Percent Impact (Approach)		6.6%			6.2%			0.0%			100.0%	

Overall Percent Impact 8.3%

INTERSECTION ANALYSIS SHEET

Project:	**Retreat at Preserve at White Oak**
Location:	**Apex, NC**
Scenario:	**Scenario #1: Residential Only**
Ct. Date	**Balanced with Jenks - Wimberly**
N/S Street:	**West Site Driveway (RI/RO)**
E/W Street:	**Jenks Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	9	30	30	18

Annual Growth Rate:	2.0%	**Existing Year:**	2021
Growth Factor:	0.082432	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

	Jenks Road Eastbound			Jenks Road Westbound			Northbound			West Site Driveway (RI/RO) Southbound		
Description	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2019 Volume Balancing	0	129	0	0	88	0	0	0	0	0	0	0
Lake Castleberry Interim Build (40-65% occ.)	0	2	0	0	1	0	0	0	0	0	0	0
Preserve @ WO Interim Build (75-100% occ.)	0	11	0	0	10	0	0	0	0	0	0	0
Westford Res. Interim Build (50-65% occ.)	0	10	0	0	10	0	0	0	0	0	0	0
2021 Existing Traffic	0	152	0	0	109	0	0	0	0	0	0	0
Growth Factor (0.02 per year)	0.082	0.082	0.082	0.082	0.082	0.082	0.000	0.000	0.000	0.082	0.082	0.082
2025 Background Growth	0	13	0	0	9	0	0	0	0	0	0	0
Committed Projects												
Lake Castleberry (Remaining Build: 65-100%)	0	3	0	0	1	0	0	0	0	0	0	0
Wolfe Property (Remaining Build: 0-100%)	0	12	0	0	4	0	0	0	0	0	0	0
Westford Res. (Remaining Build: 50-100%)	0	23	0	0	24	0	0	0	0	0	0	0
Total Committed Traffic	0	38	0	0	29	0	0	0	0	0	0	0
2025 Background Traffic	0	203	0	0	147	0	0	0	0	0	0	0
Project Traffic												
Percent Assignment Inbound	0%	50%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	5	0	0	0	1	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%	35%
Outbound Project Traffic	0	0	0	0	5	0	0	0	0	0	0	10
Total Project Traffic	0	5	0	0	5	1	0	0	0	0	0	10
2025 Buildout Total	0	208	0	0	152	1	0	0	0	0	0	10
Percent Impact (Approach)		2.4%			3.9%			-			100.0%	

Overall Percent Impact 5.7%

PM PEAK HOUR
PM PHF = 0.90

	Jenks Road Eastbound			Jenks Road Westbound			Northbound			West Site Driveway (RI/RO) Southbound		
Description	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2019 Volume Balancing	0	123	0	0	128	0	0	0	0	0	0	0
Lake Castleberry Interim Build (40-65% occ.)	0	2	0	0	3	0	0	0	0	0	0	0
Preserve @ WO Interim Build (75-100% occ.)	0	13	0	0	14	0	0	0	0	0	0	0
Westford Res. Interim Build (50-65% occ.)	0	16	0	0	12	0	0	0	0	0	0	0
2021 Existing Traffic	0	154	0	0	157	0	0	0	0	0	0	0
Growth Factor (0.02 per year)	0.082	0.082	0.082	0.082	0.082	0.082	0.000	0.000	0.000	0.082	0.082	0.082
2025 Background Growth	0	13	0	0	13	0	0	0	0	0	0	0
Committed Projects												
Lake Castleberry (Remaining Build: 65-100%)	0	2	0	0	4	0	0	0	0	0	0	0
Wolfe Property (Remaining Build: 0-100%)	0	8	0	0	13	0	0	0	0	0	0	0
Westford Res. (Remaining Build: 50-100%)	0	37	0	0	27	0	0	0	0	0	0	0
Total Committed Traffic	0	47	0	0	44	0	0	0	0	0	0	0
2025 Background Traffic	0	214	0	0	214	0	0	0	0	0	0	0
Project Traffic												
Percent Assignment Inbound	0%	50%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	15	0	0	0	5	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%	35%
Outbound Project Traffic	0	0	0	0	3	0	0	0	0	0	0	6
Total External Site Traffic	0	15	0	0	3	5	0	0	0	0	0	6
Diverted Link Trip Reduction	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Link Trip Assignment	0	0	0	0	0	0	0	0	0	0	0	0
Total Diverted Link Traffic	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Traffic	0	15	0	0	3	5	0	0	0	0	0	6
2025 Buildout Total	0	229	0	0	217	5	0	0	0	0	0	6
Percent Impact (Approach)		6.6%			3.6%			-			100.0%	

Overall Percent Impact 6.3%

Appendix F:

Intersection Spreadsheets

- Scenario #2 (Commercial + Residential)

INTERSECTION ANALYSIS SHEET

Project:	**Retreat at Preserve at White Oak**
Location:	**Apex, NC**
Scenario:	**Scenario #2: Residential + Commercial**
Ct. Date	**10/3/2019**
N/S Street:	**Wimberly Road/Westford Street B**
E/W Street:	**Jenks Road**

	AM In	AM Out	PM In	PM Out
Residential Net New Trips:	9	29	30	17
Commercial Net New Trips:	100	77	80	104

Annual Growth Rate:	2.0%	**Existing Year:**	2021
Growth Factor:	0.082432	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	Jenks Road Eastbound Left	Through	Right	Jenks Road Westbound Left	Through	Right	Westford Street B Northbound Left	Through	Right	Wimberly Road Southbound Left	Through	Right
2019 Traffic Count	42	94	4	2	65	21	6	5	15	20	2	29
Lake Castleberry Occ. Increase (40-65% occ.)	1	0	0	0	0	1	0	0	0	2	0	3
Preserve @ WO Occ. Increase (75-100% occ.)	3	2	0	0	7	3	0	0	0	9	0	9
Westford Res. Occ. Increase (50-65% occ.)	0	3	0	2	8	0	14	2	7	0	0	0
2021 Existing Traffic	46	99	4	4	80	25	20	7	22	31	2	41
Growth Factor (0.02 per year)	0.082	0.082	0.000	0.000	0.082	0.082	0.000	0.000	0.000	0.082	0.000	0.082
2025 Background Growth	4	8	0	0	7	2	0	0	0	3	0	3
Committed Projects (Remaining Portions)												
Lake Castleberry (Remaining Build: 65-100%)	1	0	0	0	0	1	0	0	0	3	0	3
Wolfe Property (Remaining Build: 0-100%)	12	0	0	0	0	4	0	0	0	12	0	39
Westford Res. (Remaining Build: 50-100%)	0	6	1	6	18	0	32	6	17	0	1	0
Total Committed Traffic	13	6	1	6	18	5	32	6	17	15	1	42
2025 Background Traffic	63	113	5	10	105	32	52	13	39	49	3	86
Project Traffic												
Residential												
Percent Assignment Inbound	15%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	1	3	0	0	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	40%	0%	0%	0%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	12	0	0	0	0	0	0	0
Total Residential Traffic	1	3	0	0	12	0	0	0	0	0	0	0
Commercial												
Percent Assignment Inbound	40%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	40	0	0	0	0	5	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	25%	0%	0%	0%	0%	25%	0%	15%
Outbound Project Traffic	0	0	0	0	19	0	0	0	0	19	0	12
Total Commercial Traffic	40	0	0	0	19	5	0	0	0	19	0	12
Total Project Traffic	41	3	0	0	31	5	0	0	0	19	0	12
2025 Buildout Total	104	116	5	10	136	37	52	13	39	68	3	98
Percent Impact (Approach)		19.6%			19.7%			0.0%			18.3%	

Overall Percent Impact 16.3%

PM PEAK HOUR
PM PHF = 0.90

Description	Jenks Road Eastbound Left	Through	Right	Jenks Road Westbound Left	Through	Right	Westford Street B Northbound Left	Through	Right	Wimberly Road Southbound Left	Through	Right
2019 Traffic Count	42	65	6	14	98	16	4	1	4	54	3	53
Lake Castleberry Occ. Increase (40-65% occ.)	3	0	0	0	0	3	0	0	0	2	0	2
Preserve @ WO Occ. Increase (75-100% occ.)	10	7	0	0	4	10	0	0	0	6	0	6
Westford Res. Occ. Increase (50-65% occ.)	0	11	5	8	4	0	7	2	5	0	3	0
2021 Existing Traffic	55	83	11	22	106	29	11	3	9	62	6	61
Growth Factor (0.02 per year)	0.082	0.082	0.000	0.000	0.082	0.082	0.000	0.000	0.000	0.082	0.000	0.082
2025 Background Growth	5	7	0	0	9	2	0	0	0	5	0	5
Committed Projects												
Lake Castleberry (Remaining Build: 65-100%)	4	0	0	0	0	4	0	0	0	2	0	2
Wolfe Property (Remaining Build: 0-100%)	42	0	0	0	0	13	0	0	0	8	0	25
Westford Res. (Remaining Build: 50-100%)	0	25	10	17	10	0	17	4	12	0	7	0
Total Committed Traffic	46	25	10	17	10	17	17	4	12	10	7	27
2025 Background Traffic	106	115	21	39	125	48	28	7	21	77	13	93
Project Traffic												
Residential												
Percent Assignment Inbound	15%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	4	8	0	0	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	40%	0%	0%	0%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	7	0	0	0	0	0	0	0
Total Residential Traffic	4	8	0	0	7	0	0	0	0	0	0	0
Commercial												
Percent Assignment Inbound	40%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	32	0	0	0	0	4	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	25%	0%	0%	0%	0%	25%	0%	15%
Outbound Project Traffic	0	0	0	0	26	0	0	0	0	26	0	16
Total Commercial Traffic	32	0	0	0	26	4	0	0	0	26	0	16
Total Project Traffic	36	8	0	0	33	4	0	0	0	26	0	16
2025 Buildout Total	142	123	21	39	158	52	28	7	21	103	13	109
Percent Impact (Approach)		15.4%			14.9%			0.0%			18.7%	

Overall Percent Impact 15.1%

INTERSECTION ANALYSIS SHEET

Project:	**Retreat at Preserve at White Oak**
Location:	**Apex, NC**
Scenario:	**Scenario #2: Residential + Commercial**
Ct. Date	**Balanced with Jenks - Wimberly**
N/S Street:	**Westford Street C/East Site Driveway**
E/W Street:	**Jenks Road**

	AM In	AM Out	PM In	PM Out
Residential Net New Trips:	9	29	30	17
Commercial Net New Trips:	100	77	80	104

Annual Growth Rate:	2.0%	**Existing Year:**	2021
Growth Factor:	0.082432	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	Jenks Road Eastbound			Jenks Road Westbound			Westford Street C Driveway Northbound			East Site Driveway (Full Mvmt.) Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2019 Traffic Count	0	129	0	0	88	0	0	0	0	0	0	0
Lake Castleberry Occ. Increase (40-65% occ.)	0	2	0	0	1	0	0	0	0	0	0	0
Preserve @ WO Occ. Increase (75-100% occ.)	0	11	0	0	10	0	0	0	0	0	0	0
Westford Res. Occ. Increase (50-65% occ.)	0	8	2	2	3	0	8	0	6	0	0	0
2021 Existing Traffic	0	150	2	2	102	0	8	0	6	0	0	0
Growth Factor (0.02 per year)	0.082	0.082	0.000	0.000	0.082	0.082	0.000	0.000	0.000	0.000	0.000	0.000
2025 Background Growth	0	12	0	0	8	0	0	0	0	0	0	0
Committed Projects (Remaining Portions)												
Lake Castleberry (Remaining Build: 65-100%)	0	3	0	0	1	0	0	0	0	0	0	0
Wolfe Property (Remaining Build: 0-100%)	0	12	0	0	4	0	0	0	0	0	0	0
Westford Res. (Remaining Build: 50-100%)	0	20	3	5	6	0	17	0	15	0	0	0
Total Committed Traffic	0	35	3	5	11	0	17	0	15	0	0	0
2025 Background Traffic	0	197	5	7	121	0	25	0	21	0	0	0
Project Traffic												
Residential												
Percent Assignment Inbound	25%	0%	0%	0%	15%	35%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	3	0	0	0	1	3	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	15%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	15	0	4
Total Residential Traffic	3	0	0	0	1	3	0	0	0	15	0	4
Commercial												
Percent Assignment Inbound	0%	0%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	0	50	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	25%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%
Outbound Project Traffic	0	19	0	0	0	0	0	0	0	19	0	0
Total Commercial Traffic	0	19	0	0	50	0	0	0	0	19	0	0
Total Project Traffic	3	19	0	0	51	3	0	0	0	34	0	4
2025 Buildout Total	3	216	5	7	172	3	25	0	21	34	0	4
Percent Impact (Approach)		9.8%			29.7%			0.0%			100.0%	

Overall Percent Impact 23.3%

PM PEAK HOUR
PM PHF = 0.90

Description	Jenks Road Eastbound			Jenks Road Westbound			Westford Street C Driveway Northbound			East Site Driveway (Full Mvmt.) Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2019 Traffic Count	0	123	0	0	128	0	0	0	0	0	0	0
Lake Castleberry Occ. Increase (40-65% occ.)	0	2	0	0	3	0	0	0	0	0	0	0
Preserve @ WO Occ. Increase (75-100% occ.)	0	13	0	0	14	0	0	0	0	0	0	0
Westford Res. Occ. Increase (50-65% occ.)	0	10	6	8	8	0	4	0	3	0	0	0
2021 Existing Traffic	0	148	6	8	153	0	4	0	3	0	0	0
Growth Factor (0.02 per year)	0.082	0.082	0.000	0.000	0.082	0.082	0.000	0.000	0.000	0.000	0.000	0.000
2025 Background Growth	0	12	0	0	13	0	0	0	0	0	0	0
Committed Projects												
Lake Castleberry (Remaining Build: 65-100%)	0	2	0	0	4	0	0	0	0	0	0	0
Wolfe Property (Remaining Build: 0-100%)	0	8	0	0	13	0	0	0	0	0	0	0
Westford Res. (Remaining Build: 50-100%)	0	23	14	18	17	0	10	0	8	0	0	0
Total Committed Traffic	0	33	14	18	34	0	10	0	8	0	0	0
2025 Background Traffic	0	193	20	26	200	0	14	0	11	0	0	0
Project Traffic												
Residential												
Percent Assignment Inbound	25%	0%	0%	0%	15%	35%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	8	0	0	0	4	11	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	15%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	8	0	3
Total Residential Traffic	8	0	0	0	4	11	0	0	0	8	0	3
Commercial												
Percent Assignment Inbound	0%	0%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	0	40	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	25%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%
Outbound Project Traffic	0	26	0	0	0	0	0	0	0	26	0	0
Total Commercial Traffic	0	26	0	0	40	0	0	0	0	26	0	0
Total Project Traffic	8	26	0	0	44	11	0	0	0	34	0	3
2025 Buildout Total	8	219	20	26	244	11	14	0	11	34	0	3
Percent Impact (Approach)		13.8%			19.6%			0.0%			100.0%	

Overall Percent Impact 21.4%

INTERSECTION ANALYSIS SHEET

Project:	**Retreat at Preserve at White Oak**
Location:	**Apex, NC**
Scenario:	**Scenario #2: Residential + Commercial**
Ct. Date	**Balanced with Jenks - Wimberly**
N/S Street:	**West Site Driveway (RI/RO)**
E/W Street:	**Jenks Road**

	AM In	AM Out	PM In	PM Out
Residential Net New Trips:	9	29	30	17
Commercial Net New Trips:	100	77	80	104

Annual Growth Rate:	2.0%	**Existing Year:**	2021
Growth Factor:	0.082432	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	Jenks Road Eastbound Left	Through	Right	Jenks Road Westbound Left	Through	Right	Northbound Left	Through	Right	West Site Driveway (RI/RO) Southbound Left	Through	Right
2019 Traffic Count	0	129	0	0	88	0	0	0	0	0	0	0
Lake Castleberry Occ. Increase (40-65% occ.)	0	2	0	0	1	0	0	0	0	0	0	0
Preserve @ WO Occ. Increase (75-100% occ.)	0	11	0	0	10	0	0	0	0	0	0	0
Westford Res. Occ. Increase (50-65% occ.)	0	10	0	0	10	0	0	0	0	0	0	0
2021 Existing Traffic	0	152	0	0	109	0	0	0	0	0	0	0
Growth Factor (0.02 per year)	0.082	0.082	0.082	0.082	0.082	0.082	0.000	0.000	0.000	0.082	0.082	0.082
2025 Background Growth	0	13	0	0	9	0	0	0	0	0	0	0
Committed Projects (Remaining Portions)												
Lake Castleberry (Remaining Build: 65-100%)	0	3	0	0	1	0	0	0	0	0	0	0
Wolfe Property (Remaining Build: 0-100%)	0	12	0	0	4	0	0	0	0	0	0	0
Westford Res. (Remaining Build: 50-100%)	0	23	0	0	24	0	0	0	0	0	0	0
Total Committed Traffic	0	38	0	0	29	0	0	0	0	0	0	0
2025 Background Traffic	0	203	0	0	147	0	0	0	0	0	0	0
Project Traffic												
Residential												
Percent Assignment Inbound	0%	25%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	3	0	0	0	1	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%	25%
Outbound Project Traffic	0	0	0	0	4	0	0	0	0	0	0	7
Total Residential Traffic	0	3	0	0	4	1	0	0	0	0	0	7
Commercial												
Percent Assignment Inbound	0%	0%	0%	0%	5%	45%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	0	5	45	0	0	0	0	0	0
Percent Assignment Outbound	0%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%
Outbound Project Traffic	0	19	0	0	0	0	0	0	0	0	0	19
Total Commercial Traffic	0	19	0	0	5	45	0	0	0	0	0	19
Total Project Traffic	0	22	0	0	9	46	0	0	0	0	0	26
2025 Buildout Total	0	225	0	0	156	46	0	0	0	0	0	26
Percent Impact (Approach)		9.8%			27.2%			-			100.0%	
Overall Percent Impact	22.7%											

PM PEAK HOUR
PM PHF = 0.90

Description	Jenks Road Eastbound Left	Through	Right	Jenks Road Westbound Left	Through	Right	Northbound Left	Through	Right	West Site Driveway (RI/RO) Southbound Left	Through	Right
2019 Traffic Count	0	123	0	0	128	0	0	0	0	0	0	0
Lake Castleberry Occ. Increase (40-65% occ.)	0	2	0	0	3	0	0	0	0	0	0	0
Preserve @ WO Occ. Increase (75-100% occ.)	0	13	0	0	14	0	0	0	0	0	0	0
Westford Res. Occ. Increase (50-65% occ.)	0	16	0	0	12	0	0	0	0	0	0	0
2021 Existing Traffic	0	154	0	0	157	0	0	0	0	0	0	0
Growth Factor (0.02 per year)	0.082	0.082	0.082	0.082	0.082	0.082	0.000	0.000	0.000	0.082	0.082	0.082
2025 Background Growth	0	13	0	0	13	0	0	0	0	0	0	0
Committed Projects												
Lake Castleberry (Remaining Build: 65-100%)	0	2	0	0	4	0	0	0	0	0	0	0
Wolfe Property (Remaining Build: 0-100%)	0	8	0	0	13	0	0	0	0	0	0	0
Westford Res. (Remaining Build: 50-100%)	0	37	0	0	27	0	0	0	0	0	0	0
Total Committed Traffic	0	47	0	0	44	0	0	0	0	0	0	0
2025 Background Traffic	0	214	0	0	214	0	0	0	0	0	0	0
Project Traffic												
Residential												
Percent Assignment Inbound	0%	25%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	8	0	0	0	4	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%	25%
Outbound Project Traffic	0	0	0	0	3	0	0	0	0	0	0	4
Total Residential Traffic	0	8	0	0	3	4	0	0	0	0	0	4
Commercial												
Percent Assignment Inbound	0%	0%	0%	0%	5%	45%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	0	4	36	0	0	0	0	0	0
Percent Assignment Outbound	0%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%
Outbound Project Traffic	0	26	0	0	0	0	0	0	0	0	0	26
Total Commercial Traffic	0	26	0	0	4	36	0	0	0	0	0	26
Total Project Traffic	0	34	0	0	7	40	0	0	0	0	0	30
2025 Buildout Total	0	248	0	0	221	40	0	0	0	0	0	30
Percent Impact (Approach)		13.7%			18.0%			-			100.0%	
Overall Percent Impact	20.6%											

INTERSECTION ANALYSIS SHEET

Project:	**Retreat at Preserve at White Oak**
Location:	**Apex, NC**
Scenario:	**Scenario #2: Residential + Commercial**
Ct. Date	**Balanced with Jenks - Wimberly**
N/S Street:	**Wimberly Road**
E/W Street:	**Site Driveway**

	AM In	AM Out	PM In	PM Out
Residential Net New Trips:	9	29	30	17
Commercial Net New Trips:	100	77	80	104

Annual Growth Rate:	2.0%	**Existing Year:**	2021
Growth Factor:	0.082432	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	Eastbound Left	Eastbound Through	Eastbound Right	Site Driveway Westbound Left	Site Driveway Westbound Through	Site Driveway Westbound Right	Wimberly Road Northbound Left	Wimberly Road Northbound Through	Wimberly Road Northbound Right	Wimberly Road Southbound Left	Wimberly Road Southbound Through	Wimberly Road Southbound Right
2019 Traffic Count	0	0	0	0	0	0	0	68	0	0	51	0
Lake Castleberry Occ. Increase (40-65% occ.)	0	0	0	0	0	0	0	2	0	0	5	0
Preserve @ WO Occ. Increase (75-100% occ.)	0	0	0	0	0	0	0	6	0	0	18	0
Westford Res. Occ. Increase (50-65% occ.)	0	0	0	0	0	0	0	2	0	0	0	0
2021 Existing Traffic	0	0	0	0	0	0	0	78	0	0	74	0
Growth Factor (0.02 per year)	0.000	0.000	0.000	0.082	0.082	0.082	0.082	0.082	0.082	0.082	0.082	0.082
2025 Background Growth	0	0	0	0	0	0	0	6	0	0	6	0
Committed Projects (Remaining Portions)												
Lake Castleberry (Remaining Build: 65-100%)	0	0	0	0	0	0	0	2	0	0	6	0
Wolfe Property (Remaining Build: 0-100%)	0	0	0	0	0	0	0	16	0	0	51	0
Westford Res. (Remaining Build: 50-100%)	0	0	0	0	0	0	0	6	0	0	1	0
Total Committed Traffic	0	0	0	0	0	0	0	24	0	0	58	0
2025 Background Traffic	0	0	0	0	0	0	0	108	0	0	138	0
Project Traffic												
Residential												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	0%	15%	10%	0%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	0	1	1	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	3	0	0	0	0	0	0
Total Residential Traffic	0	0	0	0	0	3	0	0	1	1	0	0
Commercial												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	0%	45%	10%	0%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	0	45	10	0	0
Percent Assignment Outbound	0%	0%	0%	40%	0%	10%	0%	0%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	31	0	8	0	0	0	0	0	0
Total Commercial Traffic	0	0	0	31	0	8	0	0	45	10	0	0
Total Project Traffic	0	0	0	31	0	11	0	0	46	11	0	0
2025 Buildout Total	0	0	0	31	0	11	0	108	46	11	138	0
Percent Impact (Approach)		-			100.0%			29.9%			7.4%	

Overall Percent Impact 28.7%

PM PEAK HOUR
PM PHF = 0.90

Description	Eastbound Left	Eastbound Through	Eastbound Right	Site Driveway Westbound Left	Site Driveway Westbound Through	Site Driveway Westbound Right	Wimberly Road Northbound Left	Wimberly Road Northbound Through	Wimberly Road Northbound Right	Wimberly Road Southbound Left	Wimberly Road Southbound Through	Wimberly Road Southbound Right
2019 Traffic Count	0	0	0	0	0	0	0	59	0	0	110	0
Lake Castleberry Occ. Increase (40-65% occ.)	0	0	0	0	0	0	0	6	0	0	4	0
Preserve @ WO Occ. Increase (75-100% occ.)	0	0	0	0	0	0	0	20	0	0	12	0
Westford Res. Occ. Increase (50-65% occ.)	0	0	0	0	0	0	0	2	0	0	3	0
2021 Existing Traffic	0	0	0	0	0	0	0	87	0	0	129	0
Growth Factor (0.02 per year)	0.000	0.000	0.000	0.082	0.082	0.082	0.082	0.082	0.082	0.082	0.082	0.082
2025 Background Growth	0	0	0	0	0	0	0	7	0	0	11	0
Committed Projects												
Lake Castleberry (Remaining Build: 65-100%)	0	0	0	0	0	0	0	8	0	0	4	0
Wolfe Property (Remaining Build: 0-100%)	0	0	0	0	0	0	0	55	0	0	33	0
Westford Res. (Remaining Build: 50-100%)	0	0	0	0	0	0	0	4	0	0	7	0
Total Committed Traffic	0	0	0	0	0	0	0	67	0	0	44	0
2025 Background Traffic	0	0	0	0	0	0	0	161	0	0	184	0
Project Traffic												
Residential												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	0%	15%	10%	0%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	0	4	3	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	2	0	0	0	0	0	0
Total Residential Traffic	0	0	0	0	0	2	0	0	4	3	0	0
Commercial												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	0%	45%	10%	0%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	0	36	8	0	0
Percent Assignment Outbound	0%	0%	0%	40%	0%	10%	0%	0%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	42	0	10	0	0	0	0	0	0
Total Commercial Traffic	0	0	0	42	0	10	0	0	36	8	0	0
Total Project Traffic	0	0	0	42	0	12	0	0	40	11	0	0
2025 Buildout Total	0	0	0	42	0	12	0	161	40	11	184	0
Percent Impact (Approach)		-			100.0%			19.9%			5.6%	

Overall Percent Impact 23.3%

Appendix G:
Synchro Output:
Existing (2021)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	99	4	4	80	25	20	7	22	31	4	41
Future Volume (vph)	46	99	4	4	80	25	20	7	22	31	4	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		100	0		0
Storage Lanes	1		1	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1770	1863	1583	1770	1796	0	0	1798	1583	0	1690	0
Flt Permitted	0.950			0.950				0.965			0.980	
Satd. Flow (perm)	1770	1863	1583	1770	1796	0	0	1798	1583	0	1690	0
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1370			1104			403			495	
Travel Time (s)		20.8			16.7			11.0			7.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	51	110	4	4	117	0	0	30	24	0	84	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	99	4	4	80	25	20	7	22	31	4	41
Future Vol, veh/h	46	99	4	4	80	25	20	7	22	31	4	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	0	100	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	110	4	4	89	28	22	8	24	34	4	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	117	0	0	114	0	0	348	337	110	341	327	103
Stage 1	-	-	-	-	-	-	212	212	-	111	111	-
Stage 2	-	-	-	-	-	-	136	125	-	230	216	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1471	-	-	1475	-	-	607	584	943	613	591	952
Stage 1	-	-	-	-	-	-	790	727	-	894	804	-
Stage 2	-	-	-	-	-	-	867	792	-	773	724	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1471	-	-	1475	-	-	558	562	943	574	569	952
Mov Cap-2 Maneuver	-	-	-	-	-	-	558	562	-	574	569	-
Stage 1	-	-	-	-	-	-	762	702	-	863	802	-
Stage 2	-	-	-	-	-	-	819	790	-	719	699	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0.3	10.5	10.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	559	943	1471	-	-	1475	-	-	730
HCM Lane V/C Ratio	0.054	0.026	0.035	-	-	0.003	-	-	0.116
HCM Control Delay (s)	11.8	8.9	7.5	-	-	7.4	-	-	10.6
HCM Lane LOS	B	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	0.1	-	-	0	-	-	0.4

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	150	4	4	102	8	6
Future Volume (vph)	150	4	4	102	8	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			100		100	
Satd. Flow (prot)	1857	0	1770	1863	1706	0
Flt Permitted			0.950		0.973	
Satd. Flow (perm)	1857	0	1770	1863	1706	0
Link Speed (mph)	45			45	25	
Link Distance (ft)	1104			692	484	
Travel Time (s)	16.7			10.5	13.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	171	0	4	113	16	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	150	4	4	102	8	6
Future Vol, veh/h	150	4	4	102	8	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	167	4	4	113	9	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	171	0	290	169
Stage 1	-	-	-	-	169	-
Stage 2	-	-	-	-	121	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1406	-	701	875
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	904	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1406	-	699	875
Mov Cap-2 Maneuver	-	-	-	-	720	-
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	901	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	779	-	-	1406	-
HCM Lane V/C Ratio	0.02	-	-	0.003	-
HCM Control Delay (s)	9.7	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	83	11	22	106	29	11	4	9	62	6	61
Future Volume (vph)	55	83	11	22	106	29	11	4	9	62	6	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		100	0		0
Storage Lanes	1		1	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1770	1863	1583	1770	1803	0	0	1796	1583	0	1703	0
Flt Permitted	0.950			0.950				0.964			0.977	
Satd. Flow (perm)	1770	1863	1583	1770	1803	0	0	1796	1583	0	1703	0
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1370			1104			403			495	
Travel Time (s)		20.8			16.7			11.0			7.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	61	92	12	24	150	0	0	16	10	0	144	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	83	11	22	106	29	11	4	9	62	6	61
Future Vol, veh/h	55	83	11	22	106	29	11	4	9	62	6	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	0	100	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	92	12	24	118	32	12	4	10	69	7	68

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	150	0	0	104	0	0	434	412	92	409	408	134
Stage 1	-	-	-	-	-	-	214	214	-	182	182	-
Stage 2	-	-	-	-	-	-	220	198	-	227	226	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1431	-	-	1488	-	-	532	530	965	553	533	915
Stage 1	-	-	-	-	-	-	788	725	-	820	749	-
Stage 2	-	-	-	-	-	-	782	737	-	776	717	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1431	-	-	1488	-	-	466	499	965	519	502	915
Mov Cap-2 Maneuver	-	-	-	-	-	-	466	499	-	519	502	-
Stage 1	-	-	-	-	-	-	754	694	-	785	737	-
Stage 2	-	-	-	-	-	-	706	725	-	731	686	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.8	1	11.4	12.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	474	965	1431	-	-	1488	-	-	651
HCM Lane V/C Ratio	0.035	0.01	0.043	-	-	0.016	-	-	0.22
HCM Control Delay (s)	12.9	8.8	7.6	-	-	7.5	-	-	12.1
HCM Lane LOS	B	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	0.1	-	-	0.1	-	-	0.8

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	148	6	8	153	4	4
Future Volume (vph)	148	6	8	153	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			100		100	
Satd. Flow (prot)	1852	0	1770	1863	1694	0
Flt Permitted			0.950		0.976	
Satd. Flow (perm)	1852	0	1770	1863	1694	0
Link Speed (mph)	45			45	25	
Link Distance (ft)	1104			692	484	
Travel Time (s)	16.7			10.5	13.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	171	0	9	170	8	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	148	6	8	153	4	4
Future Vol, veh/h	148	6	8	153	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	164	7	9	170	4	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	171	0	356	168
Stage 1	-	-	-	-	168	-
Stage 2	-	-	-	-	188	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1406	-	642	876
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	844	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1406	-	638	876
Mov Cap-2 Maneuver	-	-	-	-	679	-
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	839	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	765	-	-	1406	-
HCM Lane V/C Ratio	0.012	-	-	0.006	-
HCM Control Delay (s)	9.8	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Appendix H:
Synchro Output:
Background (2025)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	113	5	10	105	32	52	13	39	49	4	86
Future Volume (vph)	63	113	5	10	105	32	52	13	39	49	4	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		100	0		50
Storage Lanes	1		1	1		0	0		1	0		1
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1770	1863	1583	1770	1798	0	0	1790	1583	0	1781	1583
Flt Permitted	0.950			0.950				0.961			0.956	
Satd. Flow (perm)	1770	1863	1583	1770	1798	0	0	1790	1583	0	1781	1583
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1370			1104			403			495	
Travel Time (s)		20.8			16.7			11.0			7.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	70	126	6	11	153	0	0	72	43	0	58	96
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	63	113	5	10	105	32	52	13	39	49	4	86
Future Vol, veh/h	63	113	5	10	105	32	52	13	39	49	4	86
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	0	100	-	-	-	-	100	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	70	126	6	11	117	36	58	14	43	54	4	96

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	153	0	0	132	0	0	473	441	126	455	429	135
Stage 1	-	-	-	-	-	-	266	266	-	157	157	-
Stage 2	-	-	-	-	-	-	207	175	-	298	272	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1428	-	-	1453	-	-	501	510	924	515	518	914
Stage 1	-	-	-	-	-	-	739	689	-	845	768	-
Stage 2	-	-	-	-	-	-	795	754	-	711	685	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1428	-	-	1453	-	-	426	481	924	459	488	914
Mov Cap-2 Maneuver	-	-	-	-	-	-	426	481	-	459	488	-
Stage 1	-	-	-	-	-	-	703	655	-	804	762	-
Stage 2	-	-	-	-	-	-	702	748	-	630	651	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.7	0.5	12.7	11.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	436	924	1428	-	-	1453	-	-	461	914
HCM Lane V/C Ratio	0.166	0.047	0.049	-	-	0.008	-	-	0.128	0.105
HCM Control Delay (s)	14.9	9.1	7.7	-	-	7.5	-	-	13.9	9.4
HCM Lane LOS	B	A	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0.6	0.1	0.2	-	-	0	-	-	0.4	0.3

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	197	5	7	121	25	21
Future Volume (vph)	197	5	7	121	25	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			100		100	
Satd. Flow (prot)	1855	0	1770	1863	1702	0
Flt Permitted			0.950		0.973	
Satd. Flow (perm)	1855	0	1770	1863	1702	0
Link Speed (mph)	45			45	25	
Link Distance (ft)	1104			692	484	
Travel Time (s)	16.7			10.5	13.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	225	0	8	134	51	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	197	5	7	121	25	21
Future Vol, veh/h	197	5	7	121	25	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	219	6	8	134	28	23

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	225	0	372	222
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	150	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1344	-	629	818
Stage 1	-	-	-	-	815	-
Stage 2	-	-	-	-	878	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1344	-	625	818
Mov Cap-2 Maneuver	-	-	-	-	669	-
Stage 1	-	-	-	-	815	-
Stage 2	-	-	-	-	873	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	730	-	-	1344	-
HCM Lane V/C Ratio	0.07	-	-	0.006	-
HCM Control Delay (s)	10.3	-	-	7.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	115	21	39	125	48	28	7	21	77	13	93
Future Volume (vph)	106	115	21	39	125	48	28	7	21	77	13	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		100	0		50
Storage Lanes	1		1	1		0	0		1	0		1
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1770	1863	1583	1770	1786	0	0	1792	1583	0	1786	1583
Flt Permitted	0.950			0.950				0.962			0.959	
Satd. Flow (perm)	1770	1863	1583	1770	1786	0	0	1792	1583	0	1786	1583
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1370			1104			403			495	
Travel Time (s)		20.8			16.7			11.0			7.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	118	128	23	43	192	0	0	39	23	0	100	103
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	106	115	21	39	125	48	28	7	21	77	13	93
Future Vol, veh/h	106	115	21	39	125	48	28	7	21	77	13	93
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	0	100	-	-	-	-	100	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	118	128	23	43	139	53	31	8	23	86	14	103

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	192	0	0	151	0	0	674	642	128	643	639	166
Stage 1	-	-	-	-	-	-	364	364	-	252	252	-
Stage 2	-	-	-	-	-	-	310	278	-	391	387	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1381	-	-	1430	-	-	368	392	922	386	394	878
Stage 1	-	-	-	-	-	-	655	624	-	752	698	-
Stage 2	-	-	-	-	-	-	700	680	-	633	610	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1381	-	-	1430	-	-	287	348	922	338	350	878
Mov Cap-2 Maneuver	-	-	-	-	-	-	287	348	-	338	350	-
Stage 1	-	-	-	-	-	-	599	571	-	688	677	-
Stage 2	-	-	-	-	-	-	586	660	-	557	558	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.4	1.4	15.2	14.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	297	922	1381	-	-	1430	-	-	340	878
HCM Lane V/C Ratio	0.131	0.025	0.085	-	-	0.03	-	-	0.294	0.118
HCM Control Delay (s)	18.9	9	7.8	-	-	7.6	-	-	19.9	9.6
HCM Lane LOS	C	A	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0.4	0.1	0.3	-	-	0.1	-	-	1.2	0.4

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	193	20	26	200	14	11
Future Volume (vph)	193	20	26	200	14	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			100		100	
Satd. Flow (prot)	1839	0	1770	1863	1706	0
Flt Permitted			0.950		0.972	
Satd. Flow (perm)	1839	0	1770	1863	1706	0
Link Speed (mph)	45			45	25	
Link Distance (ft)	1104			692	484	
Travel Time (s)	16.7			10.5	13.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	236	0	29	222	28	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	193	20	26	200	14	11
Future Vol, veh/h	193	20	26	200	14	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	214	22	29	222	16	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	236	0	505	225
Stage 1	-	-	-	-	225	-
Stage 2	-	-	-	-	280	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1331	-	527	814
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	767	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1331	-	515	814
Mov Cap-2 Maneuver	-	-	-	-	590	-
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	750	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	671	-	-	1331	-
HCM Lane V/C Ratio	0.041	-	-	0.022	-
HCM Control Delay (s)	10.6	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Appendix I:

Synchro Output:

Build-out (2025)

- Scenario #1 (Residential Only)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	117	5	10	117	35	52	13	39	50	4	86
Future Volume (vph)	63	117	5	10	117	35	52	13	39	50	4	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		100	0		50
Storage Lanes	1		1	1		0	0		1	0		1
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1770	1863	1583	1770	1798	0	0	1790	1583	0	1779	1583
Flt Permitted	0.950			0.950				0.961			0.955	
Satd. Flow (perm)	1770	1863	1583	1770	1798	0	0	1790	1583	0	1779	1583
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1370			469			403			549	
Travel Time (s)		20.8			7.1			11.0			8.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	70	130	6	11	169	0	0	72	43	0	60	96
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	63	117	5	10	117	35	52	13	39	50	4	86
Future Vol, veh/h	63	117	5	10	117	35	52	13	39	50	4	86
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	0	100	-	-	-	-	100	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	70	130	6	11	130	39	58	14	43	56	4	96

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	169	0	0	136	0	0	492	461	130	474	448	150
Stage 1	-	-	-	-	-	-	270	270	-	172	172	-
Stage 2	-	-	-	-	-	-	222	191	-	302	276	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1409	-	-	1448	-	-	487	497	920	501	506	896
Stage 1	-	-	-	-	-	-	736	686	-	830	756	-
Stage 2	-	-	-	-	-	-	780	742	-	707	682	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1409	-	-	1448	-	-	413	468	920	446	477	896
Mov Cap-2 Maneuver	-	-	-	-	-	-	413	468	-	446	477	-
Stage 1	-	-	-	-	-	-	699	652	-	789	750	-
Stage 2	-	-	-	-	-	-	687	736	-	626	648	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.6	0.5	13	11.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	423	920	1409	-	-	1448	-	-	448	896
HCM Lane V/C Ratio	0.171	0.047	0.05	-	-	0.008	-	-	0.134	0.107
HCM Control Delay (s)	15.3	9.1	7.7	-	-	7.5	-	-	14.3	9.5
HCM Lane LOS	C	A	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0.6	0.1	0.2	-	-	0	-	-	0.5	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	197	5	7	122	4	25	4	21	15	4	5
Future Volume (vph)	5	197	5	7	122	4	25	4	21	15	4	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1770	1855	0	1770	1855	0	0	1714	0	0	1751	0
Flt Permitted	0.950			0.950				0.975			0.969	
Satd. Flow (perm)	1770	1855	0	1770	1855	0	0	1714	0	0	1751	0
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		637			692			484			481	
Travel Time (s)		9.7			10.5			13.2			13.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	225	0	8	140	0	0	55	0	0	27	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	197	5	7	122	4	25	4	21	15	4	5
Future Vol, veh/h	5	197	5	7	122	4	25	4	21	15	4	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	219	6	8	136	4	28	4	23	17	4	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	140	0	0	225	0	0	393	390	222	402	391	138
Stage 1	-	-	-	-	-	-	234	234	-	154	154	-
Stage 2	-	-	-	-	-	-	159	156	-	248	237	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1443	-	-	1344	-	-	566	545	818	559	545	910
Stage 1	-	-	-	-	-	-	769	711	-	848	770	-
Stage 2	-	-	-	-	-	-	843	769	-	756	709	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1443	-	-	1344	-	-	555	540	818	536	540	910
Mov Cap-2 Maneuver	-	-	-	-	-	-	555	540	-	536	540	-
Stage 1	-	-	-	-	-	-	766	708	-	845	765	-
Stage 2	-	-	-	-	-	-	828	764	-	727	706	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.4	11.2	11.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	640	1443	-	-	1344	-	-	587
HCM Lane V/C Ratio	0.087	0.004	-	-	0.006	-	-	0.045
HCM Control Delay (s)	11.2	7.5	-	-	7.7	-	-	11.4
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.1

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	208	152	4	0	10
Future Volume (vph)	0	208	152	4	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1863	1857	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	1863	1857	0	0	1611
Link Speed (mph)		45	45		25	
Link Distance (ft)		469	637		522	
Travel Time (s)		7.1	9.7		14.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	231	173	0	0	11
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection						
Int Delay, s/veh	0.2					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	208	152	4	0	10
Future Vol, veh/h	0	208	152	4	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	231	169	4	0	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	171
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	873
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	873
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	873
HCM Lane V/C Ratio	-	-	-	0.013
HCM Control Delay (s)	-	-	-	9.2
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	127	21	39	132	50	28	7	21	80	13	93
Future Volume (vph)	106	127	21	39	132	50	28	7	21	80	13	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		100	0		50
Storage Lanes	1		1	1		0	0		1	0		1
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1770	1863	1583	1770	1786	0	0	1792	1583	0	1786	1583
Flt Permitted	0.950			0.950				0.962			0.959	
Satd. Flow (perm)	1770	1863	1583	1770	1786	0	0	1792	1583	0	1786	1583
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1370			469			403			549	
Travel Time (s)		20.8			7.1			11.0			8.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	118	141	23	43	203	0	0	39	23	0	103	103
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	106	127	21	39	132	50	28	7	21	80	13	93
Future Vol, veh/h	106	127	21	39	132	50	28	7	21	80	13	93
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	0	100	-	-	-	-	100	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	118	141	23	43	147	56	31	8	23	89	14	103

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	203	0	0	164	0	0	697	666	141	665	661	175
Stage 1	-	-	-	-	-	-	377	377	-	261	261	-
Stage 2	-	-	-	-	-	-	320	289	-	404	400	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1369	-	-	1414	-	-	356	380	907	374	383	868
Stage 1	-	-	-	-	-	-	644	616	-	744	692	-
Stage 2	-	-	-	-	-	-	692	673	-	623	602	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1369	-	-	1414	-	-	277	337	907	327	340	868
Mov Cap-2 Maneuver	-	-	-	-	-	-	277	337	-	327	340	-
Stage 1	-	-	-	-	-	-	589	563	-	680	671	-
Stage 2	-	-	-	-	-	-	578	653	-	547	550	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	1.3	15.6	15.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	287	907	1369	-	-	1414	-	-	329	868
HCM Lane V/C Ratio	0.136	0.026	0.086	-	-	0.031	-	-	0.314	0.119
HCM Control Delay (s)	19.5	9.1	7.9	-	-	7.6	-	-	20.9	9.7
HCM Lane LOS	C	A	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0.5	0.1	0.3	-	-	0.1	-	-	1.3	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	193	20	26	205	10	14	4	11	9	4	4
Future Volume (vph)	15	193	20	26	205	10	14	4	11	9	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1770	1837	0	1770	1850	0	0	1725	0	0	1758	0
Flt Permitted	0.950			0.950				0.976			0.973	
Satd. Flow (perm)	1770	1837	0	1770	1850	0	0	1725	0	0	1758	0
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		637			692			484			589	
Travel Time (s)		9.7			10.5			13.2			16.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	236	0	29	239	0	0	32	0	0	18	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	193	20	26	205	10	14	4	11	9	4	4
Future Vol, veh/h	15	193	20	26	205	10	14	4	11	9	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	214	22	29	228	11	16	4	12	10	4	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	239	0	0	236	0	0	555	556	225	559	562	234
Stage 1	-	-	-	-	-	-	259	259	-	292	292	-
Stage 2	-	-	-	-	-	-	296	297	-	267	270	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1328	-	-	1331	-	-	442	439	814	440	436	805
Stage 1	-	-	-	-	-	-	746	694	-	716	671	-
Stage 2	-	-	-	-	-	-	712	668	-	738	686	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1328	-	-	1331	-	-	425	424	814	419	421	805
Mov Cap-2 Maneuver	-	-	-	-	-	-	425	424	-	419	421	-
Stage 1	-	-	-	-	-	-	736	685	-	707	656	-
Stage 2	-	-	-	-	-	-	688	653	-	713	677	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.8	12.4	12.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	519	1328	-	-	1331	-	-	473
HCM Lane V/C Ratio	0.062	0.013	-	-	0.022	-	-	0.04
HCM Control Delay (s)	12.4	7.7	-	-	7.8	-	-	12.9
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.1

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	229	217	5	0	6
Future Volume (vph)	0	229	217	5	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1863	1857	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	1863	1857	0	0	1611
Link Speed (mph)		45	45		25	
Link Distance (ft)		469	637		588	
Travel Time (s)		7.1	9.7		16.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	254	247	0	0	7
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	229	217	5	0	6
Future Vol, veh/h	0	229	217	5	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	254	241	6	0	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	244
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	795
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	795
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	795
HCM Lane V/C Ratio	-	-	-	0.008
HCM Control Delay (s)	-	-	-	9.6
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Appendix J:

Synchro Output:

Build-out (2025)

- Scenario #2 (Commercial + Residential)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	116	5	10	136	37	52	13	39	68	4	98
Future Volume (vph)	104	116	5	10	136	37	52	13	39	68	4	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		100	0		50
Storage Lanes	1		1	1		0	0		1	0		1
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1770	1863	1583	1770	1803	0	0	1790	1583	0	1779	1583
Flt Permitted	0.950			0.950				0.961			0.955	
Satd. Flow (perm)	1770	1863	1583	1770	1803	0	0	1790	1583	0	1779	1583
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1370			469			403			549	
Travel Time (s)		20.8			7.1			11.0			8.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	129	6	11	192	0	0	72	43	0	80	109
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	104	116	5	10	136	37	52	13	39	68	4	98
Future Vol, veh/h	104	116	5	10	136	37	52	13	39	68	4	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	0	100	-	-	-	-	100	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	116	129	6	11	151	41	58	14	43	76	4	109

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	192	0	0	135	0	0	611	575	129	587	561	172
Stage 1	-	-	-	-	-	-	361	361	-	194	194	-
Stage 2	-	-	-	-	-	-	250	214	-	393	367	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1381	-	-	1449	-	-	406	429	921	421	436	872
Stage 1	-	-	-	-	-	-	657	626	-	808	740	-
Stage 2	-	-	-	-	-	-	754	725	-	632	622	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1381	-	-	1449	-	-	328	390	921	363	396	872
Mov Cap-2 Maneuver	-	-	-	-	-	-	328	390	-	363	396	-
Stage 1	-	-	-	-	-	-	602	573	-	740	734	-
Stage 2	-	-	-	-	-	-	651	719	-	538	570	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.6	0.4	15	13
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	339	921	1381	-	-	1449	-	-	365	872
HCM Lane V/C Ratio	0.213	0.047	0.084	-	-	0.008	-	-	0.219	0.125
HCM Control Delay (s)	18.5	9.1	7.8	-	-	7.5	-	-	17.6	9.7
HCM Lane LOS	C	A	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0.8	0.1	0.3	-	-	0	-	-	0.8	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	216	5	7	172	4	25	4	21	34	4	4
Future Volume (vph)	4	216	5	7	172	4	25	4	21	34	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1770	1855	0	1770	1857	0	0	1714	0	0	1767	0
Flt Permitted	0.950			0.950				0.975			0.960	
Satd. Flow (perm)	1770	1855	0	1770	1857	0	0	1714	0	0	1767	0
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		637			692			484			582	
Travel Time (s)		9.7			10.5			13.2			15.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	246	0	8	195	0	0	55	0	0	46	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	216	5	7	172	4	25	4	21	34	4	4
Future Vol, veh/h	4	216	5	7	172	4	25	4	21	34	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	240	6	8	191	4	28	4	23	38	4	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	195	0	0	246	0	0	464	462	243	474	463	193
Stage 1	-	-	-	-	-	-	251	251	-	209	209	-
Stage 2	-	-	-	-	-	-	213	211	-	265	254	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1378	-	-	1320	-	-	508	497	796	501	496	849
Stage 1	-	-	-	-	-	-	753	699	-	793	729	-
Stage 2	-	-	-	-	-	-	789	728	-	740	697	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1378	-	-	1320	-	-	498	493	796	479	492	849
Mov Cap-2 Maneuver	-	-	-	-	-	-	498	493	-	479	492	-
Stage 1	-	-	-	-	-	-	751	697	-	791	725	-
Stage 2	-	-	-	-	-	-	775	724	-	712	695	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	11.7	12.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	590	1378	-	-	1320	-	-	501
HCM Lane V/C Ratio	0.094	0.003	-	-	0.006	-	-	0.093
HCM Control Delay (s)	11.7	7.6	-	-	7.7	-	-	12.9
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.3

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	225	156	46	0	26
Future Volume (vph)	0	225	156	46	0	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1863	1805	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	1863	1805	0	0	1611
Link Speed (mph)		45	45		25	
Link Distance (ft)		469	637		551	
Travel Time (s)		7.1	9.7		15.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	250	224	0	0	29
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	225	156	46	0	26
Future Vol, veh/h	0	225	156	46	0	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	250	173	51	0	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	199
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	842
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	842
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	842
HCM Lane V/C Ratio	-	-	-	0.034
HCM Control Delay (s)	-	-	-	9.4
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	31	11	108	46	11	138
Future Volume (vph)	31	11	108	46	11	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1733	0	1788	0	0	1855
Flt Permitted	0.964					0.996
Satd. Flow (perm)	1733	0	1788	0	0	1855
Link Speed (mph)	25		45			45
Link Distance (ft)	351		549			986
Travel Time (s)	9.6		8.3			14.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	46	0	171	0	0	165
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	11	108	46	11	138
Future Vol, veh/h	31	11	108	46	11	138
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	12	120	51	12	153

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	323	146	0	0	171	0
Stage 1	146	-	-	-	-	-
Stage 2	177	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	671	901	-	-	1406	-
Stage 1	881	-	-	-	-	-
Stage 2	854	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	665	901	-	-	1406	-
Mov Cap-2 Maneuver	665	-	-	-	-	-
Stage 1	881	-	-	-	-	-
Stage 2	846	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	714	1406	-
HCM Lane V/C Ratio	-	-	0.065	0.009	-
HCM Control Delay (s)	-	-	10.4	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	123	21	39	158	52	28	7	21	103	13	109
Future Volume (vph)	142	123	21	39	158	52	28	7	21	103	13	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		100	0		50
Storage Lanes	1		1	1		0	0		1	0		1
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1770	1863	1583	1770	1794	0	0	1792	1583	0	1783	1583
Flt Permitted	0.950			0.950				0.962			0.957	
Satd. Flow (perm)	1770	1863	1583	1770	1794	0	0	1792	1583	0	1783	1583
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1370			469			403			549	
Travel Time (s)		20.8			7.1			11.0			8.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	158	137	23	43	234	0	0	39	23	0	128	121
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	142	123	21	39	158	52	28	7	21	103	13	109
Future Vol, veh/h	142	123	21	39	158	52	28	7	21	103	13	109
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	0	100	-	-	-	-	100	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	158	137	23	43	176	58	31	8	23	114	14	121

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	234	0	0	160	0	0	812	773	137	771	767	205
Stage 1	-	-	-	-	-	-	453	453	-	291	291	-
Stage 2	-	-	-	-	-	-	359	320	-	480	476	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1333	-	-	1419	-	-	298	330	911	317	332	836
Stage 1	-	-	-	-	-	-	586	570	-	717	672	-
Stage 2	-	-	-	-	-	-	659	652	-	567	557	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1333	-	-	1419	-	-	218	282	911	269	284	836
Mov Cap-2 Maneuver	-	-	-	-	-	-	218	282	-	269	284	-
Stage 1	-	-	-	-	-	-	516	502	-	632	652	-
Stage 2	-	-	-	-	-	-	534	632	-	479	491	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4	1.2	18.4	20.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	228	911	1333	-	-	1419	-	-	271	836
HCM Lane V/C Ratio	0.171	0.026	0.118	-	-	0.031	-	-	0.476	0.145
HCM Control Delay (s)	24	9.1	8.1	-	-	7.6	-	-	29.8	10
HCM Lane LOS	C	A	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.6	0.1	0.4	-	-	0.1	-	-	2.4	0.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	219	20	26	244	11	14	4	11	34	4	4
Future Volume (vph)	8	219	20	26	244	11	14	4	11	34	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1770	1840	0	1770	1852	0	0	1725	0	0	1767	0
Flt Permitted	0.950			0.950				0.976			0.960	
Satd. Flow (perm)	1770	1840	0	1770	1852	0	0	1725	0	0	1767	0
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		637			692			484			663	
Travel Time (s)		9.7			10.5			13.2			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	265	0	29	283	0	0	32	0	0	46	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	219	20	26	244	11	14	4	11	34	4	4
Future Vol, veh/h	8	219	20	26	244	11	14	4	11	34	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	243	22	29	271	12	16	4	12	38	4	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	283	0	0	265	0	0	611	613	254	615	618	277
Stage 1	-	-	-	-	-	-	272	272	-	335	335	-
Stage 2	-	-	-	-	-	-	339	341	-	280	283	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1279	-	-	1299	-	-	406	408	785	403	405	762
Stage 1	-	-	-	-	-	-	734	685	-	679	643	-
Stage 2	-	-	-	-	-	-	676	639	-	727	677	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1279	-	-	1299	-	-	391	396	785	384	393	762
Mov Cap-2 Maneuver	-	-	-	-	-	-	391	396	-	384	393	-
Stage 1	-	-	-	-	-	-	729	680	-	674	629	-
Stage 2	-	-	-	-	-	-	652	625	-	706	672	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.7	13	15.1
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	484	1279	-	-	1299	-	-	404
HCM Lane V/C Ratio	0.067	0.007	-	-	0.022	-	-	0.116
HCM Control Delay (s)	13	7.8	-	-	7.8	-	-	15.1
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.4

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	248	221	40	0	30
Future Volume (vph)	0	248	221	40	0	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1863	1825	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	1863	1825	0	0	1611
Link Speed (mph)		45	45		25	
Link Distance (ft)		469	637		704	
Travel Time (s)		7.1	9.7		19.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	276	290	0	0	33
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	248	221	40	0	30
Future Vol, veh/h	0	248	221	40	0	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	276	246	44	0	33

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	268
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	771
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	771
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	771
HCM Lane V/C Ratio	-	-	-	0.043
HCM Control Delay (s)	-	-	-	9.9
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	42	12	161	40	11	184
Future Volume (vph)	42	12	161	40	11	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1740	0	1812	0	0	1857
Flt Permitted	0.962					0.997
Satd. Flow (perm)	1740	0	1812	0	0	1857
Link Speed (mph)	25		45			45
Link Distance (ft)	398		549			986
Travel Time (s)	10.9		8.3			14.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	0	223	0	0	216
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	42	12	161	40	11	184
Future Vol, veh/h	42	12	161	40	11	184
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	13	179	44	12	204

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	429	201	0	0	223	0
Stage 1	201	-	-	-	-	-
Stage 2	228	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	583	840	-	-	1346	-
Stage 1	833	-	-	-	-	-
Stage 2	810	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	577	840	-	-	1346	-
Mov Cap-2 Maneuver	577	-	-	-	-	-
Stage 1	833	-	-	-	-	-
Stage 2	802	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	620	1346	-
HCM Lane V/C Ratio	-	-	0.097	0.009	-
HCM Control Delay (s)	-	-	11.4	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

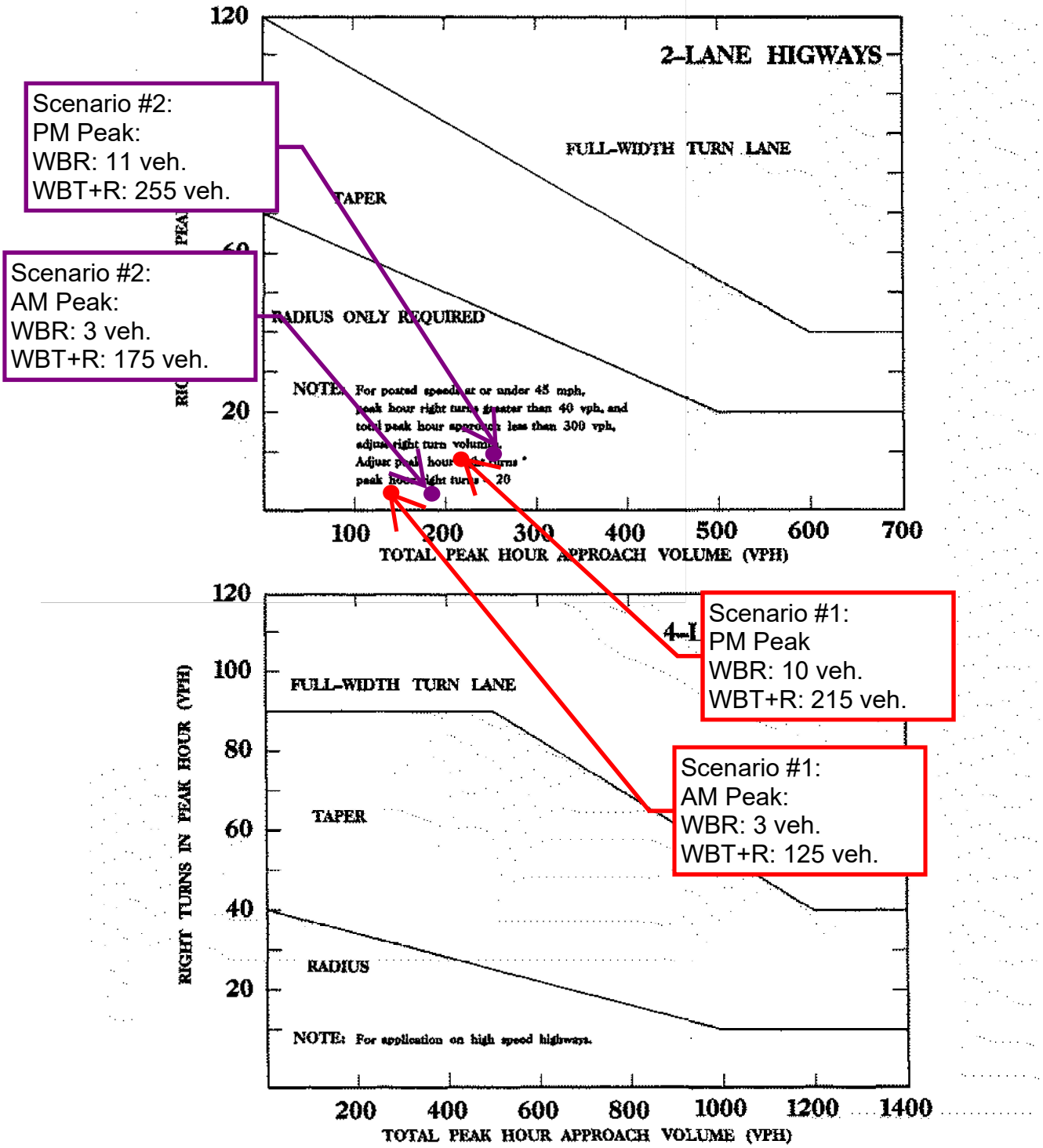
Appendix K:
Site Driveway Turn Lane Warrants
(Roadway Design Manual)

Jenks Road at East Site Driveway
WB Right Turn Lane Warrant

FIGURE 4 **9 - 1**

F – 4 C

RIGHT TURN LANE WARRANTS



Scenario #2:
PM Peak:
WBR: 11 veh.
WBT+R: 255 veh.

Scenario #2:
AM Peak:
WBR: 3 veh.
WBT+R: 175 veh.

Scenario #1:
PM Peak
WBR: 10 veh.
WBT+R: 215 veh.

Scenario #1:
AM Peak:
WBR: 3 veh.
WBT+R: 125 veh.

Jenks Road at West Site Driveway
WB Right Turn Lane Warrant

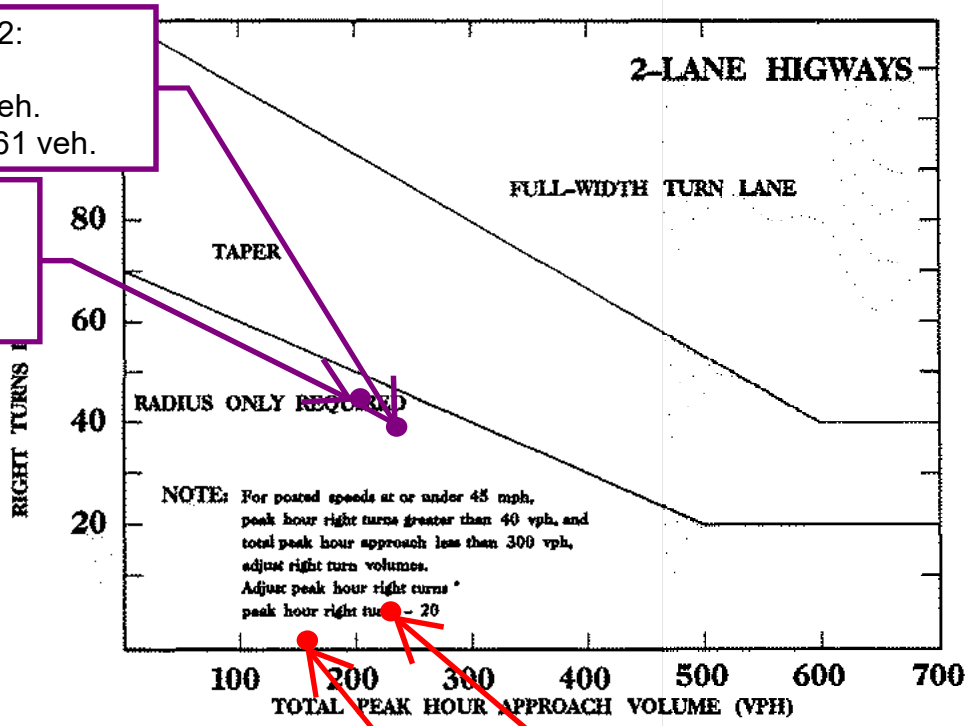
FIGURE 4 **9 - 1**

F – 4 C

RIGHT TURN LANE WARRANTS

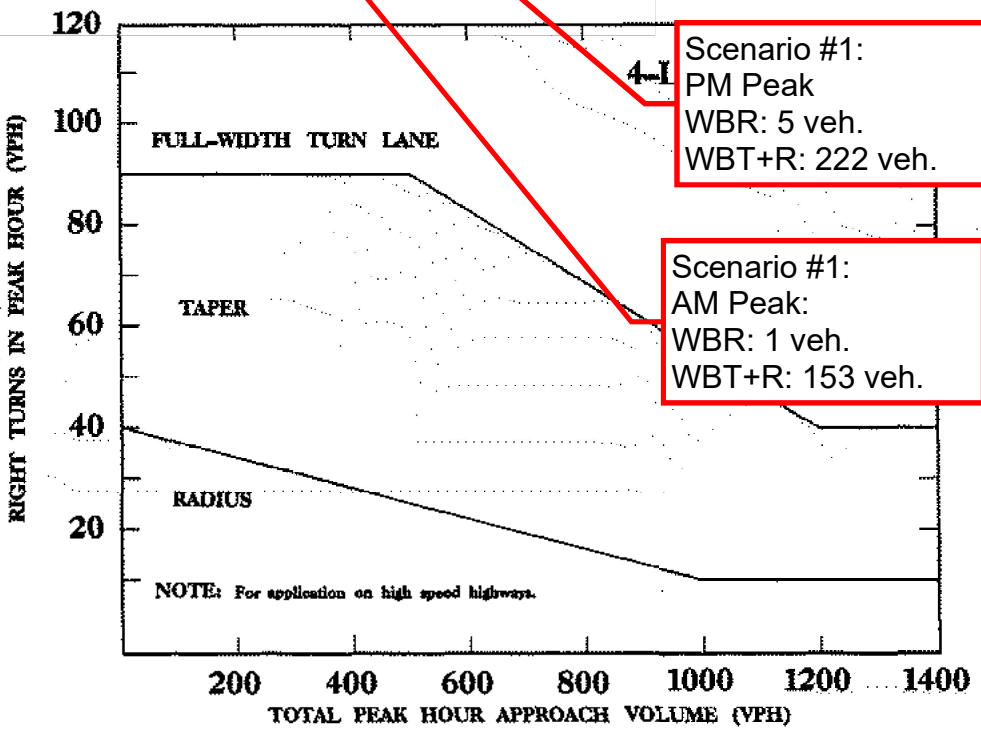
Scenario #2:
PM Peak:
WBR: 40 veh.
WBT+R: 261 veh.

Scenario #2:
AM Peak:
WBR: 3 veh.
WBT+R: 175 veh.



Scenario #1:
PM Peak
WBR: 5 veh.
WBT+R: 222 veh.

Scenario #1:
AM Peak:
WBR: 1 veh.
WBT+R: 153 veh.



Wimberly Road at Site Driveway
NB Right Turn Lane Warrant

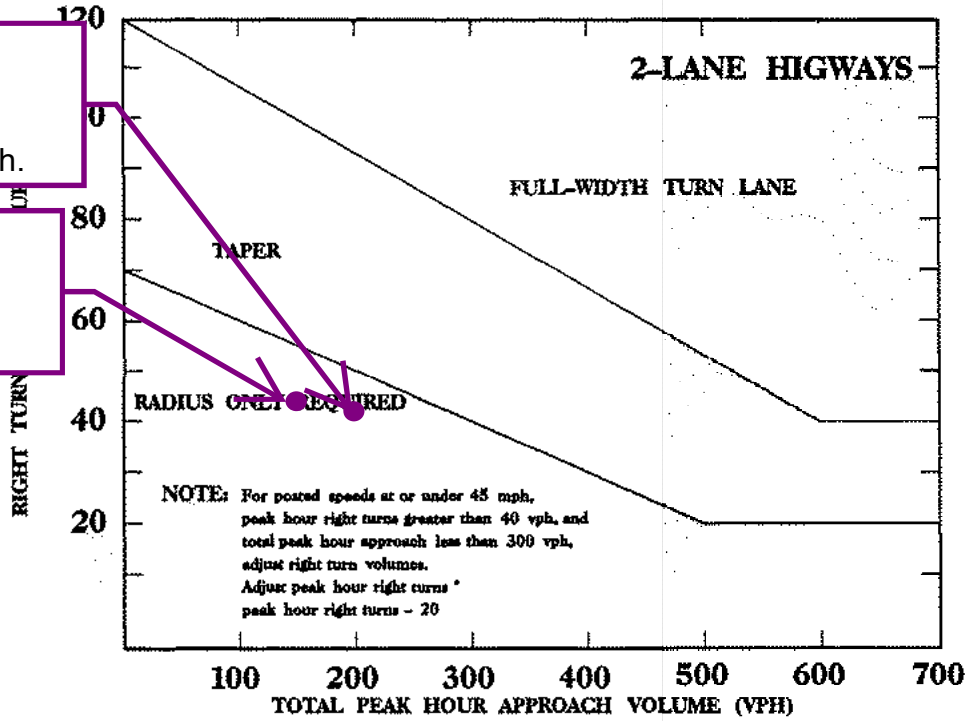
FIGURE 4 **9 - 1**

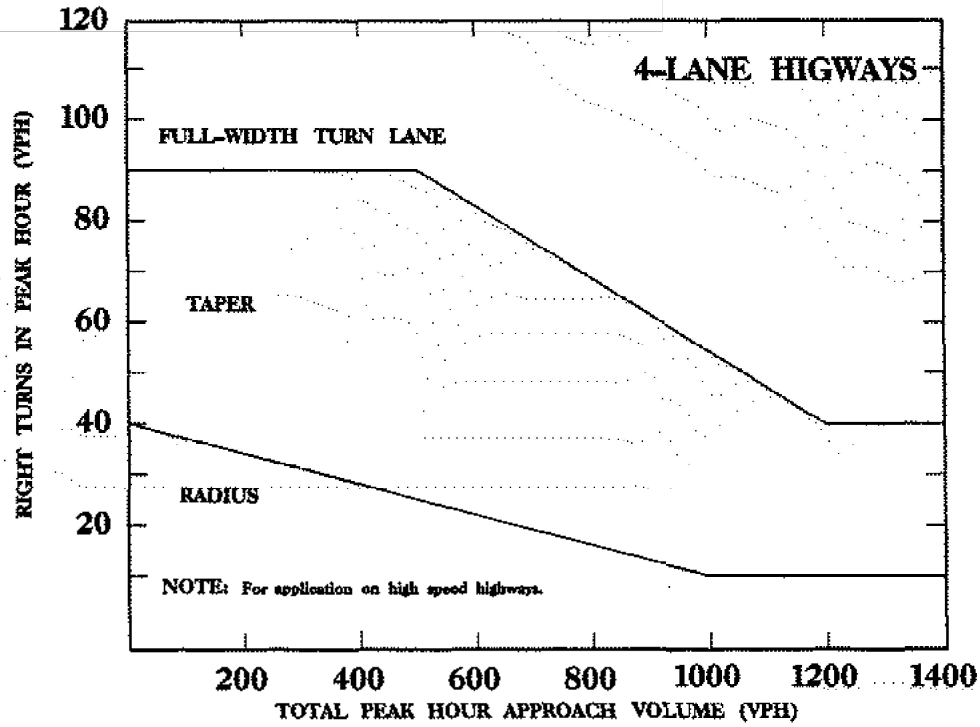
F – 4 C

RIGHT TURN LANE WARRANTS

Scenario #2:
PM Peak:
NBR: 40 veh.
WBT+R: 201 veh.

Scenario #2:
AM Peak:
NBR: 46 veh.
NBT+R: 154 veh.



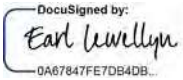


Certificate Of Completion

Envelope Id: 7C166BC8BE30480A946F4D9B56AA2A3C
Status: Completed
Subject: Please DocuSign: Retreat at Preserve at White Oak - Final TIA Report (2021-03-25).pdf
Source Envelope:
Document Pages: 138
Signatures: 1
Envelope Originator:
Certificate Pages: 1
Initials: 0
Earl Lewellyn
AutoNav: Disabled
401 Fayetteville St.
EnvelopeId Stamping: Disabled
Suite 600
Time Zone: (UTC-05:00) Eastern Time (US & Canada)
Raleigh, NC 27601
Earl.Lewellyn@kimley-horn.com
IP Address: 12.244.254.222

Record Tracking

Status: Original
3/26/2021 12:31:29 PM
Holder: Earl Lewellyn
Earl.Lewellyn@kimley-horn.com
Location: DocuSign

Signer Events	Signature	Timestamp
Earl Lewellyn Earl.Lewellyn@kimley-horn.com Kimley-Horn Security Level: Email, Account Authentication (None)	 Signature Adoption: Pre-selected Style Using IP Address: 165.225.8.243	Sent: 3/26/2021 12:32:04 PM Viewed: 3/26/2021 12:32:18 PM Signed: 3/26/2021 12:32:35 PM Freeform Signing

Electronic Record and Signature Disclosure:
Not Offered via DocuSign

In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp

Carbon Copy Events	Status	Timestamp

Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	3/26/2021 12:32:04 PM
Certified Delivered	Security Checked	3/26/2021 12:32:18 PM
Signing Complete	Security Checked	3/26/2021 12:32:35 PM
Completed	Security Checked	3/26/2021 12:32:35 PM

Payment Events	Status	Timestamps

PLANNING BOARD REPORT TO TOWN COUNCIL

Rezoning Case: 21CZ09 Alderwood PUD

Planning Board Meeting Date: July 12, 2021

Report Requirements:

Per NCGS §160D-604(b), all proposed amendments to the zoning ordinance or zoning map shall be submitted to the Planning Board for review and comment. If no written report is received from the Planning Board within 30 days of referral of the amendment to the Planning Board, the Town Council may act on the amendment without the Planning Board report. The Town Council is not bound by the recommendations, if any, of the Planning Board.

Per NCGS §160D-604(d), the Planning Board shall advise and comment on whether the proposed action is consistent with all applicable officially adopted plans, and provide a written recommendation to the Town Council that addresses plan consistency and other matters as deemed appropriate by the Planning Board, but a comment by the Planning Board that a proposed amendment is inconsistent with the officially adopted plans shall not preclude consideration or approval of the proposed amendment by the Town Council.

PROJECT DESCRIPTION:

Acreage:	14.86
PIN(s):	0722687241, 0722780191, 0722784193, and 0722788252
Current Zoning:	Rural Residential (RR)
Proposed Zoning:	Planned Unit Development-Conditional Zoning (PUD-CZ)
2045 Land Use Map:	Mixed Use: High Density Residential/Office Employment/Commercial Services
Town Limits:	In ETJ

Applicable Officially Adopted Plans:

The Board must state whether the project is consistent or inconsistent with the following officially adopted plans, if applicable. Applicable plans have a check mark next to them.

☑ 2045 Land Use Map
☑ Consistent ☐ Inconsistent Reason: _____

☑ Apex Transportation Plan
☑ Consistent ☐ Inconsistent Reason: _____

☑ Parks, Recreation, Open Space, and Greenways Plan
☑ Consistent ☐ Inconsistent Reason: _____

Legislative Considerations:

The applicant shall propose site-specific standards and conditions that take into account the following considerations, which are considerations that are relevant to the legislative determination of whether or not the proposed conditional zoning district rezoning request is in the public interest. These considerations do not exclude the legislative consideration of any other factor that is relevant to the public interest.

1. *Consistency with 2045 Land Use Plan*. The proposed Conditional Zoning (CZ) District use's appropriateness for its proposed location and consistency with the purposes, goals, objectives, and policies of the 2045 Land Use Plan.
   ☑ Consistent ☐ Inconsistent Reason: _____

2. *Compatibility*. The proposed Conditional Zoning (CZ) District use's appropriateness for its proposed location and compatibility with the character of surrounding land uses.
   ☑ Consistent ☐ Inconsistent Reason: _____

3. *Zoning district supplemental standards*. The proposed Conditional Zoning (CZ) District use's compliance with Sec. 4.4 *Supplemental Standards*, if applicable.
   ☑ Consistent ☐ Inconsistent Reason: _____

4. *Design minimizes adverse impact*. The design of the proposed Conditional Zoning (CZ) District use's minimization of adverse effects, including visual impact of the proposed use on adjacent lands; and avoidance of significant adverse impacts on surrounding lands regarding trash, traffic, service delivery, parking and loading, odors, noise, glare, and vibration and not create a nuisance.
   ☑ Consistent ☐ Inconsistent Reason: _____

5. *Design minimizes environmental impact*. The proposed Conditional Zoning District use's minimization of environmental impacts and protection from significant deterioration of water and air resources, wildlife habitat, scenic resources, and other natural resources.
   ☑ Consistent ☐ Inconsistent Reason: _____

6. *Impact on public facilities.* The proposed Conditional Zoning (CZ) District use's avoidance of having adverse impacts on public facilities and services, including roads, potable water and wastewater facilities, parks, schools, police, fire and EMS facilities.
   ☑ Consistent ☐ Inconsistent Reason: _____

7. *Health, safety, and welfare.* The proposed Conditional Zoning (CZ) District use's effect on the health, safety, or welfare of the residents of the Town or its ETJ.
   ☑ Consistent ☐ Inconsistent Reason: _____

8. *Detrimental to adjacent properties.* Whether the proposed Conditional Zoning (CZ) District use is substantially detrimental to adjacent properties.
   ☑ Consistent ☐ Inconsistent Reason: _____

9. *Not constitute nuisance or hazard.* Whether the proposed Conditional Zoning (CZ) District use constitutes a nuisance or hazard due to traffic impact or noise, or because of the number of persons who will be using the Conditional Zoning (CZ) District use.
   ☑ Consistent ☐ Inconsistent Reason: _____

10. *Other relevant standards of this Ordinance.* Whether the proposed Conditional Zoning (CZ) District use complies with all standards imposed on it by all other applicable provisions of this Ordinance for use, layout, and general development characteristics.
    ☑ Consistent ☐ Inconsistent Reason: _____

Planning Board Recommendation:

Motion: To recommend approval as submitted with additional conditio

Introduced by Planning Board member: Mark Steele

Seconded by Planning Board member: Keith Braswell

☐ *Approval*: the project is consistent with all applicable officially adopted plans and the applicable legislative considerations listed above.

☑ *Approval with conditions*: the project is not consistent with all applicable officially adopted plans and/or the applicable legislative considerations as noted above, so the following conditions are recommended to be included in the project in order to make it fully consistent:

Conditions as submitted by applicant with an additional condition offered at the meeting and attached.

Note from Planning Board - applicant should work with neighbors and staff prior to Town Council meeting as to what landscaping and/or fencing would be acceptable to the neighbors.

☐ *Denial*: the project is not consistent with all applicable officially adopted plans and/or the applicable legislative considerations as noted above.

With 6* Planning Board Member(s) voting "aye"

With 0 Planning Board Member(s) voting "no"

Reasons for dissenting votes:

* Note that Ryan Akers was recused by the Planning Board as he had worked on this project.

This report reflects the recommendation of the Planning Board, this the 12th day of July 2021.

Attest:

Reginald Skinner, Planning Board Vice-Chair

Dianne Khin Digitally signed by Dianne Khin Date: 2021.07.12 17:49:14 -04'00'

Dianne Khin, Director of Planning and Community Development

WRITTEN CONSENT FOR ADDITIONAL ZONING CONDITIONS

The petitioner hereby expressly consents to all zoning conditions listed in the application and attached to the staff report, as well as the following conditions offered and consented to by the petitioner:

Application #: 21CZ09

At the time of site/subdivision plan and in order to meet the opacity requirements of the rezoning, the northern buffer of the residential pod (Pod B) adjacent to the existing residential shall include either: (a) a 6-foot tall privacy fence as permitted in UDO Sec. 8.2.6.B.5.a, provided the fence shall not be required adjacent to the private community park, within utility and/or pedestrian access easements, or within the Colonial and Cardinal gas pipeline easements; or (b) supplemental evergreen plantings. In order to minimize damage and impacts to the existing vegetation, any fence installed pursuant to this condition shall be installed along the interior side of the Alderwood buffer.

Attest:

Authorized Agent/Property Owner(s) — Date: 7-20-2021

Mark Altman
Print Name

Additional Property Owner(s), if needed — Date

Print Name

TOWN OF APEX
POST OFFICE BOX 250
APEX, NORTH CAROLINA 27502
PHONE 919-249-3426

PUBLIC NOTIFICATION
OF PUBLIC HEARINGS
CONDITIONAL ZONING #21CZ09
Alderwood PUD

Pursuant to the provisions of North Carolina General Statutes §160D-602 and to the Town of Apex Unified Development Ordinance (UDO) Section 2.2.11, notice is hereby given of public hearings before the Planning Board of the Town of Apex. The purpose of these hearings is to consider the following:

Applicant: Jessie Hardesty, McAdams Co.
Authorized Agent: Mark Aitman, Taylor Morrison
Property Addresses: 7912, 8000, & 8016 Jenks Road & 1533 Wimberly Road
Acreage: ±14.86 acres
Property Identification Numbers (PINs): 0722788252, 0722784193, 0722780191, 0722687241
Current 2045 Land Use Map Designation: Mixed Use: High Density Residential/Office Employment/ Commercial Services
Proposed 2045 Land Use Map Designation: Mixed Use: Medium/High Density Residential/Office Employment/ Commercial Services
Existing Zoning of Properties: Rural Residential (RR)
Proposed Zoning of Properties: Planned Unit Development-Conditional Zoning (PUD-CZ)

Public Hearing Location: Apex Town Hall
Council Chamber, 2nd Floor
73 Hunter Street, Apex, North Carolina

Planning Board Public Hearing Date and Time: July 12, 2021 4:30 PM

You may attend the meeting in person or view the meeting through the Town's YouTube livestream at: https://www.youtube.com/c/townofapexgov.

If you are unable to attend, you may provide a written statement by email to public.hearing@apexnc.org, or submit it to the clerk of the Planning Board, Bonnie Brock (73 Hunter Street or USPS mail - P.O. Box 250, Apex, NC 27502), at least two business days prior to the Planning Board vote. You must provide your name and address for the record. The written statements will be delivered to the Planning Board prior to their vote. Please include the Public Hearing name in the subject line.

A separate notice of the Town Council public hearing on this project will be mailed and posted in order to comply with State public notice requirements.

Vicinity Map:

Property owners, tenants, and neighborhood associations within 300 feet of the proposed conditional zoning have been sent this notice via first class mail. All interested parties may submit comments with respect to the application by the means specified above. In addition to the above map, the location of the property may be viewed online at https://maps.raleighnc.gov/imaps. The 2045 Land Use Map may be viewed online at www.apexnc.org/DocumentCenter/View/478. You may call 919-249-3426, Department of Planning and Community Development, with questions or for further information. To view the petition and related documents on-line: https://www.apexnc.org/DocumentCenter/View/35196.

Dianne F. Khin, AICP
Director of Planning and Community Development

Published Dates: June 29 – July 12, 2021

TOWN OF APEX

NOTIFICACIÓN PÚBLICA

De conformidad con las disposiciones de las Estatutos Generales de Carolina del Norte §160D-602 y la Sección 2.2.11 de la Ordenanza de Desarrollo Unificado (UDO) del ayuntamiento de Apex, por la presente se notifican las audiencias públicas ante la Junta de Planificación del ayuntamiento de Apex. El propósito de estas audiencias es considerar lo siguiente:

specified above. In addition to the above map, the location of the property may be viewed online at https://maps.raleighnc.gov/imaps. The 2045 Land Use Map may be viewed online at www.apexnc.org/DocumentCenter/View/478. You may call 919-249-3426, Department of Planning and Community Development, with questions or for further information. To view the petition and related documents on-line: https://www.apexnc.org/DocumentCenter/View/35458.

Dianne F. Khin, AICP
Director of Planning and Community Development

Published Dates: June 29 – July 12, 2021

TOWN OF APEX
PO BOX 250
APEX, NORTH CAROLINA 27502
TELEFONO 919-249-3426

NOTIFICACIÓN PÚBLICA
DE AUDIENCIAS PÚBLICAS
ORDENAMIENTO TERRITORIAL CONDICIONAL #21CZ09
Alderwood PUD (Desarrollo de Unidad Planificada)

De conformidad con las disposiciones de los Estatutos Generales de Carolina del Norte §160D-601 y con la Sección 2.2.11 de la Ordenanza de Desarrollo Unificado (UDO) del ayuntamiento de Apex, por la presente se notifican las audiencias públicas ante la Junta de Planificación del ayuntamiento de Apex. El propósito de estas audiencias es considerar lo siguiente:

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Lugar de la audiencia pública: Ayuntamiento de Apex
Cámara del Consejo, 2º piso
73 Hunter Street, Apex, Carolina del Norte

Fecha y hora de la audiencia pública de la Junta de Planificación: 12 de julio, 2021 4:30 P.M.

Puede asistir a la reunión de manera presencial o seguir la transmisión en directo por YouTube a través del siguiente enlace: https://www.youtube.com/c/townofapexgov.

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De conformidad con los requisitos estatales de notificaciones públicas, se enviará por correo y se publicará por separado una notificación de la audiencia pública del Consejo Municipal sobre este proyecto.

Mapa de las inmediaciones:

Los propietarios, inquilinos y asociaciones de vecinos en un radio de 300 pies del Ordenamiento Territorial Condicional propuesto han recibido esta notificación por correo postal de primera clase. Todas las partes interesadas pueden presentar comentarios sobre la solicitud a través de los medios especificados anteriormente. La ubicación de la propiedad también puede verse aquí: https://maps.raleighnc.gov/imaps. Puede ver el Mapa de Uso Territorial para 2045 aquí: www.apexnc.org/DocumentCenter/View/478. Si tiene preguntas o desea obtener más información, puede comunicarse con el Departamento de Planificación y Desarrollo Comunitario al 919-249-3426. Puede ver la solicitud y otros documentos relac

Fechas

TOWN OF APEX
POST OFFICE BOX 250
APEX, NORTH CAROLINA 27502
PHONE 919-249-3426

PUBLIC NOTIFICATION OF PUBLIC HEARINGS

CONDITIONAL ZONING #21CZ09
Alderwood PUD

Pursuant to the provisions of North Carolina General Statutes §160D-602 and to the Town of Apex Unified Development Ordinance (UDO) Section 2.2.11, notice is hereby given of public hearings before the Planning Board of the Town of Apex. The purpose of these hearings is to consider the following:

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Vicinity Map:

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Dianne F. Khin, AICP
Director of Planning and Community Development

Published Dates: June 29 – July 12, 2021

TOWN OF APEX
PO BOX 250
APEX, NORTH CAROLINA 27502
TELÉFONO 919-249-3426

NOTIFICACIÓN PÚBLICA
DE AUDIENCIAS PÚBLICAS
ORDENAMIENTO TERRITORIAL CONDICIONAL #21CZ09
Alderwood PUD (Desarrollo de Unidad Planificada)

De conformidad con las disposiciones de los Estatutos Generales de Carolina del Norte §160D-602 y con la Sección 2.2.11 de la Ordenanza de Desarrollo Unificado (UDO) del ayuntamiento de Apex, por la presente se notifican las audiencias públicas ante la Junta de Planificación del ayuntamiento de Apex. El propósito de estas audiencias es considerar lo siguiente:

Solicitante: Jessie Hardesty, McAdams Co.
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Lugar de la audiencia pública: Ayuntamiento de Apex
Cámara del Consejo, 2º piso
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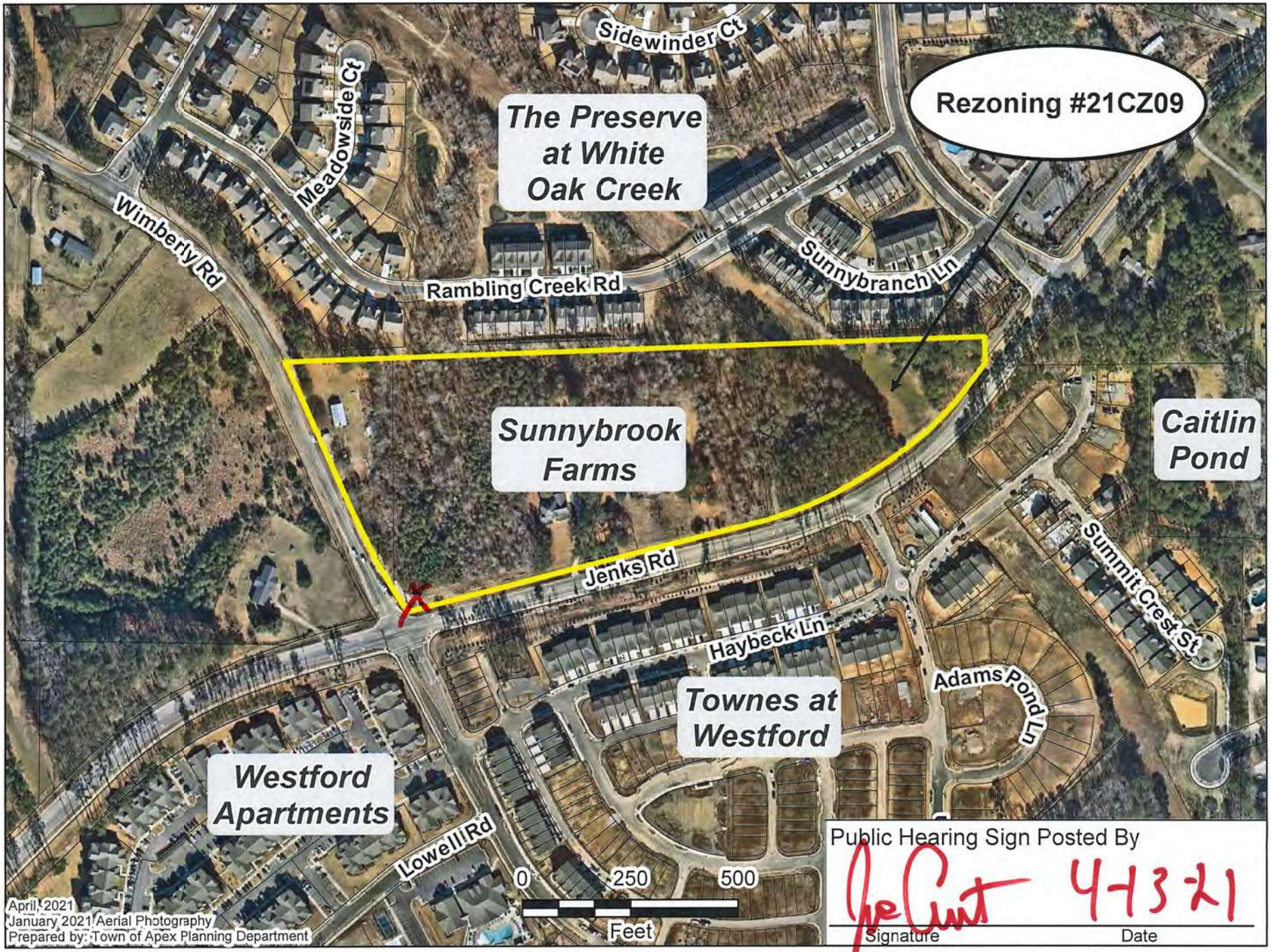
Mapa de las inmediaciones:

Los propietarios, inquilinos y asociaciones de vecinos en un radio de 300 pies del Ordenamiento Territorial Condicional propuesto han recibido esta notificación por correo postal de primera clase. Todas las partes interesadas pueden presentar comentarios sobre la solicitud a través de los medios especificados anteriormente. La ubicación de la propiedad también puede verse aquí: https://maps.raleighnc.gov/imaps. Puede ver el Mapa de Uso Territorial para 2045 aquí: www.apexnc.org/DocumentCenter/View/478. Si tiene preguntas o desea obtener más información, puede comunicarse con el Departamento de Planificación y Desarrollo Comunitario al 919-249-3426. Puede ver la solicitud y otros documentos relacionados aquí: https://www.apexnc.org/DocumentCenter/View/35196.

Dianne F. Khin, AICP
Directora de Planificación y Desarrollo Comunitario

Fechas de publicación: 29 de junio - 12 de julio, 2021


Sidewinder Ct
Meadowside Ct
The Preserve at White Oak Creek
Rezoning #21CZ09
Wimberly Rd
Rambling Creek Rd
Sunnybranch Ln
Sunnybrook Farms
Caitlin Pond
Jenks Rd
Summit Crest St
Haybeck Ln
Adams Pond Ln
Townes at Westford
Westford Apartments
Lowell Rd
0
250
500
Feet
April 2021
January 2021 Aerial Photography
Prepared by: Town of Apex Planning Department
Public Hearing Sign Posted By
Signature
4-13-21
Date

TOWN OF APEX
POST OFFICE BOX 250
APEX, NORTH CAROLINA 27502
PHONE 919-249-3426

AFFIDAVIT CERTIFYING
Public Notification – Written (Mailed) Notice

Section 2.2.11
Town of Apex Unified Development Ordinance

Project Name:	Conditional Zoning #21CZ09 Alderwood PUD
Project Location:	7912, 8000, & 8016 Jenks Road & 1533 Wimberly Road
Applicant or Authorized Agent:	Jessie Hardesty
Firm:	McAdams Co.

This is to certify that I, as Director of Planning and Community Development, mailed or caused to have mailed by first class postage for the above mentioned project on June 29, 2021, a notice containing the time and place, location, nature and scope of the application, where additional information may be obtained, and the opportunity for interested parties to be heard, to the property owners within 300' of the land subject to notification. I further certify that I relied on information provided to me by the above-mentioned person as to accuracy and mailing addresses of property owners within 300' of the land subject to notification.

6-29-2021
Date

Liz Raftin for Dianne Khin
Director of Planning and Community Development

STATE OF NORTH CAROLINA
COUNTY OF WAKE

Sworn and subscribed before me, Paralee J. Smith, a Notary Public for the above State and County, this the 29 day of June, 2021.

PARALEE J. SMITH NOTARY PUBLIC JOHNSTON COUNTY, NC

Paralee J Smith
Notary Public

My Commission Expires: 9/12/2023

TOWN OF APEX
POST OFFICE BOX 250
APEX, NORTH CAROLINA 27502
PHONE 919-249-3426

PUBLIC NOTIFICATION
OF PUBLIC HEARINGS
CONDITIONAL ZONING #21CZ09
Alderwood PUD

Pursuant to the provisions of North Carolina General Statutes §160D-602 and to the Town of Apex Unified Development Ordinance (UDO) Section 2.2.11, notice is hereby given of public hearings before the Town Council of the Town of Apex. The purpose of these hearings is to consider the following:

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Existing Zoning of Properties: Rural Residential (RR)
Proposed Zoning of Properties: Planned Unit Development-Conditional Zoning (PUD-CZ)

Public Hearing Location: Apex Town Hall
Council Chamber, 2nd Floor
73 Hunter Street, Apex, North Carolina

Comments received prior to the Planning Board public hearing will not be provided to the Town Council. Separate comments for the Town Council public hearing must be provided by the deadline specified below.

Town Council Public Hearing Date and Time: July 27, 2021 6:00 PM

You may attend the meeting in person or view the meeting through the Town's YouTube livestream at: https://www.youtube.com/c/townofapexgov.

If you are unable to attend, you may provide a written statement by email to public.hearing@apexnc.org, or submit it to the Deputy Town Clerk, Tesa Silver (73 Hunter Street or USPS mail - P.O. Box 250, Apex, NC 27502), at least two business days prior to the Town Council vote. You must provide your name and address for the record. The written statements will be delivered to the Town Council members prior to their vote. Please include the Public Hearing name in the subject line.

Vicinity Map:

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Dianne F. Khin, AICP
Director of Planning and Community Development

Published Dates: July 2-July 27, 2021

TOWN OF APEX
PO BOX 250
APEX, NORTH CAROLINA 27502
TELÉFONO 919-249-3426

NOTIFICACIÓN PÚBLICA DE AUDIENCIAS PÚBLICAS
ORDENAMIENTO TERRITORIAL CONDICIONAL #21CZ09
Alderwood PUD (Desarrollo de Unidad Planificada)

De conformidad con las disposiciones de los Estatutos Generales de Carolina del Norte §160D-602 y con la Sección 2.2.11 de la Ordenanza de Desarrollo Unificado (UDO) del Ayuntamiento de Apex, por la presente se notifican las audiencias públicas ante la Junta de Planificación del Ayuntamiento de Apex. El propósito de estas audiencias es considerar lo siguiente:

Solicitante: Jessie Hardesty, McAdams Co.
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Lugar de la audiencia pública: Ayuntamiento de Apex
Cámara del Consejo, 2º piso
73 Hunter Street, Apex, Carolina del Norte

Los comentarios recibidos antes de la audiencia pública de la Junta de Planificación no se proporcionarán al Consejo Municipal. Los comentarios para la audiencia pública del Consejo Municipal deben presentarse por separado en el plazo especificado a continuación.

Fecha y hora de la audiencia pública del Consejo Municipal: 27 de julio, 2021 6:00 P.M.

Puede asistir a la reunión de manera presencial o seguir la transmisión en directo por YouTube a través del siguiente enlace: https://www.youtube.com/c/townofapexgov.

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Dianne F. Khin, AICP
Directora de Planificación y Desarrollo Comunitario

Fechas de publicación: 2 de julio - 27 de julio, 2021

TOWN OF APEX
POST OFFICE BOX 250
APEX, NORTH CAROLINA 27502
PHONE 919-249-3426

PUBLIC NOTIFICATION OF PUBLIC HEARINGS

CONDITIONAL ZONING #21CZ09
Alderwood PUD

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Dianne F. Khin, AICP
Director of Planning and Community Development

Published Dates: July 2-July 27, 2021

TOWN OF APEX
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TELÉFONO 919-249-3426

NOTIFICACIÓN PÚBLICA DE AUDIENCIAS PÚBLICAS

ORDENAMIENTO TERRITORIAL CONDICIONAL #21CZ09
Alderwood PUD (Desarrollo de Unidad Planificada)

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Fecha y hora de la audiencia pública del Consejo Municipal: 27 de julio, 2021 6:00 P.M.

Puede asistir a la reunión de manera presencial o seguir la transmisión en directo por YouTube a través del siguiente enlace: https://www.youtube.com/c/townofapexgov.

Si no puede asistir, puede enviar una declaración escrita por correo electrónico a public.hearing@apexnc.org, o presentarla a la secretaría municipal adjunta, Tesa Silver (73 Hunter Street o por correo USPS a P.O. Box 250, Apex, NC 27502), al menos dos días hábiles antes de la votación del Consejo Municipal. Debe proporcionar su nombre y dirección para que conste en el registro. Las declaraciones escritas se entregarán al Consejo Municipal antes de la votación. No olvide incluir el nombre de la audiencia pública en el asunto.

Mapa de las inmediaciones:

Los propietarios, inquilinos y asociaciones de vecinos en un radio de 300 pies del Ordenamiento Territorial Condicional propuesto han recibido esta notificación por correo postal de primera clase. Todas las partes interesadas pueden presentar comentarios sobre la solicitud a través de los medios especificados anteriormente. La ubicación de la propiedad también puede verse aquí: https://maps.raleighnc.gov/imaps. Puede ver el Mapa de Uso Territorial para 2045 aquí: www.apexnc.org/DocumentCenter/View/478. Si tiene preguntas o desea obtener más información, puede comunicarse con el Departamento de Planificación y Desarrollo Comunitario al 919-249-3426. Puede ver la solicitud y otros documentos relacionados aquí: https://www.apexnc.org/DocumentCenter/View/35196.

Dianne F. Khin, AICP
Directora de Planificación y Desarrollo Comunitario

Fechas de publicación: 2 de julio - 27 de julio, 2021

Town Council

TOWN OF APEX
POST OFFICE BOX 250
APEX, NORTH CAROLINA 27502
PHONE 919-249-3426

AFFIDAVIT CERTIFYING
Public Notification – Written (Mailed) Notice
Section 2.2.11
Town of Apex Unified Development Ordinance

Project Name:	Conditional Zoning #21CZ09 Alderwood PUD
Project Location:	7912, 8000, & 8016 Jenks Road & 1533 Wimberly Road
Applicant or Authorized Agent:	Jessie Hardesty
Firm:	McAdams Co.

This is to certify that I, as Director of Planning and Community Development, mailed or caused to have mailed by first class postage for the above mentioned project on July 2, 2021, a notice containing the time and place, location, nature and scope of the application, where additional information may be obtained, and the opportunity for interested parties to be heard, to the property owners within 300' of the land subject to notification. I further certify that I relied on information provided to me by the above-mentioned person as to accuracy and mailing addresses of property owners within 300' of the land subject to notification.

7-2-2021
Date

Liz Loftin for Dianne Khin
Director of Planning and Community Development

STATE OF NORTH CAROLINA
COUNTY OF WAKE

Sworn and subscribed before me, Paralee J Smith, a Notary Public for the above State and County, this the 2 day of July, 2021.

PARALEE J. SMITH NOTARY PUBLIC JOHNSTON COUNTY, NC

Paralee J Smith
Notary Public

My Commission Expires: 9/12/2023

Student Assignment
Glenn Carrozza
5625 Dillard Drive
Cary, NC 27518

tel: (919) 431-7333
fax: (919) 694-7753

May 20, 2021

Dianne Khin, AICP
Director, Department of Planning and Community Development
Town of Apex
Dianne.Khin@apexnc.org

Dear Dianne,
The Wake County Public School System (WCPSS) Office of School Assignment received information about a proposed rezoning/development within the Town of Apex planning area. We are providing this letter to share information about WCPSS's capacity related to the proposal. The following information about the proposed rezoning/development was provided through the Wake County Residential Development Notification database:

- Date of application: April 1, 2021
- Name of development: 21CZ09 The Retreat at the Preserve at White Oak PUD
- Address of rezoning/development: 1533 Wimberly Rd & 7912, 8000 and 8016 Jenks Rd
- Total number of proposed residential units: 78
- Type(s) of residential units proposed: Townhouses

Based on the information received at the time of application, the Office of School Assignment is providing the following assessment of possible impacts to the Wake County Public School System:

☑ Schools at all grade levels within the current assignment area for the proposed rezoning/development are anticipated to have sufficient capacity for future students.

☐ Schools at the following grade levels within the current assignment area for the proposed rezoning/development are anticipated to have insufficient capacity for future students; transportation to schools outside of the current assignment area should be anticipated:

☐ Elementary ☐ Middle ☐ High

The following mitigation of capacity concerns due to school construction or expansion is anticipated:

☒ Not applicable – existing school capacity is anticipated to be sufficient.

☐ School expansion or construction within the next five years is not anticipated to address concerns.

☐ School expansion or construction within the next five years may address concerns at these grade levels:

☐ Elementary ☐ Middle ☐ High

Thank you for sharing this information with the Town of Apex Planning Board and Town Council as they consider the proposed rezoning/development.

Sincerely,

Glenn Carrozza

Glenn Carrozza