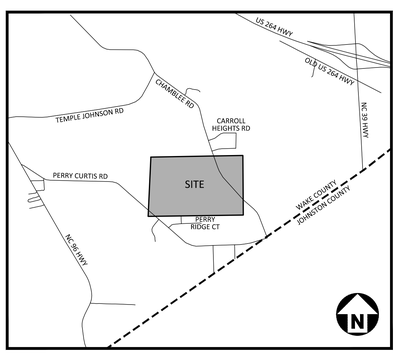
CHAMBLEE LAKE

1509 CHAMBLEE ROAD
ZEBULON, NORTH CAROLINA
PD 2023-01 / PROJECT NUMBER 891828

CONCEPT PLAN

PROJECT NUMBER: DRH-22004
DATE: NOVEMBER 1, 2022
REVISED: JULY 28, 2023

SHEET INDEX



VICINITY MAP
N.T.S.

PROPOSED ZONING CONDITIONS

1. IN ORDER TO ACCOMMODATE A MORE COMPACT DESIGN THAT SUPPORTS PRESERVATION OF ENVIRONMENTAL SENSITIVE FEATURES, THIS PROJECT WOULD PERMIT FRONT-LOADING OF SFD DETACHED LOTS 50' AND LARGER (RATHER THAN 70'). THE APPLICANT HAS OFFERED TAILORED ARCHITECTURAL STANDARDS FOR THESE UNITS AS A CONDITION OF THE ZONING APPROVAL.

2. TO FACILITATE A MORE COMPACT DESIGN AND SUPPORT PRESERVATION OF OPEN SPACE AND ENVIRONMENTAL SENSITIVE FEATURES, CHAMBLEE LAKE SHALL ADHERE TO THE DIMENSIONAL STANDARDS OUTLINED IN THE PLANNED DEVELOPMENT DOCUMENT.

3. CHAMBLEE LAKE SHALL BE SUBJECT TO THE ARCHITECTURAL ZONING CONDITIONS INCLUDED WITHIN THE ASSOCIATED PLANNED DEVELOPMENT DOCUMENT.

4. THE ADOPTED COMPREHENSIVE TRANSPORTATION PLAN (CTP) CALLS FOR A 4-LANE DIVIDED ROADWAY TO TRAVERSE THE NORTHERN PORTION OF THIS PROPERTY, WEST OF CHAMBLEE ROAD. AS EXPLAINED IN THE APPLICANT'S CTP AMENDMENT REQUEST, THERE IS STRONG JUSTIFICATION FOR A DIFFERENT ROAD SECTION TO BE APPLIED. AS SUCH, THIS PLANNED DEVELOPMENT SHOWS A PROPOSED 2-LANE COLLECTOR ROAD WITH ON-STREET PARKING CONNECTING DIRECTLY TO PERRY CURTIS ROAD (IN LIEU OF THE CTP'S PROPOSED 4-LANE DIVIDED E-W ROADWAY). THIS PLAN ALSO INCORPORATES A 2-LANE DIVIDED SECTION WITH A MULTI-PURPOSE PATH ON ONE SIDE FOR CHAMBLEE ROAD.

5. CHAMBLEE LAKE WILL APPLY A 35% MAXIMUM IMPERVIOUS REQUIREMENT FOR THE DEVELOPMENT AS A WHOLE (BASED ON TOTAL ACREAGE).

6. PURSUANT TO UDO SECTION 3.5.5.B.4, THE APPLICANT REQUESTS AN EXEMPTION FROM SUBSEQUENT SITE PLAN REVIEW. THIS PD INCLUDES A MASTER PLAN THAT IS DETAILED AND MEETS THE REQUIREMENTS FOR A SITE PLAN, AS DEMONSTRATED BY THE INCLUDED ZEBULON SITE PLAN CHECKLIST. THEREFORE, UPON APPROVAL OF THIS PD, THE APPLICANT SHALL BE EXEMPT FROM SUBSEQUENT SITE PLAN REVIEW.

7. THE APPLICANT COMMITS TO PROVIDING 30' WIDE STREETSCAPE BUFFERS (EXCEEDING THE UDO REQUIRED 15').

8. THE APPLICANT COMMITS TO PROVIDING A 20' WIDE TYPE B BUFFER ALONG IT'S SHARED SOUTHERN BOUNDARY WITH PERRY RIDGE CT (EXCEEDING THE UDO REQUIRED 10' TYPE A BUFFER). WHERE EXISTING VEGETATION IS NOT USED TO SATISFY THE TYPE B BUFFER REQUIREMENT, A 6' PRIVACY FENCE WILL ALSO BE PROVIDED.

9. THE APPLICANT COMMITS (SUBJECT TO NCDOT REVIEW AND APPROVAL) TO PROVIDING 13' WIDE PLANTED AREAS WITHIN MEDIANS (EXCEEDING THE UDO REQUIRED 11').

10. PERIMETER AND STREETSCAPE BUFFERS SHALL BE COMPRISED OF NATIVE OR ADAPTIVE SPECIES.

11. BASED ON THE SITE'S ACREAGE, THE UDO WOULD REQUIRE A MINIMUM OF 13.6 ACRES OF DEDICATED OPEN SPACE (10% OF THE AND 6.8 ACRES OF TREE SAVE (5% OF THE SITE). THE APPLICANT HEREBY COMMITS TO PROVIDING A MINIMUM OF 41 ACRES OF OPEN SPACE (30% OF THE SITE) AND 13.6 ACRES OF TREE SAVE (10% OF THE SITE).

12. TO SUPPORT COMMUNITY GATHERINGS AND ACTIVE NEIGHBORHOODS, THE DEVELOPMENT'S MAIN AMENITY SITE AND 2 POCKET PARKS WILL INCORPORATE OFF-STREET PARKING OR MARKED ON-STREET PARKING TO ACCOMMODATE VISITORS WITHOUT IMPEDING TRAVEL LANES. SAID PARKING PROVIDES A SAFE AND CONVENIENT LOCATION FOR FOOD TRUCKS TO LOCATE IN SUPPORT OF COMMUNITY FUNCTIONS. FURTHERMORE, THE APPLICANT COMMITS TO PROVIDING A MINIMUM OF 2 LARGER PARKING SPACES WITHIN THE MAIN AMENITY SITE DESIGNED FOR FOOD TRUCKS OR DELIVERY VEHICLES, WITH AN ELECTRICAL OUTLET AVAILABLE.

13. IN ADDITION TO PROVIDING (AT A MINIMUM) SIDEWALKS ON BOTH SIDES OF ALL ROADS (SUBJECT TO NCDOT APPROVAL ALONG DOT MAINTAINED ROADWAYS), THE PROPOSED DEVELOPMENT WILL FURTHER SUPPORT PEDESTRIAN AND BICYCLE ACCESS THROUGH THE INCORPORATION OF A MULTI-USE PATH ALONG CHAMBLEE ROAD AND THE SITE'S PROPOSED EAST-WEST COLLECTOR ROAD. FURTHERMORE, CHAMBLEE LAKE WILL PROVIDE AN OFF-STREET PEDESTRIAN TRAIL NETWORK (BOTH PAVED AND UNPAVED) OF AT LEAST 1 MILE IN LENGTH, WITH A MINIMUM OF 4 EXERCISE STATIONS ALONG THE TRAIL. THIS PEDESTRIAN NETWORK, IN CONNECTION WITH SIDNEY CREEK'S COMMITTED IMPROVEMENTS, WILL PROVIDE A DIRECT CONNECTION TO FIVE COUNTY STADIUM.

14. ALL PLANNED IMPROVEMENTS TO ROADWAYS AND RIGHT-OF-WAY OWNED AND MAINTAINED BY THE NC DEPARTMENT OF TRANSPORTATION (NCDOT), INCLUDING IMPROVEMENTS THAT REQUIRE OFF-SITE PROPERTY ACQUISITION AND/OR EASEMENTS, ARE SUBJECT TO NCDOT APPROVAL DURING SUBSEQUENT PHASES OF DEVELOPMENT. IF ANY IMPROVEMENTS ARE NOT APPROVED BY NCDOT, ALTERNATIVE DESIGNS MAY BE ADMINISTRATIVELY APPROVED BY TOWN STAFF.

15. CONSTRUCTION OF A POOL AND CLUBHOUSE STRUCTURE SHALL BE COMPLETED AT THE EARLIER OF EITHER 24 MONTHS FROM RECORDATION OF THE PHASE 1 PLAT, OR PRIOR TO ISSUANCE OF THE 150TH CERTIFICATE OF OCCUPANCY.

16. IN ORDER TO PROTECT ADJACENT NEIGHBORHOODS, NO CONSTRUCTION TRAFFIC WILL UTILIZE PERRY RIDGE COURT OR RIDGE VALLEY WAY AS A MEANS OF ACCESS.

17. CHAMBLEE LAKE SHALL INCLUDE A PROMINENT ENTRY FEATURE AT THE PRIMARY ENTRANCES ON CHAMBLEE ROAD.

18. AT LEAST ONE STORMWATER CONTROL POND SHALL CONTAIN A FOUNTAIN. AT LEAST SEVENTY-FIVE PERCENT (75%) OF ANY REQUIRED PLANTS IN THE STORMWATER CONTROL MEASURE PONDS, EXCLUDING GRASSES, SHALL BE POLLINATOR PLANTS SUCH AS NATIVE MILKWEEDS AND OTHER NECTAR-RICH FLOWERS.

19. IF A BUS PICKUP LOCATION IS APPROVED BY WAKE COUNTY PUBLIC SCHOOLS IN THE NEIGHBORHOOD, ONE BUST STOP AREA, INCLUDING A SHELTER, A BENCH, A TRASH CAN, AND AT LEAST 5 BICYCLE SPACES SHALL BE PROVIDED WITH THE SECOND PHASE OF DEVELOPMENT.

20. A MINIMUM OF FOUR (4) PET WASTE STATIONS SHALL BE PROVIDED ALONG THE SITE'S SIDEWALKS, PATHS, OR TRAILS.

REQUIRED SETBACKS

SFD DETACHED (FRONT LOADED)
FRONT SETBACK (MIN): 20 FT
SIDE SETBACK (MIN): 5 FT
CORNER SETBACK (MIN): 15 FT
REAR SETBACK (MIN): 20 FT

SFD DETACHED (REAR LOADED)
FRONT SETBACK (MIN): 10 FT
SIDE SETBACK (MIN): 3 FT
CORNER SETBACK (MIN): 10 FT
REAR SETBACK (MIN): 20 FT

ATTACHED RESIDENTIAL (TOWNHOMES)
FRONT/STREET SETBACK (MIN): 5 FT (OR 20' FOR FACE OF GARAGE ON FRONT-LOADED UNIT)
SIDE SETBACK (MIN): N/A
MIN. BUILDING SEPARATION: 10 FT
REAR SETBACK (MIN): 20 FT

UDO SUPPLEMENTAL USE STANDARDS

SINGLE FAMILY DWELLINGS (ATTACHED)
- A MINIMUM TEN FEET OF SEPARATION SHALL BE MAINTAINED BETWEEN ALL BUILDINGS IN THE DEVELOPMENT.
- BUILDINGS MUST BE SET BACK FROM PRIVATE DRIVES AND PARKING LOTS A MINIMUM OF 10 FEET.
- SINGLE FAMILY ATTACHED DEVELOPMENTS SHALL ABUT A PUBLIC STREET
- GUEST PARKING SHALL ADHERE TO TABLE 5.8.4.H.

SINGLE FAMILY DWELLINGS (DETACHED)
- EXCEPT FOR SINGLE-FAMILY DETACHED DWELLINGS SUBJECT TO A DEED RESTRICTING LIMITING THE AGE OF RESIDENTS TO 55 YEARS OF AGE OR OLDER, THE FINISHED FLOOR ELEVATION SHALL BE AT LEAST 18 INCHES ABOVE THE FINISHED GRADE ADJACENT TO THE HOME'S PRIMARY ENTRANCE.
- SINGLE-FAMILY DETACHED DWELLINGS SHALL BE CONFIGURED SO THAT EACH SIDE OF THE DWELLING INCLUDES SOME FORM OF INGRESS OR EGRESS CAPABLE OF ALLOWING EMERGENCY EXIT FROM OR ENTRANCE INTO THE DWELLING.

WATER ALLOCATION POINTS

POINTS	ITEM
10	BASE POINTS
10	CONSERVATION OF NATURAL HABITAT
10	ON-STREET PARKING
4	FOUNTAIN IN SCM FOR"OUTDOOR ENHANCEMENT"
10	ARCHITECTURAL STANDARDS
3	CLUBHOUSE WITH BATHROOMS - NO MEETING SPACE
2	RESORT STYLE POOL
1	DECK OR PATIO
2	WATER PLAY APPARATUS IN POOL
4	IPEMA PLAYGROUND
3	POLLINATOR GARDEN (225 SF MINIMUM)
3	POCKET PARK (5,000 SF MINIMUM)
5	PEDESTRIAN ORIENTED / WALKABLE DESIGN
67	TOTAL POINTS

SITE DATA

PIN	2715-10-1559	
REAL ESTATE ID	0012701	
SITE AREA	136.00 AC	
RIVER BASIN	NEUSE	
WATERSHED	MOCCASIN CREEK	
EXISTING ZONING	R-30 (WAKE COUNTY ZONING)	
PROPOSED ZONING	PLANNED DEVELOPMENT (R4 BASE)	
PROPOSED USES	SINGLE FAMILY DETACHED AND TOWNHOUSES INCLUDING ACCESSORY USES	
DENSITY	360 UNITS / 136.00 AC = 2.65 DU/AC	
TREE SAVE	REQUIRED	136.00 AC x 5% = 6.80 AC
	PROVIDED	10.00 AC MINIMUM
OPEN SPACE	REQUIRED	136.00 AC x 10% = 13.60 AC
	PROVIDED	48.50 AC - PASSIVE 4.73 AC - ACTIVE 1.85 AC - AMENITY CENTER 1.07 AC - POCKET PARK "B" 0.38 AC - DOG PARK 1.43 AC - TRAILS/FITNESS STATIONS 53.23 AC - TOTAL
ACTIVE OPEN SPACE	REQUIRED	136.00 AC x 2.5% = 3.40 AC
	PROVIDED	4.73 AC
GUEST PARKING	REQUIRED	360 UNITS x 0.25 SPACES/UNIT = 90 SPACES
	PROVIDED	90 SPACES
PUBLIC IMPROVEMENT	LENGTH OF NEW PUBLIC ROADS - 14,433 LF	
	LENGTH OF MULTI-USE PATHS - 4,304 LF	
	LENGTH OF TRAILS - 6,190 LF	
	LENGTH OF SIDEWALKS - 26,489 LF	
CURRENT FUTURE LAND USE	SUBURBAN RESIDENTIAL (SR)	
PROPOSED FUTURE LAND USE	SUBURBAN RESIDENTIAL (SR)	
FEMA FLOODPLAIN	NOT PRESENT (FIRM PANEL 3720270500K, EFFECTIVE 7/19/2022)	

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

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PROJECT DIRECTORY

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C/O JIM EDWARDS
2711 ROYSTER STREET
RALEIGH, NC 27608

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33828 FRANKLIN NORMAN AKERS

REVISIONS

NO.	DATE	
1	07. 28. 2023	PER TOWN COMMENTS

CONCEPT PLAN FOR:

CHAMBLEE LAKE
ZEBULON, NORTH CAROLINA
PROJECT NUMBER: DRH-22004

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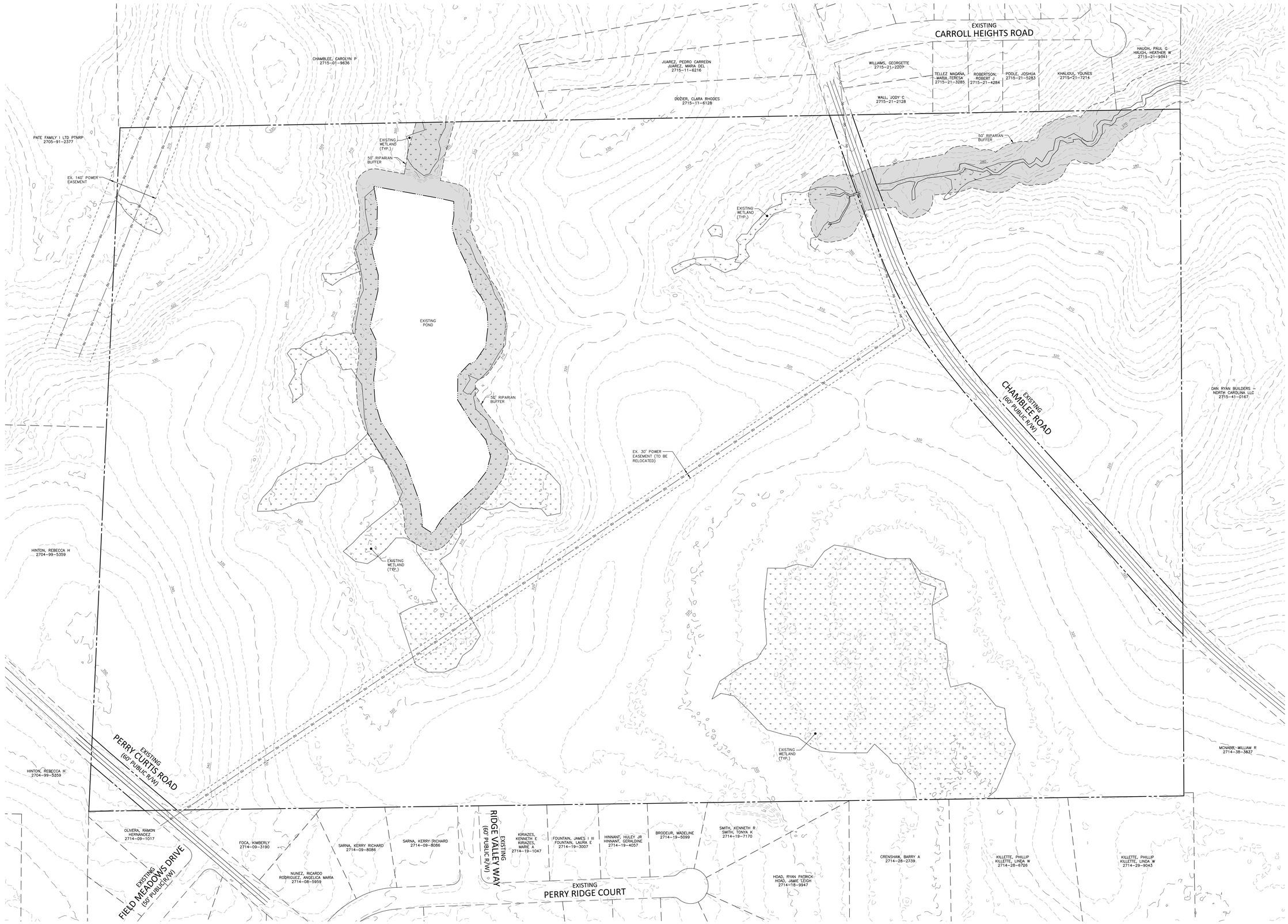

GRAPHIC SCALE
0 50 100 200
1 inch = 100 ft.

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CHAMBLEE LAKE
CONCEPT PLAN
1509 CHAMBLEE ROAD
ZEBULON, NORTH CAROLINA

NORTH CAROLINA PROFESSIONAL SEAL 33828 ENGINEER BRIAN C. AKERS
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REVISIONS

NO.	DATE	
1	07. 28. 2023	PER TOWN COMMENTS

PLAN INFORMATION

PROJECT NO.	DRH-22004
FILENAME	DRH22004-XC1
CHECKED BY	RCA
DRAWN BY	RLU
SCALE	1"=100'
DATE	11. 01. 2022

SHEET

EXISTING CONDITIONS
C1.00

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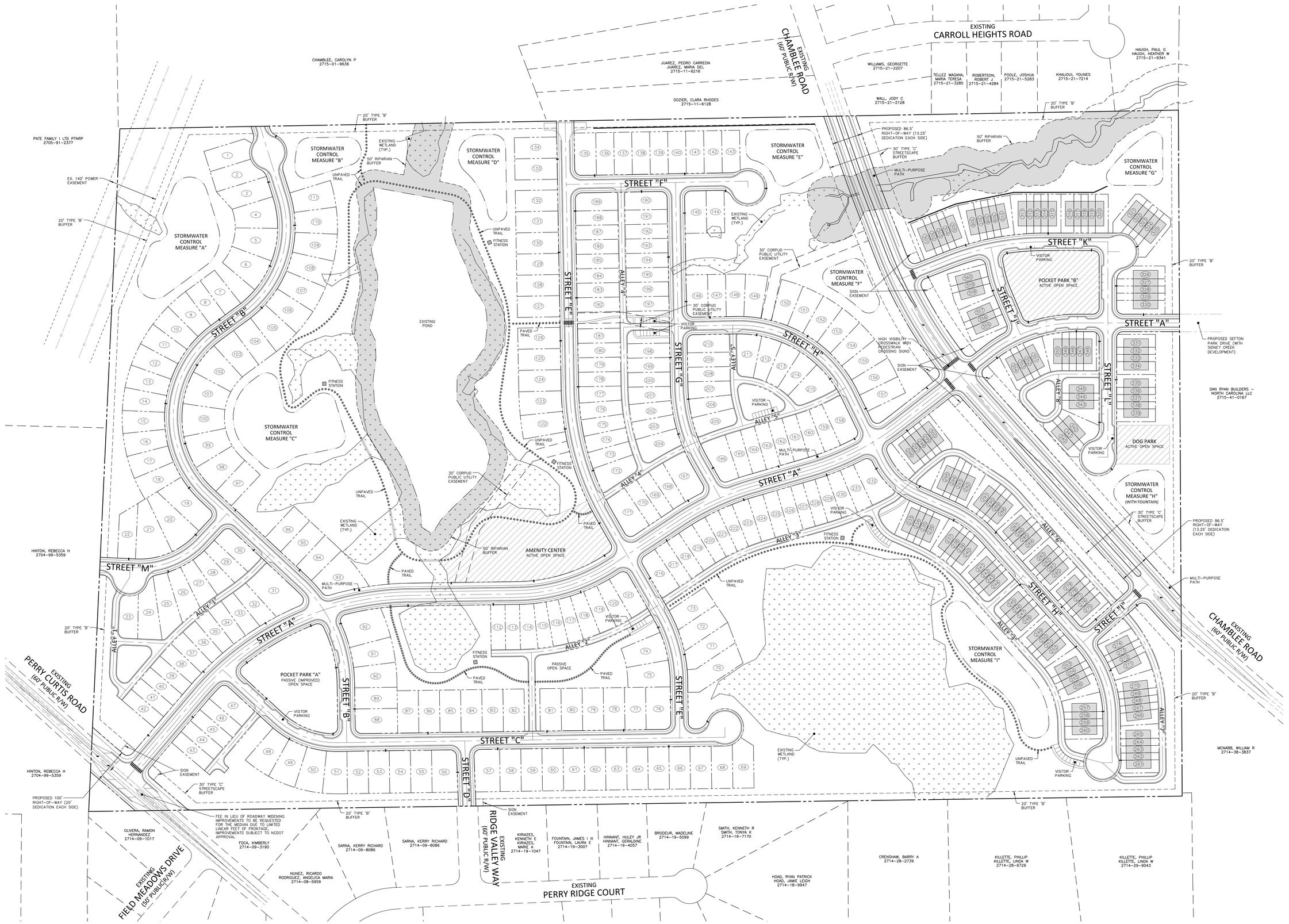

GENERAL NOTES

1. STREET LIGHTS: RESIDENTIAL FIXTURE TYPE - 16' FIBERGLASS POLE IN BLACK OR GREEN WITH TYPE "A" (ACORN) FIXTURE WITH 9500 LUMENS HIGH PRESSURE SODIUM. NO WOOD OR ALUMINUM POLES WILL BE ALLOWED. INSTALLATION MUST BE COORDINATED WITH DUKE PROGRESS ENERGY AND THE TOWN OF ZEBULON PUBLIC WORKS DEPARTMENT.

2. ALL PLANNED IMPROVEMENTS TO ROADWAYS AND RIGHT-OF-WAY OWNED AND MAINTAINED BY THE NC DEPARTMENT OF TRANSPORTATION (NCDOT), INCLUDING IMPROVEMENTS THAT REQUIRE OFF-SITE PROPERTY ACQUISITION AND/OR EASEMENTS, ARE SUBJECT TO NCDOT APPROVAL DURING SUBSEQUENT PHASES OF DEVELOPMENT. IF ANY IMPROVEMENTS ARE NOT APPROVED BY NCDOT, ALTERNATIVE DESIGNS MAY BE ADMINISTRATIVELY APPROVED BY TOWN STAFF.

IMPROVED OPEN SPACE AREAS

ACTIVE	AMENITY CENTER (CLUBHOUSE, POOL, TOT LOT, POLLINATOR GARDEN, MAIL KIOSK)	1.85 AC
PASSIVE	POCKET PARK "A" (PLAY FIELD, RAIN GARDEN, HARDSCAPE PLAZA, TREE ORCHARD)	1.26 AC
ACTIVE	POCKET PARK "B" (TOT LOT, TURFGRASS PLAY FIELD, HARDSCAPE PLAZA, MAIL KIOSK)	1.07 AC
ACTIVE	DOG PARK	0.38 AC
ACTIVE	TRAILS & FITNESS STATIONS	1.43 AC

GRAPHIC SCALE
0 50 100 200
1 inch = 100 ft.

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

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CHAMBLEE LAKE
CONCEPT PLAN
1509 CHAMBLEE ROAD
ZEBULON, NORTH CAROLINA

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33828 RYAN C. AYERS
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PLAN INFORMATION

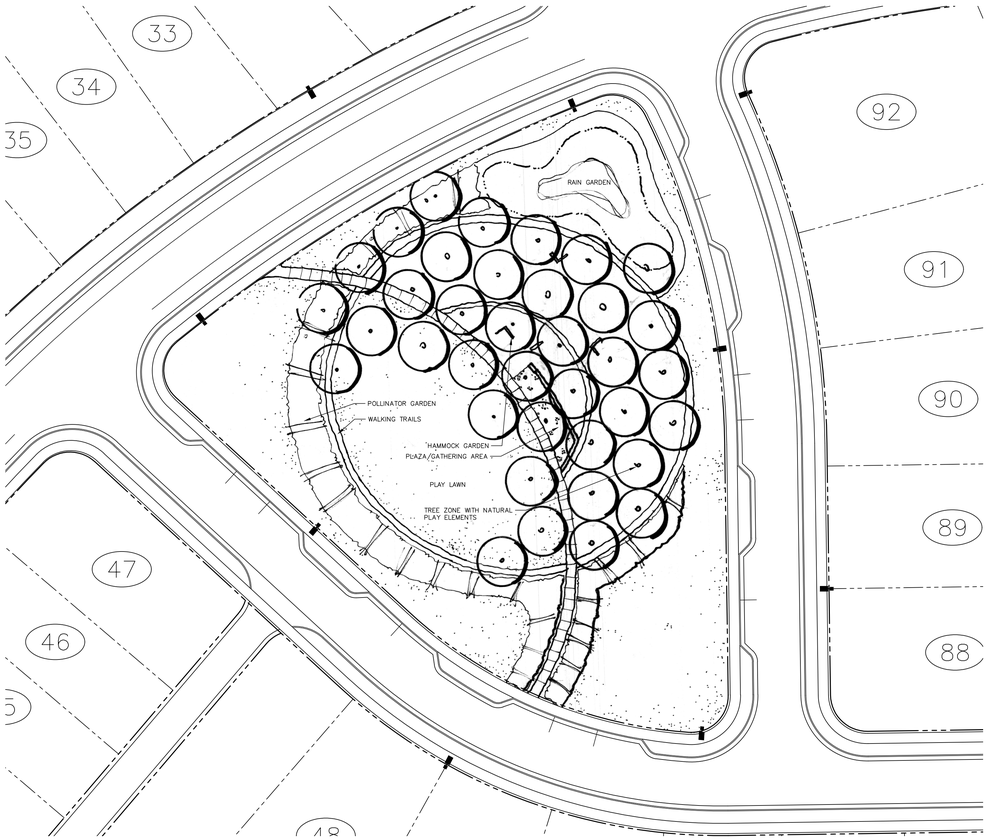
PROJECT NO.	DRH-22004
FILENAME	DRH22004-S1
CHECKED BY	RCA
DRAWN BY	RLU
SCALE	1"=100'
DATE	11. 01. 2022

SHEET

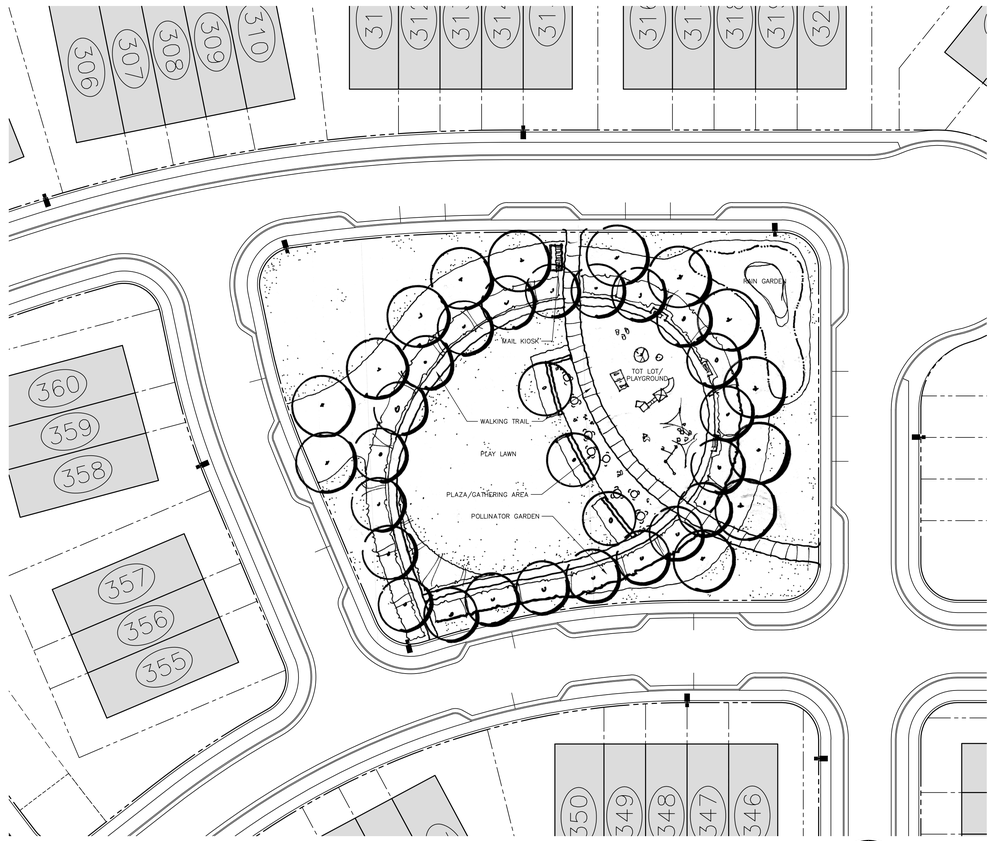
SITE PLAN
C2.00

NOTE
AMENITY CENTER AND POCKET PARK DESIGNS ARE CONCEPTUAL IN NATURE AND SUBJECT TO CHANGE BASED UP FINAL DESIGN AND REVIEW. ELEMENTS SHOWN ARE INTENDED TO DEPICT POSSIBLE OPEN SPACE CONFIGURATIONS AND ARRANGEMENT OF SITE ELEMENTS.

AMENITY CENTER
ACTIVE OPEN SPACE



POCKET PARK "A"
PASSIVE (IMPROVED) OPEN SPACE



POCKET PARK "B"
ACTIVE OPEN SPACE

GRAPHIC SCALE
0 15 30 60
1 inch = 30 ft.

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PROJECT NO.	DRH-22004
FILENAME	DRH22004-S2
CHECKED BY	RCA
DRAWN BY	RLU
SCALE	1"=30'
DATE	11. 01. 2022

SHEET

IMPROVED OPEN SPACE CONCEPTUAL DESIGNS

C2.01

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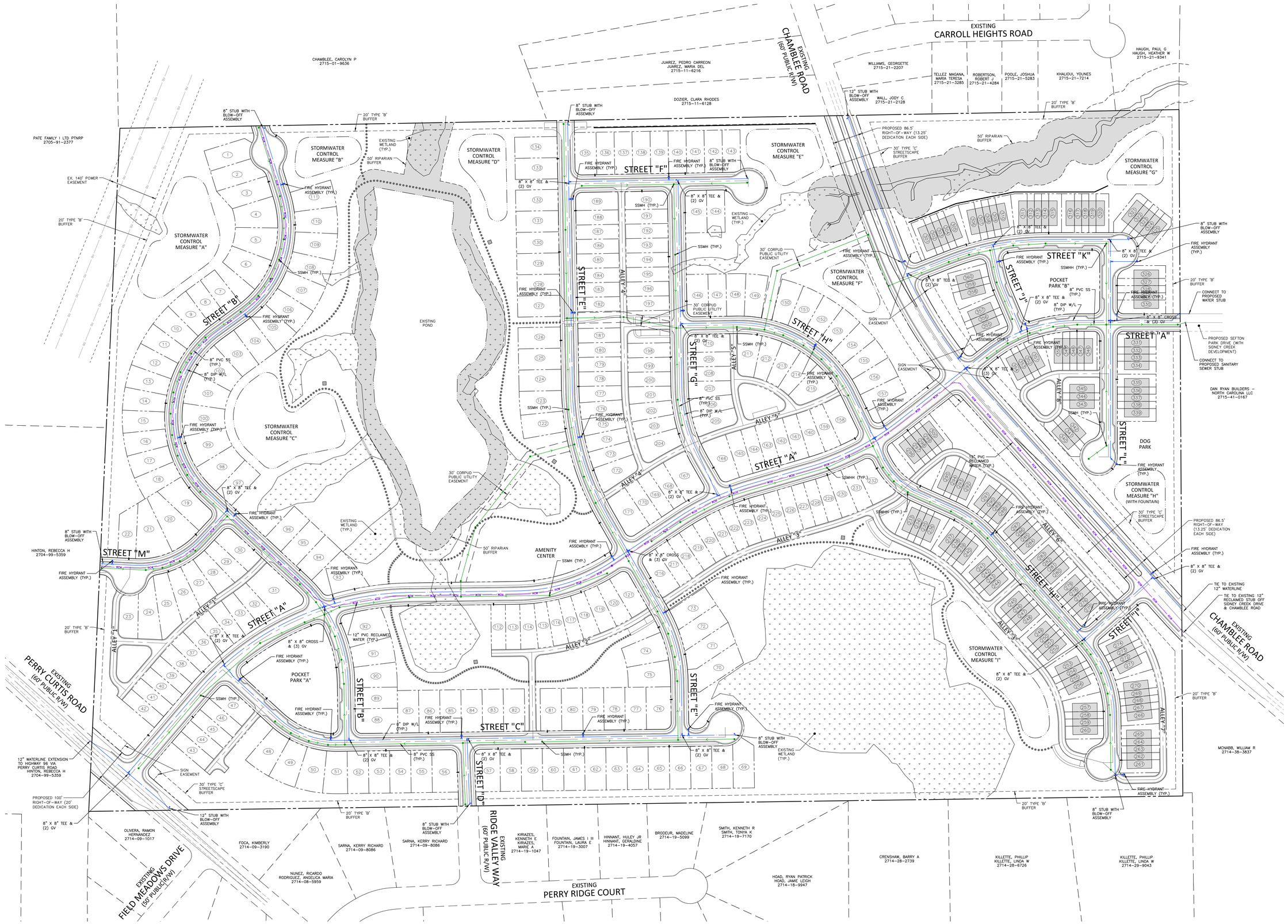
GRADING PLAN
C3.00



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SHEET

UTILITY PLAN
C4.00

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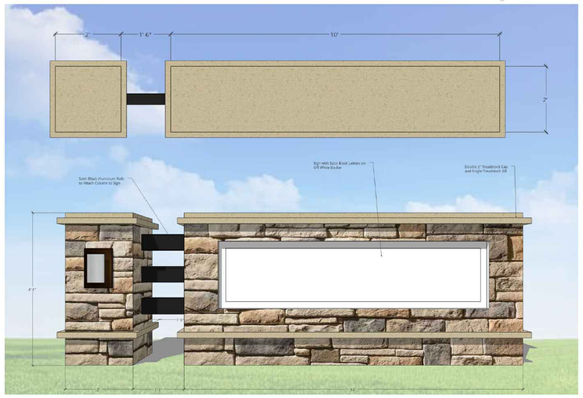

TYPICAL MONUMENT SIGN

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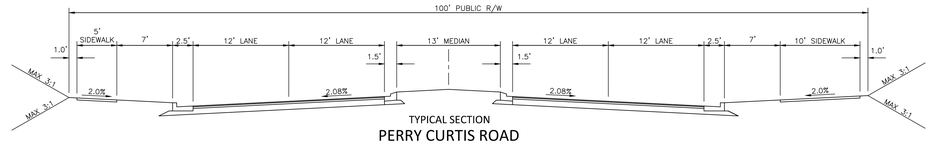
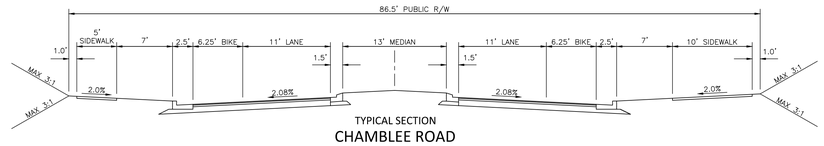


TYPICAL SECTION

PERRY CURTIS ROAD

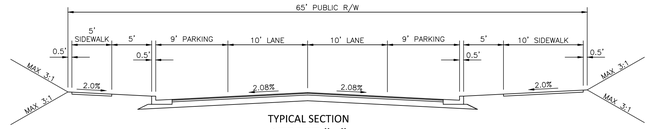
(100' R/W, 69' B-B)



TYPICAL SECTION

CHAMBLEE ROAD

(86.5' R/W, 55.5' B-B)

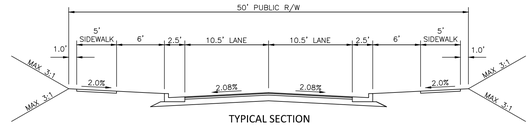


TYPICAL SECTION

STREET "A"

WEST OF CHAMBLEE ROAD

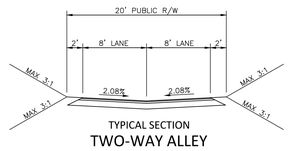
(65' R/W, 39' B-B)



TYPICAL SECTION

PUBLIC STREET

(50' R/W, 26' B-B)



TYPICAL SECTION

TWO-WAY ALLEY

(20' R/W, 16' B-B)

MCADAMS

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D·R·HORTON
America's Builder

CHAMBLEE LAKE
CONCEPT PLAN
1509 CHAMBLEE ROAD
ZEBULON, NORTH CAROLINA

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33828 RYAN C. MEYERS — NOT FOR CONSTRUCTION

REVISIONS

NO.	DATE	
1	07. 28. 2023	PER TOWN COMMENTS

PLAN INFORMATION

PROJECT NO.	DRH-22004
FILENAME	DRH22004-D1
CHECKED BY	RCA
DRAWN BY	RLU
SCALE	N/A
DATE	11. 01. 2022

SHEET

SITE DETAILS

C8.00

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

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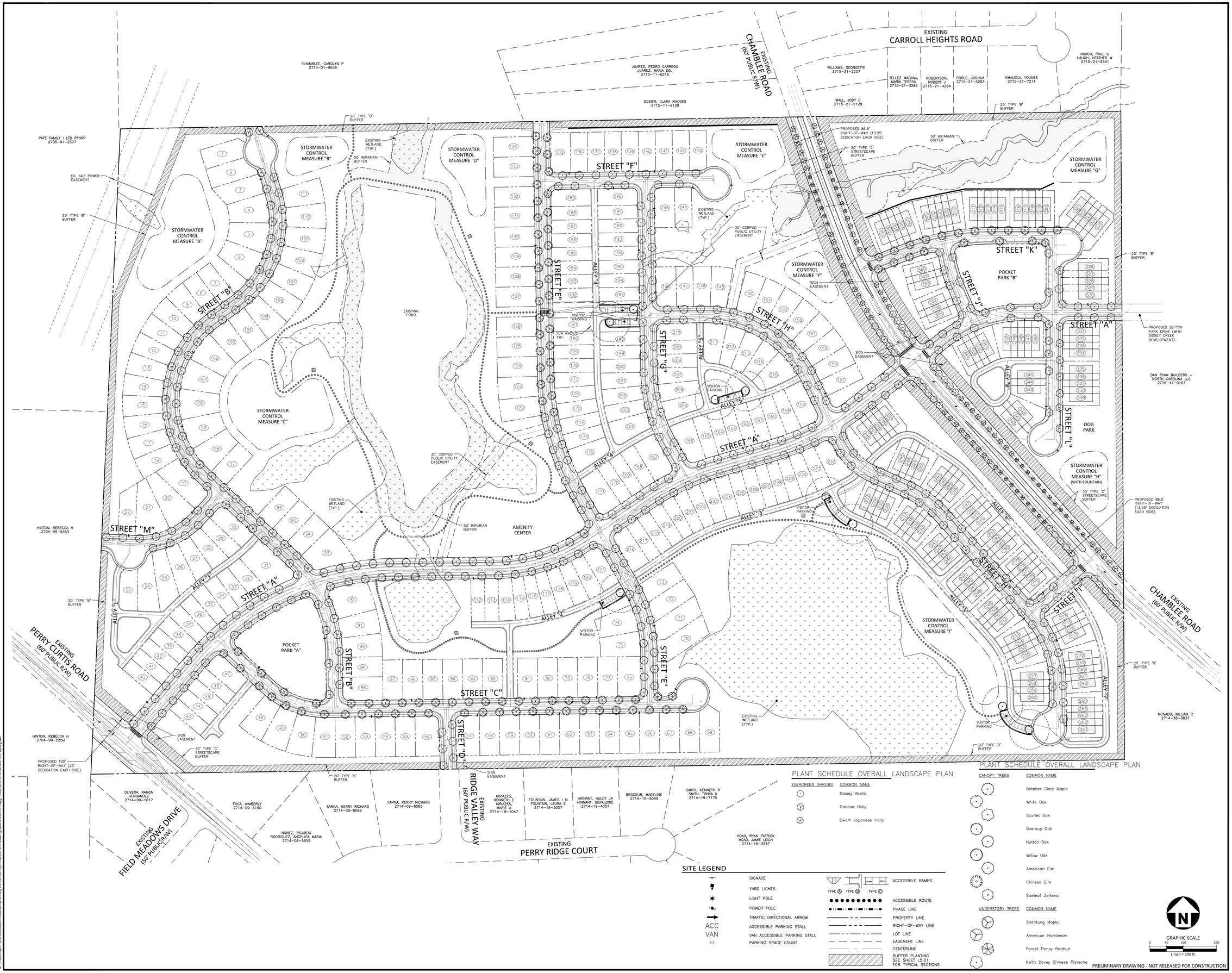

PLANT SCHEDULE OVERALL LANDSCAPE PLAN

EVERGREEN SHRUBS	COMMON NAME
	Glossy Abelia
	Carissa Holly
	Dwarf Japanese Holly

PLANT SCHEDULE OVERALL LANDSCAPE PLAN

CANOPY TREES	COMMON NAME
	October Glory Maple
	White Oak
	Scarlet Oak
	Overcup Oak
	Nuttall Oak
	Willow Oak
	American Elm
	Chinese Elm
	Sawleaf Zelkova

UNDERSTORY TREES	COMMON NAME
	Shantung Maple
	American Hornbeam
	Forest Pansy Redbud
	Keith Davey Chinese Pistache

SITE LEGEND

- SIGNAGE
- YARD LIGHTS
- LIGHT POLE
- POWER POLE
- TRAFFIC DIRECTIONAL ARROW
- ACC — ACCESSIBLE PARKING STALL
- VAN — VAN ACCESSIBLE PARKING STALL
- XX — PARKING SPACE COUNT
- ACCESSIBLE RAMPS (TYPE A, TYPE B, TYPE C)
- ACCESSIBLE ROUTE
- PHASE LINE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- LOT LINE
- EASEMENT LINE
- CENTERLINE
- BUFFER PLANTING SEE SHEET L5.01 FOR TYPICAL SECTIONS

GRAPHIC SCALE
0 50 100 200
1 inch = 100 ft.

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

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CHAMBLEE LAKE
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ZEBULON, NORTH CAROLINA

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1640 JULIE G. YOUNG NOT FOR CONSTRUCTION PURPOSES

REVISIONS

NO.	DATE	
1	07. 28. 2023	PER TOWN COMMENTS

PLAN INFORMATION

PROJECT NO.	DRH-22004
FILENAME	DRH22004-LS1
CHECKED BY	SRD
DRAWN BY	CMXY
SCALE	1"=100'
DATE	11. 01. 2022

SHEET

LANDSCAPE PLAN
L5.00

GENERAL LANDSCAPE NOTES:

1. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TOWN OF ZEBULON AND THE STATE OF NORTH CAROLINA STANDARDS AND SPECIFICATIONS.
2. CONTRACTOR IS RESPONSIBLE FOR THE SITE INSPECTION BEFORE LANDSCAPE CONSTRUCTION AND INSTALLATION IN ORDER TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS.
3. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE BEGINNING DEMOLITION OR INSTALLATION.
4. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BETWEEN THE NOTES, SPECIFICATIONS, DRAWINGS OR SITE CONDITIONS FOR RESOLUTION PRIOR TO INSTALLATION.
5. ANY DAMAGE TO UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
6. THIS PLAN IS FOR PLANTING PURPOSES ONLY. FOR INFORMATION REGARDING BUILDINGS, GRADING, WALLS, ETC., REFER TO ARCHITECTURE, SITE AND GRADING PLANS.
7. VERIFICATION OF TOTAL PLANT QUANTITIES AS SHOWN IN THE PLANT SCHEDULE SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT.
8. CONTRACTOR TO ENSURE PROPER STABILIZATION AND SEEDING OF THE SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS.
9. LANDSCAPE MATERIAL SHALL BE WELL FORMED, VIGOROUS, GROWING SPECIMENS WITH GROWTH TYPICAL OF VARIETIES SPECIFIED AND SHALL BE FREE FROM DAMAGE, INSECTS AND DISEASES. MATERIAL SHALL EQUAL OR SURPASS #1 QUALITY AS DEFINED IN THE CURRENT ISSUE OF "AMERICAN STANDARD FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
10. ALL PLANT MATERIAL IS TO BE CAREFULLY HANDLED BY THE ROOT BALL, NOT THE TRUNK, BRANCHES AND/OR FOLIAGE OF THE PLANT. MISHANDLED PLANT MATERIAL MAY BE REJECTED BY THE LANDSCAPE ARCHITECT.
11. ALL PLANT MATERIAL IS TO BE WELL ROOTED, NOT ROOT BOUND, SUCH THAT THE ROOT BALL REMAINS INTACT THROUGHOUT THE PLANTING PROCESS. DEFICIENT PLANT MATERIAL MAY BE REJECTED BY THE LANDSCAPE ARCHITECT OR OWNER.
12. ALL PLANTS TO BE A MINIMUM OF WHAT IS SPECIFIED IN THE PLANT SCHEDULE. ANY CHANGES OR SUBSTITUTIONS SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT AND GOVERNING JURISDICTION PRIOR TO ANY HOLE BEING DUG.
13. CONTRACTOR TO COORDINATE WITH OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT TO ESTABLISH THE EXTENTS OF MULCH/SEED/SOD IF NOT SPECIFICALLY SHOWN ON PLANS.
14. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE IN ALL PLANTING AREAS.
15. PROPOSED TREES TO BE PLANTED A MINIMUM 10 FEET FROM ANY LIGHT POLE AS MEASURED FROM TRUNK OF THE TREE TO THE POLE.
16. PROPOSED TREES TO BE PLANTED A MINIMUM 5 FEET FROM ANY FIRE HYDRANT AS MEASURED FROM TRUNK OF THE TREE TO THE HYDRANT.
17. CONTRACTOR SHALL COMPLETE SOIL TEST IN ALL PLANTING AREAS TO DETERMINE SOIL AMENDMENT REQUIREMENTS UNLESS WAIVED BY OWNER'S REPRESENTATIVE. CONTRACTOR SHALL ADJUST PH AND FERTILITY BASED UPON THE SOIL TEST RESULTS.
18. TOPSOIL SHALL BE FREE OF MATERIAL LARGER THAN 1.0 INCH IN DIAMETER OR LENGTH AND SHALL NOT CONTAIN SLAG, CINDERS, STONES, LUMPS OF SOIL, STICKS, ROOTS, TRASH, OR OTHER EXTRANEOUS MATERIAL.
19. LOOSEN SUBGRADE / SURFACE SOIL TO A MINIMUM DEPTH OF 6 INCHES. APPLY SOIL AMENDMENTS AND FERTILIZERS AS REQUIRED BY THE SOIL TEST RESULTS TO ACHIEVE A HEALTHY GROWING MEDIA AND MIX THOROUGHLY INTO TOP 4 INCHES OF SOIL. SPREAD PLANTING SOIL MIX TO A DEPTH OF 6 INCHES BUT NOT LESS THAN REQUIRED TO MEET FINISH GRADES AFTER NATURAL SETTLEMENT. DO NOT SPREAD IF PLANTING SOIL OR SUBGRADE IS FROZEN, MUDDY, OR EXCESSIVELY WET.
20. IF IMPORTED TOPSOIL IS REQUIRED, THE SUBGRADE SHALL BE SCARIFIED OR TILLED TO A DEPTH OF AT LEAST 6 INCHES PRIOR TO INSTALLATION OF IMPORTED TOPSOIL. FOLLOWING INSTALLATION OF IMPORTED TOPSOIL, THE TOPSOIL SHALL BE TILLED TO INTEGRATE THE SOIL PROFILES.
21. PLANT MATERIALS ARE TO BE GUARANTEED FOR A PERIOD OF 12 MONTHS. PLANT MATERIALS WHICH REMAIN UNHEALTHY WILL BE REPLACED BY THE LANDSCAPE CONTRACTOR BEFORE THE EXPIRATION OF THE GUARANTEE PERIOD OR IMMEDIATELY IF SO DIRECTED BY THE OWNER'S REPRESENTATIVE OR LANDSCAPE ARCHITECT.
22. ALL TREE PLANTINGS SHALL BE MULCHED TO A DEPTH OF 3 INCHES, AND WITH A MINIMUM 3 FOOT RADIUS FROM BASE OF TREE OR TO DRIPLINE. MULCH SHALL BE FREE OF TRASH AND MAINTAINED WEED FREE. MULCH SHALL NOT COVER THE ROOT FLARE. CONFIRM MULCH SPECIFICATIONS WITH OWNER'S REPRESENTATIVE OR LANDSCAPE ARCHITECT.
23. DO NOT PRUNE TREES AND SHRUBS BEFORE DELIVERY. PROTECT BARK, BRANCHES, AND ROOT SYSTEMS FROM SUN SCALD, DRYING, SWEATING, WHIPPING, AND OTHER HANDLING AND TYING DAMAGE. DO NOT BEND OR BIND-TIE TREES OR SHRUBS IN SUCH A MANNER AS TO DESTROY THEIR NATURAL SHAPE. PROVIDE PROTECTIVE COVERING OF EXTERIOR PLANTS DURING DELIVERY. DO NOT DROP EXTERIOR PLANTS DURING DELIVERY AND HANDLING.
24. DELIVER EXTERIOR PLANTS AFTER PREPARATIONS FOR PLANTING HAVE BEEN COMPLETED AND INSTALL IMMEDIATELY. IMMEDIATELY AFTER UNLOADING, STAND THE TREES UP TO REDUCE THE RISK OF SUN SCALD. PROPERLY STAGED TREES ARE STANDING, UNTIED AND SPACED. UNLESS IMMEDIATELY INSTALLED, SET EXTERIOR PLANTS AND TREES IN SHADE, PROTECT FROM WEATHER AND MECHANICAL DAMAGE, AND KEEP ROOTS MOIST.
25. SEE LANDSCAPE DETAILS FOR TREE STAKING REQUIREMENTS.
26. EXCAVATE EDGES OF ALL PLANTING BEDS TO 2 INCH DEPTH TO FORM A NEAT AND CRISP DEFINITION.
27. CONTRACTOR SHALL REMOVE DEBRIS AND FINE GRADE ALL PLANTING AREAS PRIOR TO INSTALLATION.
28. REMOVE GUY WIRES AND STAKES AT END OF WARRANTY PERIOD OR ESTABLISHMENT.
29. FINISH GRADING: GRADE PLANTING AREAS TO A SMOOTH, UNIFORM SURFACE PLANE WITH LOOSE, UNIFORMLY FINE TEXTURE. GRADE TO WITHIN PLUS OR MINUS 1/2 INCH OF FINISH ELEVATION. ROLL AND RAKE, REMOVE RIDGES, AND FILL DEPRESSIONS TO MEET FINISH GRADES. LIMIT FINISHED GRADING TO AREAS THAT CAN BE PLANTED IN THE IMMEDIATE FUTURE.
30. STRUCTURAL SOILS REQUIRED FOR LANDSCAPE ISLANDS AND STRIPS LOCATED IN PARKING AREAS PER SECION 5.6.9.B.7 OF THE ZEBULON UDO.

WARRANTY & MAINTENANCE:

1. WARRANTY: INSTALLER SHALL REPAIR OR REPLACE ANY PLANTINGS THAT FAIL IN MATERIALS, WORKMANSHIP, OR GROWTH WITHIN ONE YEAR AFTER THE DATE OF SUBSTANTIAL COMPLETION. FAILURES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
   - DEATH AND UNSATISFACTORY GROWTH, EXCEPT FOR DEFECTS RESULTING FROM LACK OF ADEQUATE MAINTENANCE, NEGLECT, ABUSE BY OWNER, OR INCIDENTS THAT ARE BEYOND CONTRACTOR'S CONTROL.
   - STRUCTURAL FAILURES INCLUDING PLANTINGS FALLING OR BLOWING OVER.
2. MAINTENANCE: INITIAL MAINTENANCE SHALL BE PROVIDED IMMEDIATELY AFTER EACH AREA IS PLANTED AND CONTINUE UNTIL SUBSTANTIAL COMPLETION. UPON SUBSTANTIAL COMPLETION, MAINTENANCE FOR ALL PLANT MATERIAL SHALL BE PROVIDED FOR ONE YEAR AT A MINIMUM SHALL INCLUDE:
   - TREE AND SHRUB MAINTENANCE: MAINTAIN PLANTINGS BY PRUNING, CULTIVATING, WATERING, WEEDING, FERTILIZING, RESTORING PLANTING SAUCERS, AND RESETTING TO PROPER GRADES OR VERTICAL POSITION, AS REQUIRED TO ESTABLISH HEALTHY, VIABLE PLANTINGS. SPRAY OR TREAT AS REQUIRED TO KEEP TREES AND SHRUBS FREE OF INSECTS AND DISEASE.
   - GROUND COVER AND PLANT MAINTENANCE: MAINTAIN AND ESTABLISH PLANTINGS BY WATERING, WEEDING, FERTILIZING, MULCHING, AND OTHER OPERATIONS AS REQUIRED TO ESTABLISH HEALTHY, VIABLE PLANTINGS.
   - PROTECT EXTERIOR PLANTS FROM DAMAGE DUE TO LANDSCAPE OPERATIONS, OPERATIONS BY OTHER CONTRACTORS AND TRADES, AND OTHERS. MAINTAIN PROTECTION DURING INSTALLATION AND MAINTENANCE PERIODS. TREAT, REPAIR, OR REPLACE DAMAGED PLANTINGS.

LANDSCAPE CALCULATIONS

STREET TREES

STREET NAME A — 5473 LF
TREES
REQUIRED: 110 (1/50 LF)
PROVIDED: 110

STREET NAME B — 3647 LF
TREES
REQUIRED: 73 (1/50 LF)
PROVIDED: 73

STREET NAME C — 2549 LF
TREES
REQUIRED: 51 (1/50 LF)
PROVIDED: 51

STREET NAME D — 284 LF
TREES
REQUIRED: 6 (1/50 LF)
PROVIDED: 6

STREET NAME E — 3261 LF
TREES
REQUIRED: 66 (1/50 LF)
PROVIDED: 66

STREET NAME F — 741 LF
TREES
REQUIRED: 15 (1/50 LF)
PROVIDED: 15

STREET NAME G — 1564 LF
TREES
REQUIRED: 32 (1/50 LF)
PROVIDED: 32

STREET NAME H — 3354 LF
TREES
REQUIRED: 68 (1/50 LF)
PROVIDED: 68

STREET NAME I — 292 LF
TREES
REQUIRED: 6 (1/50 LF)
PROVIDED: 6

STREET NAME J — 353 LF
TREES
REQUIRED: 8 (1/50 LF)
PROVIDED: 8

STREET NAME K — 986 LF
TREES
REQUIRED: 20 (1/50 LF)
PROVIDED: 20

STREET NAME L — 816 LF
TREES
REQUIRED: 17 (1/50 LF)
PROVIDED: 17

STREET NAME M — 589 LF
TREES
REQUIRED: 12 (1/50 LF)
PROVIDED: 12

CHAMBLEE ROAD** — 3125 LF
TREES
REQUIRED: 125 (1/25 LF)
PROVIDED: 125

**NOTE: STREET TREES ON CHAMBLEE ROAD ARE LOCATED WITHIN NCDOT RIGHT-OF-WAY AND SHALL BE IN ACCORDANCE WITH NCDOT STANDARDS AND CLEAR ZONE REQUIRMENTS. ALL PLANTINGS IN MEDIAN ARE SUBJECT TO REVIEW AND APPROVAL BY NCDOT.

VEHICLE USE AREAS:

VISITOR PARKING AREAS: 38 TOTAL SPACES

CANOPY TREES:
REQUIRED: = 4 [1 CANOPY TREE PER 12 SPACES]
PROVIDED: = 8

SHRUBS:
PROVIDED: = SINGLE CONTINUOUS ROW OF EVERGREEN SHRUBS

SOIL:
REQUIRED: = 1,000 CUBIC FEET OF SOIL PER TREE FOR EVERY LANDSCAPE ISLAND WITH PROPERLY-PREPARED STRUCTURAL SOIL FOR ALL LANDSCAPE ISLANDS AND STRIPS

MEDIAN PLANTING:

MEDIANS WILL BE PLANTED WITH THE FOLLOWING STANDARD:

1 UNDERSTORY TREE AND 15 SHRUBS PER 100 LINEAR FEET.

NOTE: ALL PLANTINGS IN MEDIAN ARE SUBJECT TO REVIEW AND APPROVAL BY NCDOT.

BUILDING LANDSCAPE REQUIREMENTS:

TOWNHOMES

1 TREE (UNDERSTORY OR CANOPY) OR 2 ORNAMENTAL TREES PER LOT

TO AVOID UTILITY AND DRIVEWAY CONFLICTS WITHIN TOWNHOME AREAS, REQUIRED RESIDENTIAL SITE LANDSCAPING MAY BE LOCATED EITHER ON THE TOWNHOME LOT ITSELF OR WITHIN NEARBY HOA OWNED COMMON AREAS

SINGLE FAMILY - FRONT LOADED

1 CANOPY TREE AND 1 UNDERSTORY TREE

SINGLE FAMILY - REAR LOADED

2 UNDERSTORY TREES

FOUNDATION PLANTINGS

ALL RESIDENTIAL LOTS SHALL HAVE APPROPRIATE SHRUBS LOCATED WITHIN 10' OF THE BUILDING FOUNDATION WHICH IS VISIBLE FROM THE STREET, IN ACCORDANCE WITH SECTION 5.6.11.D.1 OF THE UDO

PREFFERED PLANT SPECIES FOR RESIDENTIAL

LARGE DECIDUOUS TREE SPECIES
(INSTALLED AT 2.5" CAL.)

ACER BUERGERANUM – TRIDENT MAPLE
NYSSA SYLVATICA 'GREEN GABLE' – BLACK GUM
QUERCUS ALBA – WHITE OAK
QUERCUS LYRATA – OVERCUP OAK
QUERCUS NIGRA – WATER OAK
QUERCUS PHELLOS – WILLOW OAK
ULMUS PARVIFOLIA – LACEBARK ELM

SMALL EVERGREEN TREE SPECIES
(INSTALLED AT 5–6' HT)

ILEX X 'EMILY BRUNER' – EMILY BRUNER HOLLY
ILEX X 'NELLIE R STEVENS' – NELLIE STEVENS HOLLY
ILEX X ATTENUATA 'FOSTERI' – FOSTER HOLLY
ILEX VOMITORIA – YAUPON HOLLY
JUNIPERUS CHINENSIS 'SPARTAN' – SPARTAN JUNIPER
VIBURNUM AWABUKI 'CHINDO' – CHINDO VIBURNUM

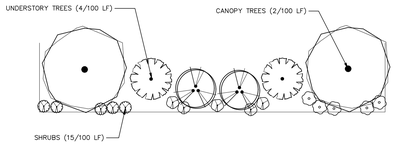
SMALL SHRUB SPECIES
(INSTALLED AT 18" HT. MIN.)

ABELIA X GRANDIFLORA – ABELIA CULTIVARS
BUXUS SP. – BOXWOOD SPECIES
ILEX SP. – HOLLY SPECIES (CARRISSA, GLABRA, YAUPON, ETC.)
PRUNUS LAUROCERASUS SPP. – ENGLISH LAUREL CULTIVARS
RHAPHIOLEPSIS SPP. – INDIAN HAWTHORN CULTIVARS

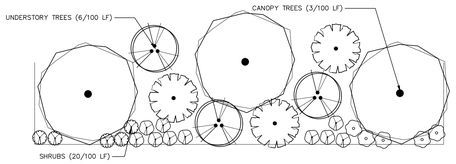
PLANT SCHEDULE OVERALL LANDSCAPE PLAN

CANOPY TREES	CODE	QTY	COMMON NAME	BOTANICAL NAME	CAL
	ARO	73	October Glory Maple	Acer rubrum 'October Glory' TM	2.5"
	QAW	37	White Oak	Quercus alba	2.5"
	QCS	57	Scarlet Oak	Quercus coccinea	2.5"
	QLO	34	Overcup Oak	Quercus lyrata	2.5"
	QNN	108	Nuttall Oak	Quercus nuttallii	2.5"
	QPW	6	Willow Oak	Quercus phellos	2.5"
	UAP	58	American Elm	Ulmus americana 'Princeton'	2.5"
	UPC	105	Chinese Elm	Ulmus parvifolia	2.5"
	ZSG	12	Sawleaf Zelkova	Zelkova serrata 'Green Vase'	2.5"

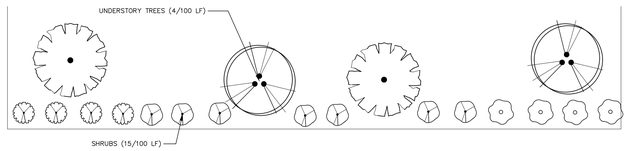
EVERGREEN SHRUBS	CODE	QTY	COMMON NAME	BOTANICAL NAME	HEIGHT
	AGEG	76	Glossy Abelia	Abelia x grandiflora 'Edward Goucher'	18"
	ICCC	49	Carissa Holly	Ilex cornuta 'Carissa'	18"
	ICCD	130	Dwarf Japanese Holly	Ilex crenata 'Compacta'	18"



20' TYPE 'B' BUFFER
NOT TO SCALE



30' STREETSCAPE BUFFER
NOT TO SCALE



10' SCM BUFFER
NOT TO SCALE

NOTE: ALL LANDSCAPING SURROUNDING THE SCM SHALL MEET THE TYPE A BUFFER STANDARD PER SECTION 5.6.19 OF THE UDO. ALL PLANTINGS WITHIN THE POND AREA SHALL MEET THE RECOMMENDATIONS OF THE NC STATE EXTENSION OFFICE FOR STORMWATER WETLAND CONSTRUCTION.

BUFFER PLANT SPECIES

LARGE DECIDUOUS TREES

QUERCUS PALUSTRIS - PIN OAK
QUERCUS RUBRA - RED OAK
QUERCUS BICOLOR - SWAMP WHITE OAK
BETULA NIGRA - RIVER BIRCH
LIRIODENDRON TULIPIFERA - TULIP POPLAR
NYSSA SYLVATICA - BLACK TUPELO
ACER RUBRUM - RED MAPLE
TAXODIUM DISTICHUM

EVERGREENS

ILEX X 'NELLIE STEVENS' - NELLIE STEVENS HOLLY
MAGNOLIA GRANDIFLORA - SOUTHERN MAGNOLIA
JUNIPERUS VIRGINIANA - EASTERN REDCEDAR
ILEX OPACA - AMERICAN HOLLY
PINUS TAEDA - LOBLOLLY PINE
CUPRESSUS ARIZONICA - ARIZONA CYPRESS

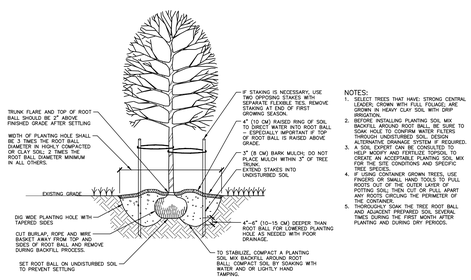
SMALL DECIDUOUS TREES

CERCIS CANADENSIS - RED BUD
CORNUS KOUSA - DOGWOOD
CARPINUS CAROLINA - EASTERN HORNBEAM
AMELANCHIER ARBOREA - SERVICEBERRY
CORNUS FLORIDA - EASTERN FLOWERING DOGWOOD
CHIONANTHUS VIRGINICUS - FRINGETREE

SHRUBS

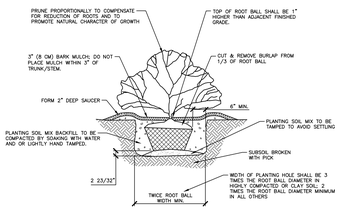
ILEX SPECIES
OSMANTHUS FRAGRANS - TEA OLIVE
CAMELLIA JAPONICA - CAMELLIA
MYRICA CERIFERA - SOUTHERN WAX MYRTLE
CHAMAECYPARIS PISIFERA - THREADLEAF FALSECYPRESS
LINDERA BENZOIN - SPICEBUSH
HYDRANGEA QUERCIFOLIA - OAKLEAF HYDRANGEA
VIBURNUM AWABUKI - CHINDO VIBURNUM

NOTE: ADDITIONAL SPECIES MAY BE ALLOWED AT THE APPROVAL OF THE LANDSCAPE ARCHITECT



NOTES:
1. SELECT TREES THAT HAVE; STRONG CENTRAL LEADER, CROWN WITH FULL FOLIAGE, ARE GROWN IN HEAVY CLAY SOIL WITH DRIP IRRIGATION.
2. BEFORE INSTALLING PLANTING SOIL MIX BACKFILL AROUND ROOT BALL, BE SURE TO SOAK HOLE TO CONFIRM WATER FILTERS THROUGH UNDISTURBED SOIL. DESIGN ADDITIONAL DRAINAGE IF WATER DOES NOT.
3. A SOIL EXPERT CAN BE CONSULTED TO HELP MODIFY AND FERTILIZE TOPSOIL TO MAKE A PLANTING SOIL BACKFILL MIX FOR THE SITE CONDITIONS AND SPECIFIC TREE SPECIES.
4. IF USING CONTAINER GROWN TREES, USE FINGERS OR SMALL HAND TOOLS TO PULL ROOTS AT THE BOTTOM AND SIDES OF ROOTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
5. BACKFILL AROUND THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND DURING DRY PERIODS.

01 TREE INSTALLATION
SCALE: 3/8"=1'-0"



02 SHRUB INSTALLATION
SCALE: 3/8"=1'-0"

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CONCEPT PLAN
1509 CHAMBLEE ROAD
ZEBULON, NORTH CAROLINA

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1540 JOLIE G. YOUNG — FOR REVIEW PURPOSES ONLY NOT FOR CONSTRUCTION

REVISIONS

NO.	DATE	
1	07. 28. 2023	PER TOWN COMMENTS

PLAN INFORMATION

PROJECT NO.	DRH-22004
FILENAME	DRH22004-LS1
CHECKED BY	SRD
DRAWN BY	CMXY
SCALE	N/A
DATE	11. 01. 2022

SHEET

LANDSCAPE NOTES & DETAILS
L5.01

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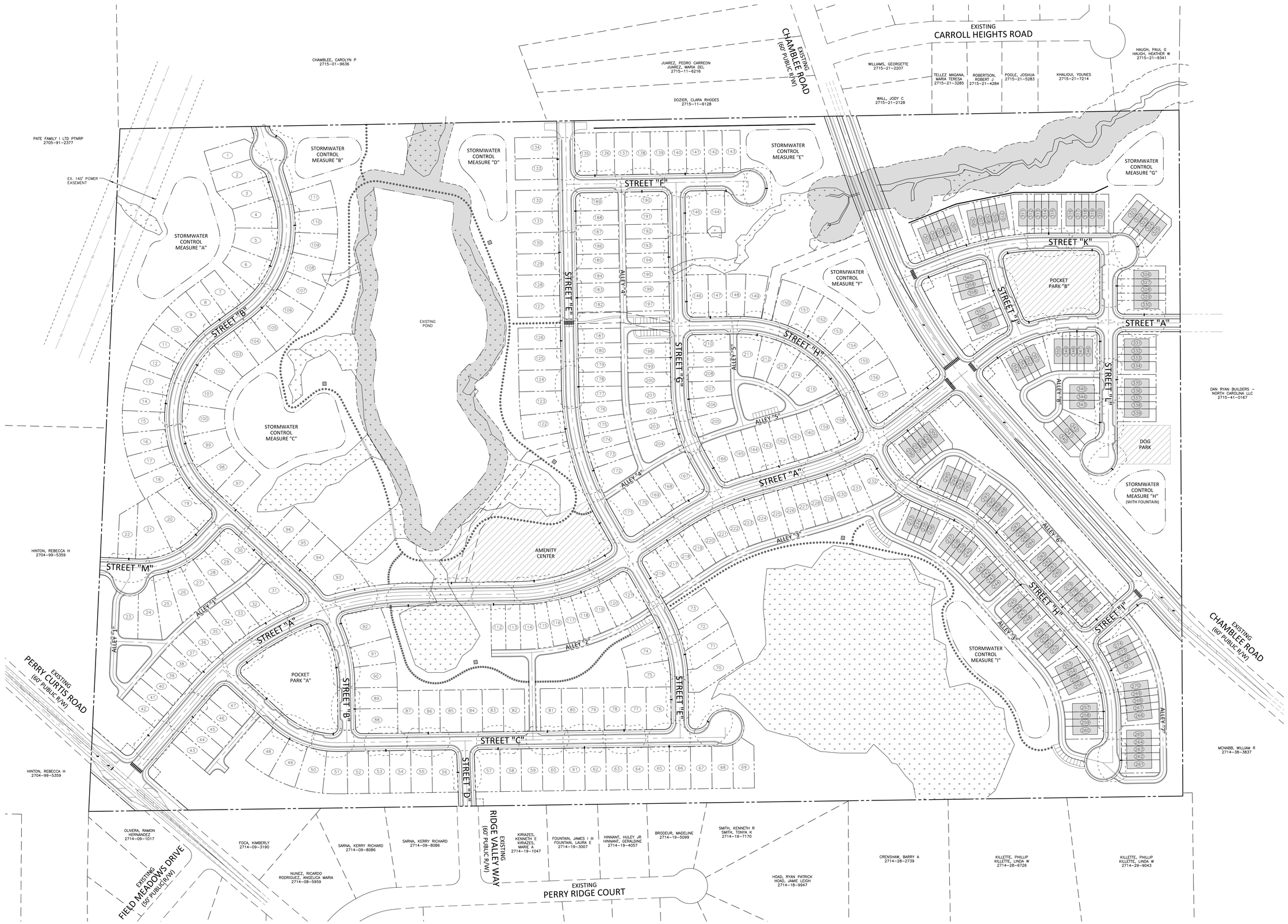

GENERAL NOTES

1. STREET LIGHTS: RESIDENTIAL FIXTURE TYPE - 16' FIBERGLASS POLE IN BLACK OR GREEN WITH TYPE "A" (ACORN) FIXTURE WITH 9500 LUMENS HIGH PRESSURE SODIUM. NO WOOD OR ALUMINUM POLES WILL BE ALLOWED. INSTALLATION MUST BE COORDINATED WITH DUKE PROGRESS ENERGY AND THE TOWN OF ZEBULON PUBLIC WORKS DEPARTMENT.

GRAPHIC SCALE
0 50 100 200
1 inch = 100 ft.

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

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CONTACT: JON HOLTVEDT
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D·R·HORTON America's Builder

CHAMBLEE LAKE
CONCEPT PLAN
1509 CHAMBLEE ROAD
ZEBULON, NORTH CAROLINA

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33828 RYAN C. AKERS
NOT FOR CONSTRUCTION

REVISIONS

NO.	DATE	
1	07. 28. 2023	PER TOWN COMMENTS

PLAN INFORMATION

PROJECT NO.	DRH-22004
FILENAME	DRH22004-LI1
CHECKED BY	RCA
DRAWN BY	RLU
SCALE	1"=100'
DATE	11. 01. 2022

SHEET

LIGHTING PLAN
L6.00

CHAMBLEE LAKE

PLANNED DEVELOPMENT NARRATIVE DOCUMENT

Town of Zebulon
November 1, 2022

TABLE OF CONTENTS

Chamblee Lake Planned Development

Planned Development - Narrative
Document Prepared for The Town of Zebulon

Submittal Dates

First Submittal:	11 /1 /22
Second Submittal:	7/31/23
Third Submittal:	N/A

Developer
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Attorneys & Counselors at Law

1 VISION + INTENT

Images are illustrative in nature and are not intended to be considered or applied as project commitments or concrete representations of project elements.

VISION + INTENT

As referenced in Section 3.5.5 of the Town of Zebulon Unified Development Ordinance, Planned Developments are intended to encourage innovative land planning and site design concepts that support a high quality of life and achieve a high quality of development, environmental sensitivity, energy efficiency, and other Town goals and objectives As shown in the following pages, the Chamblee Lake Planned Development is structured to embody and support excellence in site design, circulation, environmental protection, and compatibility with neighboring properties. The Planned Development process encourages creativity in the design of development, but in return for this flexibility the expectation is for communities to:

- Promote a vibrant public realm by placing increased emphasis on active ground floor uses, pedestrian-oriented building façade design, intensive use of sidewalks, and establishment of public gathering areas.
- Provide for efficient use of land resulting in smaller networks of utilities and streets and thereby lowering development and housing costs.
- Promote quality design and environmentally sensitive development that respects surrounding established land use character and respects and takes advantage of a site's natural and man-made features, such as trees, estuaries, shorelines, special flood hazard area, and historic features.

THE **CHAMBLEE LAKE** PLANNED DEVELOPMENT ADHERES TO THE FOLLOWING LEGISLATIVE CONSIDERATIONS:

How the Planned Development advances the public health, safety, or welfare.

The proposed Planned Development will provide a much-needed supply of housing in a regional market that is chronically undersupplied – resulting in significant housing affordability issues due to skyrocketing home prices. Furthermore, the proposed location of this development will result in a safe and convenient neighborhood within a 5-minute drive to the Zebulon Community Park, and shopping in downtown Zebulon. The development will be within a 10-minute walkable and bikeable drive of Five County stadium, the local police station, and all levels of grade schools. Finally, with over 1/3rd of the gross acreage retained as open space, over 6 miles walking trails, sidewalks, and multi-use paths, outdoor exercise equipment, pollinator plants located throughout the community, and native and non-invasive plant species in the landscaping, the proposed Planned Development will help protect environmental health and promote a more active lifestyle.

How the proposed Planned Development is appropriate for its proposed location, and is consistent with the purposes, goals, objectives, and policies of the Town's adopted policy guidance.

This development abuts a previously approved satellite annexation known as Sidney Creek. Thus, municipal services are already being extended to this area. While Chamblee lake will connect to Sidney Creek and both new residential developments will mesh seamlessly, Chamblee Lake will offer a wider variety of housing options and amenities for residents, enhanced architectural commitments, and more environmental preservation, consistent with the Town's current planning policies. Furthermore, as indicated in Response #1, this site is less than a 10 minute drive to the areas schools and downtown shopping.

The adopted Future Land Use Map designates this area as Suburban Residential (SR) and identifies one of the Primary Land Use Types for Suburban Residential as, "Planned developments that integrate other housing types (e.g., attached residential such as patio homes or townhomes) [in addition to Detached residential dwellings], with increased open space to preserve an overall suburban character." Thus, the proposed Planned Development with a mix of SFD detached dwellings, attached dwellings, and over 1/3rd of gross acreage as open space precisely fits the intended use and place type within the SR FLU designation.

Furthermore, this Planned Development advances the following goals and policies of the Town's adopted Comprehensive Plan:

[**Land Use and Development – Goal 1**] – "A land use allocation and pattern that advances Zebulon's objectives of achiever greater housing variety……..with convenient resident access to schools, recreation, shopping and Services."

- **Supporting Statement(s)**:
    - The site is located within a 5-minute drive to Zebulon Community Park, Downtown Zebulon Shopping, and less than 10 minutes from Fire/EMS and Zebulon elementary, middle, and high school.
    - The proposed development includes a mix of rear-loaded homes SFD homes, front-loaded SFD homes, and Townhomes, providing a variety of housing options to suit different needs.
    - The proximity of this site and it's proposed pedestrian improvements will help support Five County stadium.

THE **CHAMBLEE LAKE** PLANNED DEVELOPMENT ADHERES TO THE FOLLOWING LEGISLATIVE CONSIDERATIONS:

The Planned Development advances the following goals and policies of the Town's adopted Comprehensive Plan:

[**Land Use and Development – Goal 3**] – "Ongoing and effective collaboration between land use and transportation planning to ensure a well-connected community with adequate means and capacity to accommodate multiple forms of circulation between local destinations."

- **Supporting Statement(s):**
  - The proposed Planned Development incorporates a new E-W collector road free of driveways, which will form a direct connection between Chamblee Road and Perry Curtis road to the west. This new route will form a travel alternative for residents traveling between Perry Curtis road and Chamblee Road – one with significantly improved access management and which aligns through the Planned Development directly to the Sidney Creek subdivision to the east.

[**Land Use and Development – Policy C**] – "Emphasize compatible intensities and character when evaluating applications involving more intensive and/or non-residential development near existing homes and neighborhoods.

- **Supporting Statement(s)**:
  - The proposed Planned Development locates its denser Townhome units closer to Chamblee Road, where existing infrastructure is most capable of serving it. Furthermore, the location of townhomes on the east side of Chamblee Road connects to proposed Townhomes to be established as a future phase of the Sidney Creek development. Detached single family home lots are proposed along most of the project perimeter, where the proposed PD abuts existing subdivisions such as the Perry Creek and Fieldcrest Meadow subdivisions to the south. A riparian buffer and additional undisturbed open space is left along the site's northern boundary where it abuts the Carroll Heights subdivision.

[**Land Use and Development – Policy D**] – "Promote land use outcomes that further community objectives for preventing traffic congestion, ensuring more pedestrian- and cyclist-friendly design, and support expanded and viable public transit options."

- **Supporting Statement(s):**
  - As explained under the response for Goal 3 for Land Use and Development, the proposed E-W collector road will be unloaded with driveways and will incorporate on-street parking and a multi-purpose trail/sidepath, enhancing vehicular, bicycle, and pedestrian connectivity. Additional trail networks within the site's open space will further support recreational bicycle and pedestrian use and allow residents to walk or bike to the Five County Stadium through Sidney Creek.

THE CHAMBLEE LAKE PLANNED DEVELOPMENT ADHERES TO THE FOLLOWING LEGISLATIVE CONSIDERATIONS:

The Planned Development advances the following goals and policies of the Town's adopted Comprehensive Plan:

[**Land Use and Development – Policy E**] – "Ensure development design respects the area's environmental assets and resource base, including waterways and their riparian buffers, unique landscapes, and mature tree stands, especially where there is potential for greenway and/or blueway acquisition."

- **Supporting Statement(s):**
  - As proposed the Chamblee Lake Planned Development retains approximately 1/3rd of the site as open space (both passive and active). The site design integrates and provides convenient access to several environmental features, including riparian buffers, over 10 acres of wooded wetlands, and a 5+ acre lake. The main amenity for the development is located along this existing lake, letting the natural environment serve as an extension of and backdrop to this active open space. The site's larger residential lots back up to this lake, with a pedestrian trail network providing access along its perimeter.

[**Land Use and Development – Policy G**] – "Ensure that all residential developments have multiple access points for public safety reasons and circulation options."

- **Supporting Statement(s):**
  - The proposed Planned Development has multiple access points along Chamblee Road, connects to a future phase of the Sidney Creek approved development to the east, and connects to Perry Curtis Road via a direct connection, as well as an existing stub of Ridge Valley Way to the south. Roadway stubs will also be provided in 2 locations along the northern property boundary - to be extended by future development.

[**General Policy – G1]** – "Land uses should not detract from the enjoyment or value of neighboring properties."

- **Supporting Statement(s):**
  - All proposed uses are residential in nature, abutting existing residential uses or vacant land. At a minimum, a Type B buffer (20' width) is provided along the project perimeter (either as preserved vegetation or new plantings). Where the site abuts Perry Ridge Ct to the south, enhanced buffers are provided with fencing where existing vegetation is not present. In addition, the project will provide an enhanced Type C Streetscape Buffer (30' wide) on Chamblee Rd to soften views of the neighborhood from the road and maintain a small town feel for passerby.

[**General Policy – G3**] – "Adequate transportation access and circulation should be provided for uses that generate large numbers of trips. Pedestrian and bicycle access should be addressed where appropriate."

- **Supporting Material:**
  - The proposed Planned Development incorporates a new E-W collector road free of driveways, which will form a direct connection between Chamblee Road and Perry Curtis road to the west. The proposed E-W collector road will incorporate on-street parking and a multi-purpose trail/sidepath, enhancing vehicular, bicycle, and pedestrian connectivity.
  - Sidewalks shall be provided along all proposed streets and off-street pedestrian trails shall be provided to improve access to the site's natural features and active open spaces.

THE CHAMBLEE LAKE PLANNED DEVELOPMENT ADHERES TO THE FOLLOWING LEGISLATIVE CONSIDERATIONS:

The Planned Development advances the following goals and policies of the Town's adopted Comprehensive Plan:

[**General Policy – G6**] – "Environmentally sensitive areas should be protected, including wildlife habitat areas."

- **Supporting Statement(s):**
  - The proposed site design avoids any new vehicular crossings of riparian buffers, as well as works around a significant (>10 acre) wetland area in the southeastern portion of the site. Pedestrian access is provided to these areas to allow for community enjoyment and exposure to nature, but otherwise they are left undisturbed.

[**Residential Policy – R1**] – "Residential areas should not be located next to heavy industrial areas."

- **Supporting Statement(s):**
  - All adjacent zoning and existing uses are residential or agricultural in nature. No industrial areas are located adjacent to the proposed planned development.

[**Residential Policy – R3**] – "Schools, parks and community facilities should be located close to or within residential neighborhoods.

- **Supporting Statement(s):**
  - The site has over 4 acres of private/active open space proposed within the residential neighborhood.
  - The site is within a 5-minute drive to Zebulon Community Park, Downtown Zebulon Shopping.
  - The site is less than a 10-minute drive to Fire/EMS & elementary, middle, and high schools.

[**Residential Policy – R4**] – "Houses should have direct access to local residential streets but not to collector streets or thoroughfares.

- **Supporting Statement(s):**
  - No driveways are located along the site's proposed E-W collector road. All dwelling units have direct access to a local residential street or an alley.

[**Residential Policy – R7**] – "New residential developments should include adequate area for parks and recreation facilities, schools and places of worship.

- **Supporting Statement(s)**:
  - The site has over 40 acres open spaces, including over 3 acres of private, active open space.

[**Parks and Open space Policy – P5**] – "Natural features should be used as buffers or preserved open space between or around developed areas."

- **Supporting Statement(s):**
  - The proposed Planned Development utilizes both riparian buffers and wooded woodlands to provide natural buffers between developed areas.

THE **CHAMBLEE LAKE** PLANNED DEVELOPMENT ADHERES TO THE FOLLOWING LEGISLATIVE CONSIDERATIONS:

How the proposed Planned Development is reasonable and in the public interest.

As indicated in the previous response statements, the proposed uses and density is aligned with the adopted Future Land Use Map and place types intended for the suburban residential designation. The site is adjacent to an large existing satellite annexation, meaning urban services have already been extended to this area and the extension of those services to this development will not incur any disproportionate ongoing costs to service agencies (police, fire, public works, etc.). Finally, the site protects a significant amount of natural areas, while providing an east-west collector road free of driveways to facilitate connectivity and ease the amount of traffic utilizing a portion of Perry Curtis road which does not have nearly as good access management as the proposed development.

How the proposed Planned Unit Development provides for innovative land planning and site design concepts that support a high quality of life and achieve a high quality of development, environmental sensitivity, energy efficiency, and other Town goals and objectives.

The proposed Planned Development utilizes the natural features of the site as an asset to be built around, rather than as an obstacle to overcome. The site design integrates and provides convenient access to several environmental features, including riparian buffers, over 10 acres of wooded wetlands, and a 5+ acre lake. The main amenity for the development is located along this existing lake, letting the natural environment serve as an extension of and backdrop to this active open space. The site's larger residential lots back up to this lake, with a pedestrian trail network providing access along its perimeter. Existing wetlands and riparian buffers are preserved and used along the northern and southern property boundaries as natural perimeter buffers.

The proposed E-W collector street provides improved access and connectivity at a scale that does not split the community in terms of pedestrian cross-access. Furthermore, the absence of driveways along this collector street allows for a much more aesthetically pleasing and pedestrian friendly streetscape for the development's primary connecting street.

How the how the proposed planned unit development provides improved means of access, open space, and design amenities.

The proposed layout provides 4 points of access along Chamblee Road, 3 local street stubs to be extended when future development is proposed, a connection which aligns with the proposed Sidney Creek street layout to the east and will provide direct access to Chamblee Road for this adjacent development, and a new collector street forming a direct connection between Chamblee Road and Perry Curtis Road.

Active open spaces are distributed throughout the development for convenient access and are located along the site's major internal roadway. The main amenity utilizes the large existing lake as a significant site feature. Architectural design standards are proffered for the development, as outlined in the Planned Development document.

THE CHAMBLEE LAKE PLANNED DEVELOPMENT ADHERES TO THE FOLLOWING LEGISLATIVE CONSIDERATIONS:

How the proposed Planned Unit Development provides a well-integrated mix of residential and nonresidential land uses in the same development, including a mix of housing types, lot sizes, and densities.

Due to the future land use plan's 'Suburban Residential' designation for this area, non-residential land uses are not included in the overall layout. However, the site does include a mix of housing types, lot sizes, lot orientations, and densities in the form of single family detached dwellings and townhomes. Details on dimensional standards for the sites different residential products are contained in a later section of this document.

How the proposed Planned Unit Development creates a system of incentives for redevelopment and infill in order to revitalize established areas.

The proposed development is primarily surrounded by vacant land, creating an incentive for 'development' rather than ''redevelopment', as roadway and utility extensions included as part of this project make adjacent development more viable, including desired commercial development surrounding the Five County Stadium. Proposed water line extensions to be carried out by the developer from Chamblee Road to NC 96 to the west would support redevelopment opportunities in the future.

How the proposed Planned Unit Development promotes a vibrant public realm by placing increased emphasis on active ground floor uses, pedestrian-oriented building façade design, intensive use of sidewalks, and establishment of public gathering areas.

The layout for the proposed development is intentional in terms of its creation of public gathering areas in the form of active and passive open spaces. The primary amenity is centrally located within the development along the site's primary internal road and backing up to a large lake. This amenity will serve as the heart of this neighborhood, where both formal and informal events are held.

In addition to the site's active open spaces, the proposed Planned Development will have an extensive pedestrian trail system that facilitates the use of it's public gathering areas. All local new roads shall have sidewalks on both sides.

How the proposed Planned Unit Development provides for efficient use of land resulting in smaller networks of utilities and streets and thereby lowering development and housing costs.

The proposed layout preserves approximately 1/3rd of its acreage as passive or active open space. The result of this type of layout is a more condensed development pattern with smaller lots served by less linear feet of infrastructure, surrounded by a significant amount of common open space in lieu of larger individual yards. The interconnected road network is only limited by the numerous environmental features which this site must accommodate.

THE **CHAMBLEE LAKE** PLANNED DEVELOPMENT ADHERES TO THE FOLLOWING LEGISLATIVE CONSIDERATIONS:

How the the proposed Planned Unit Development provides quality design and environmentally sensitive development that respects surrounding established land use character and respects and takes advantage of a site's natural and man-made features, such as trees, estuaries, shorelines, special flood hazard area, and historic features.

As mentioned in previous responses, the site design preserves and provides convenient access to several environmental features, including riparian buffers, over 10 acres of wooded wetlands, and a 5+ acre lake. The main amenity for the development is located along this existing lake, letting the natural environment serve as an extension of and backdrop to this active open space. The site's larger residential lots back up to this lake, with a pedestrian trail network providing access along its perimeter.

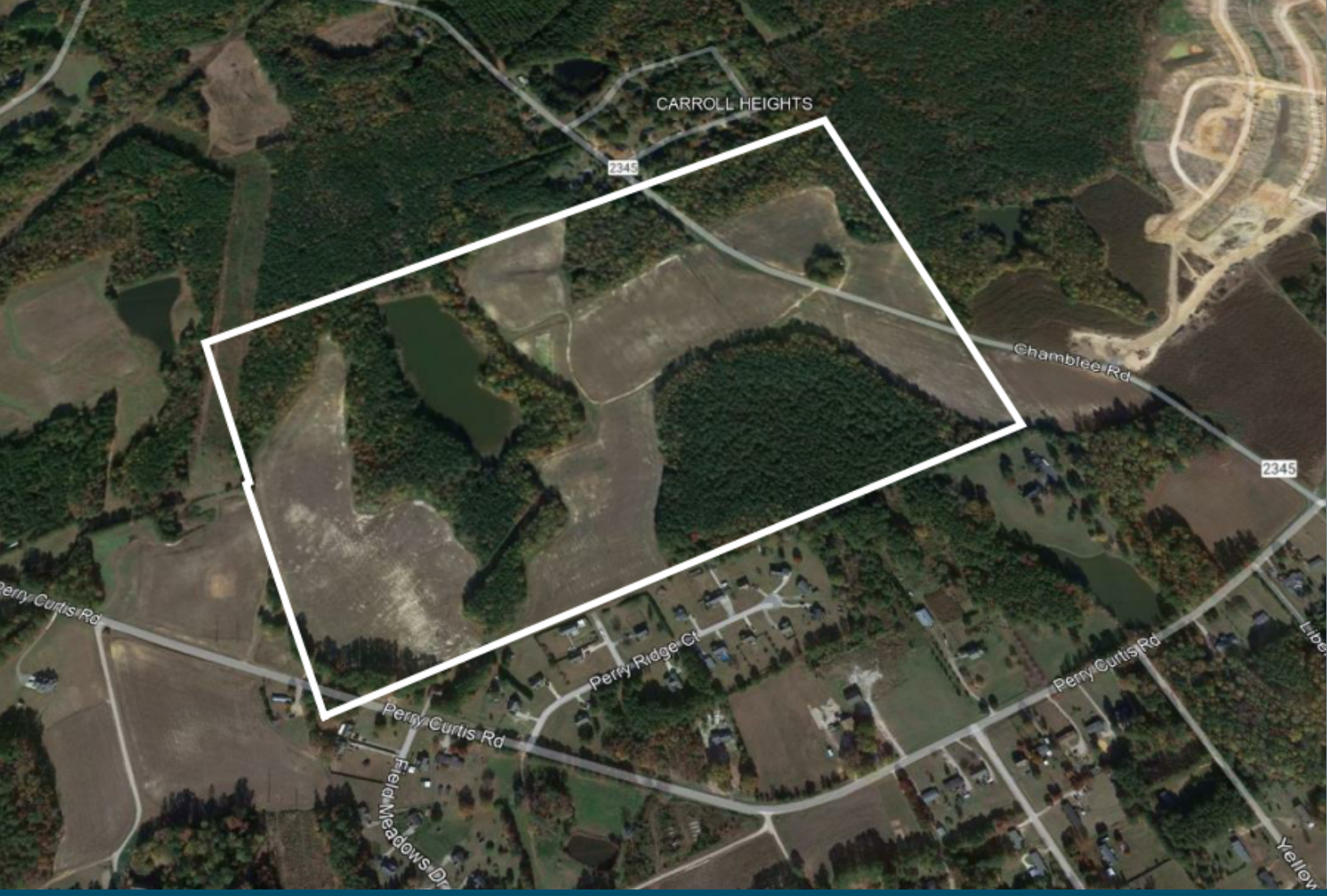
Existing wetlands and riparian buffers are preserved and used along the northern and southern property boundaries in locations as natural perimeter buffers. Where these existing features are not present along the project perimeter, a minimum Type B Buffer is proposed.

To better align with nearby development, the site's Townhomes are clustered on the eastern side of the development, adjacent to approved Townhomes to be built as part of the Sidney Creek development.

Other factors as the Board of Commissioners may determine to be relevant.

The inclusion of some front-loaded townhomes within the development helps create a more diverse and economically resilient residential offering and supports housing affordability by avoiding costs associated with rear-loaded alleys within this segment. While the majority of proposed Townhomes are rear loaded, including a smaller percentage of front-loaded homes allows select lots to protect and enjoy riparian buffers to the rear and provides the opportunities for back yard for home buyers prioritizing this feature.

Please refer to the associated Planned Development document for more information on proposed architectural conditions.

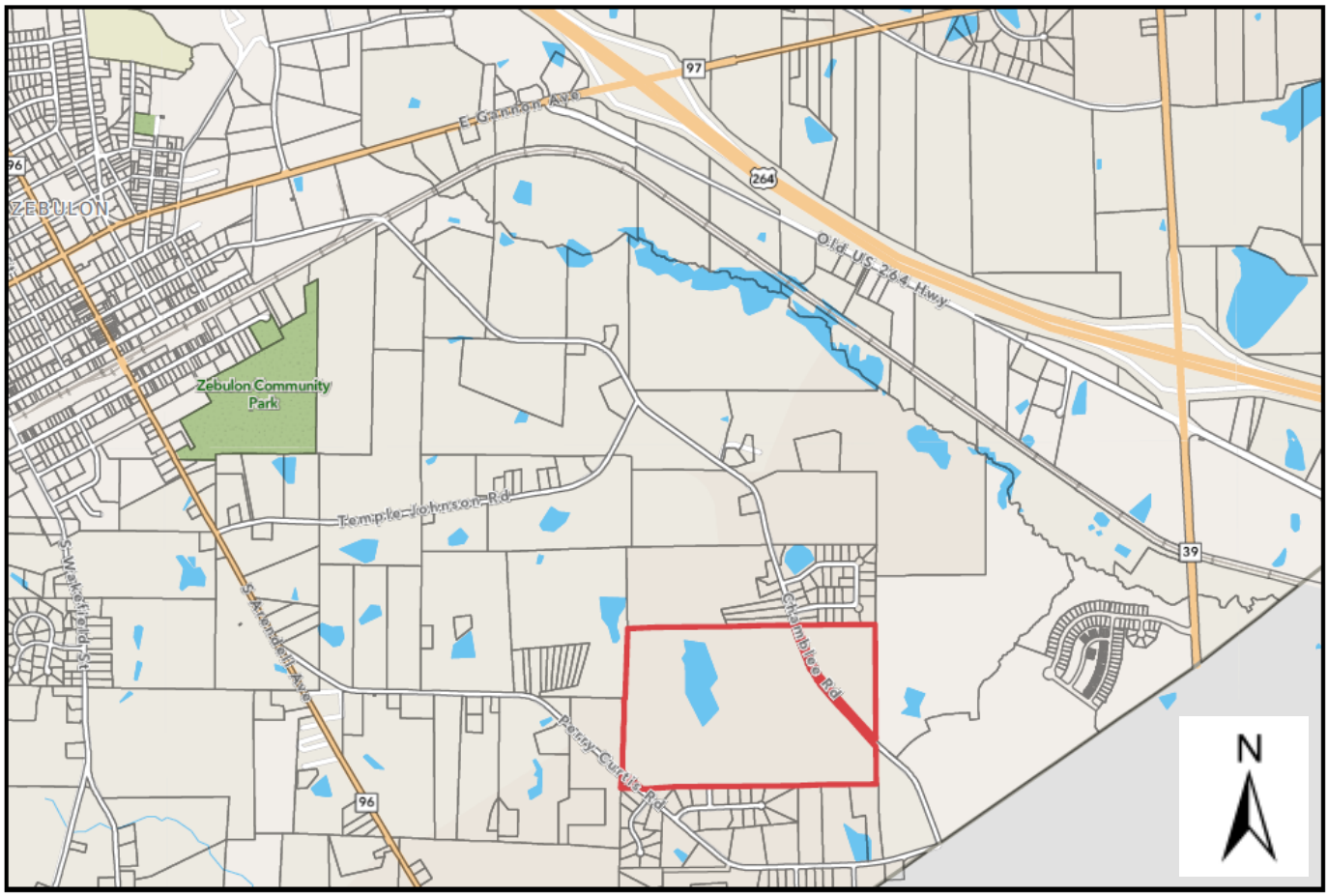


2 EXISTING CONDITIONS

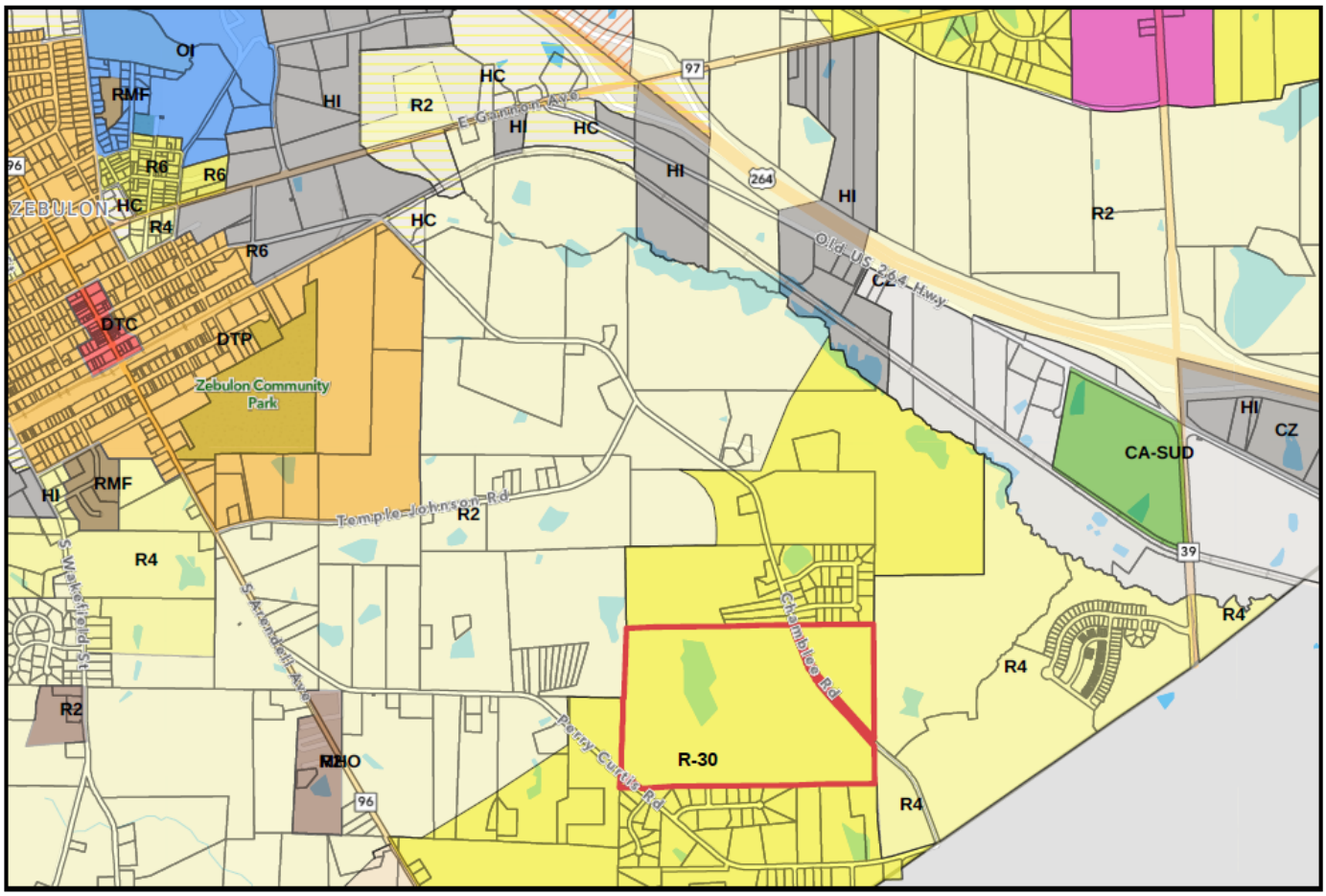
EXISTING CONDITIONS SUMMARY

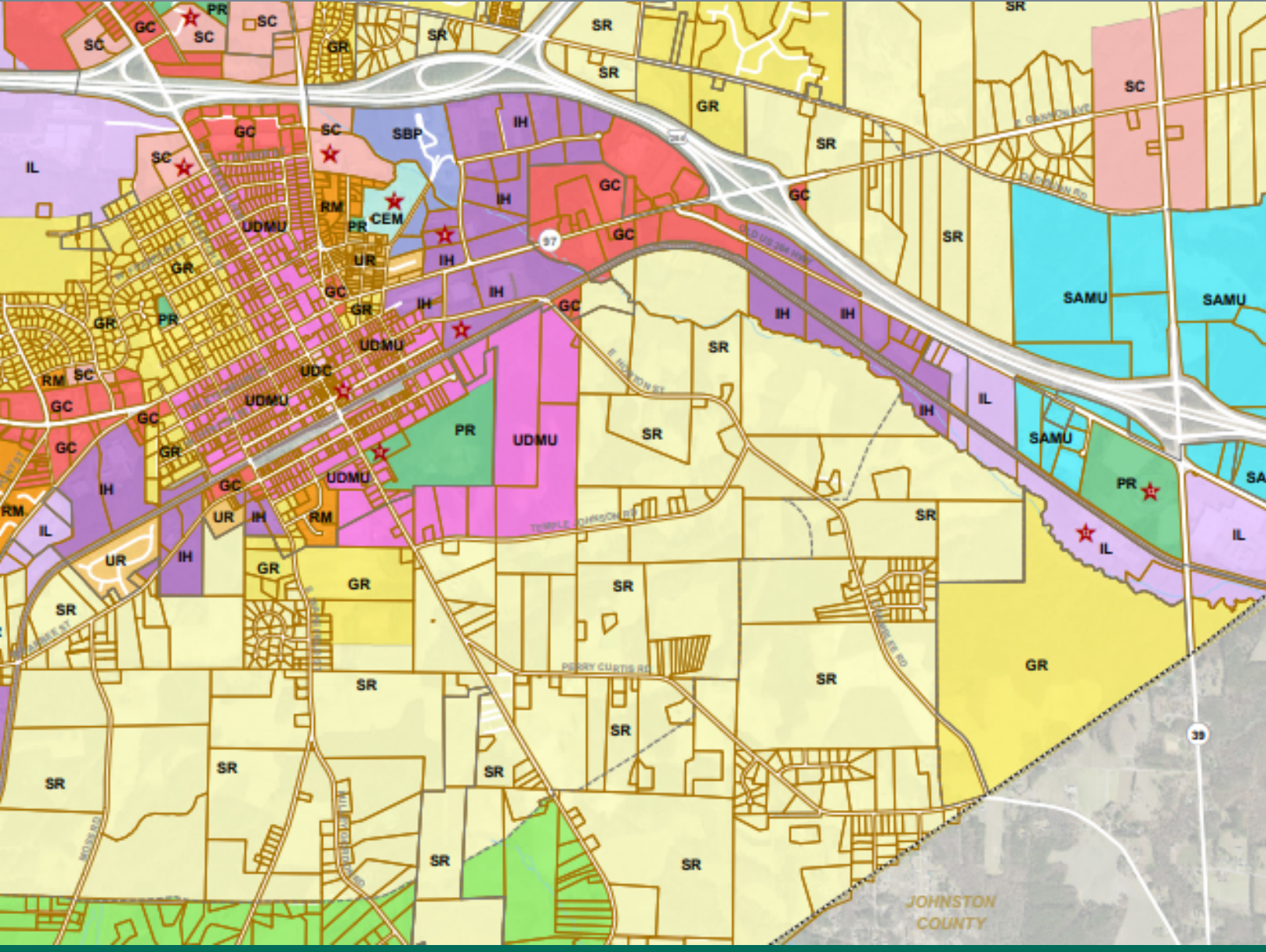
The Chamblee Lake Planned Development is located on a single parcel (+/- 136-acres) near the intersection of Chamblee Rd and Perry Curtis Road ,along the southeastern boundary of Zebulon's zoning jurisdiction. The site is currently in Wake County's zoning jurisdiction, but a petition for annexation accompanies this rezoning request. The parcel is divided by Chamblee Road, with the majority of the site located to the west of Chamblee Road. The site is located generally between Snipes Creek to the west and Little Creek (west side) to the east, with both riparian buffers and jurisdcitional wetlands on site. The most prominent environmental features include a +/- 6 acre pond located on the western side of Chamblee Road and a 10+ acre wetland area located along the southern property line. This project is free of any floodplain. The site generally slopes eastwards towards Little Creek, with some internal variation within the boundary. Two jurisdictional streams will be preserved during development with no vehicular stream crossings proposed. Current land cover includes large stands of trees and cleared fields used for agricultural purposes.

VICINITY MAP



CURRENT ZONING MAP





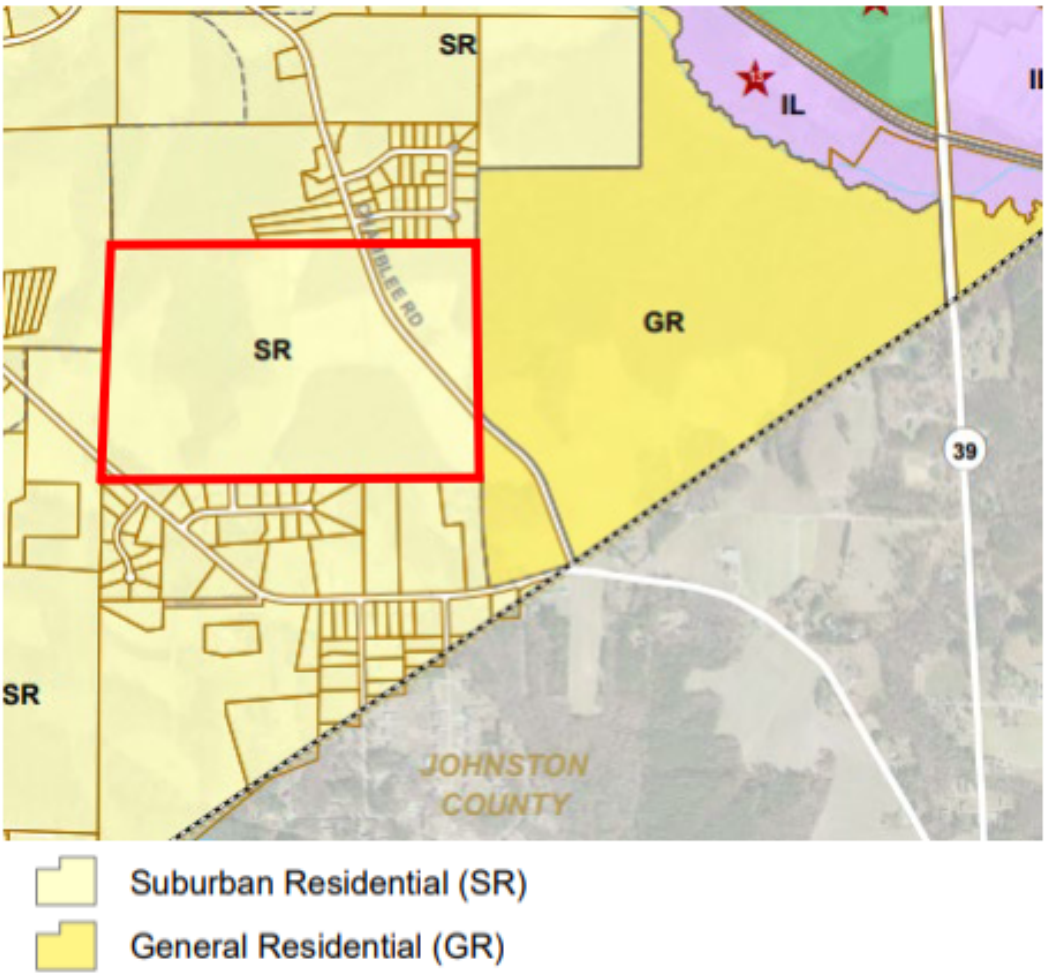
3 PLAN CONSISTENCY / LAND USE COMPATIBILITY

COMPREHENSIVE PLAN CONSISTENCY

As previously stated in the 'legislative considerations' section of this narrative document, this rezoning is consistent with the Future Land Use Map (the “FLUM”) and many goals and recommendations of the Town’s Comprehensive Plan.

The adopted Future Land Use Map designates this area as Suburban Residential (SR) and identifies one of the Primary Land Use Types for Suburban Residential as, “Planned developments that integrate other housing types (e.g., attached residential such as patio homes or townhomes) [in addition to Detached residential dwellings], with increased open space to preservean overall suburban character.”

Thus, the proposed Planned Development with a mix of SFD detached dwellings, attached dwellings, and over one third of gross acreage as open space precisely fits the intended use and place type within the Suburban Residential (SR) Future Land Use designation. It is also worth noting that the proposed site abuts a 'General Residential' (GR) Future Land Use area to the east, which is meant to support even more intense residential uses than Suburban Residential.



LAND USE COMPATIBILITY

The proposed development is limited to detached single family detached lots and attached single family lots (aka townhouses). These proposed uses, and the development standards restricting those uses, are compatible with the adjacent communities, which are zoned and/or currently used for low to medium density residential uses.

The proposed development standards defined within this document and the associated concept plan will ensure quality of design across the entire development. The overall site layout is designed to create a cohesive environment by positioning the more dense residential uses along Chamblee Rd, adjacent to proposed Townhomes in the approved Sidney Creek subdivision. The site transitions to lower density single family homes along the edges of the community, and utilizes environmental features as natural buffers to adjoining property. The concept plan features a creative integration of residential uses, active open space, and preserved open space to create a cohesive environment. The design guidelines will ensure quality architectural features that are consistent across the community.

COMPLIANCE WITH ADOPTED TRANSPORTATION PLAN

To better serve the future Chamblee Lake residents and the Town's overall transportation planning goals, the applicant proposes the following amendments to the 2045 Comprehensive Transportation Plan (CTP):

- Modify the proposed cross-section of Chamblee Road from its existing terminus at SR 1727 (Wake County Line Road) to south of SR 2346 (Temple-Johnson Road) from a 4-lane divided to a 2-lane divided roadway.
- Realign the proposed new E-W street section through the proposed development and modify the proposed cross-section to that of a 2-lane undivided roadway with on-street parking (on both sides) and a multi-purpose path (on one side with a sidewalk on the opposite side).

The amendments described above are contained within a separate CTP amendment request and are reflected within the associated Concept Plan.

4 PLANNED DEVELOPMENT MASTER PLAN

Images are illustrative in nature and are not intended to be considered or applied as project commitments or concrete representations of project elements.

PLANNED DEVELOPMENT CONCEPT PLAN

DEVELOPMENT DETAILS

Chamblee Lake is planned as a mixed-residential development consisting of a 360 units, designed to the Planned Development standards of the Town of Zebulon Unified Development Ordinance. Due to the site's proposed density of less than 3 DUA, the development shall use the R4 district as the base zoning of it's planned development, except as modified by this document. Chamblee Lake will provide a variety of housing choices for future residents as well as well-designed and multi-functional recreational amenities. The development will establish bicycle and pedestrian connections between proposed site amenities, while preserving a significant amount of natural areas comprised of wetlands, riparian buffers, and a sizable existing pond. Permitted uses shall be limited to single family detached dwellings, attached single family dwellings (townhomes), and customary residential accessory uses.

DEVELOPMENT MIX

	Total # of Units	Estimated Percentage of Dev.
• Single Family Dwellings	232	64.5%
• Townhomes	128	35.5%

CHAMBLEE LAKE CONCEPTUAL MASTER PLAN

SITE DATA TABLE

Existing Site Area	±135.88 acres
PIN	2715101559
Total Proposed Lots	±360 lots
Proposed Density	±2.65 units/acre
Single Family Detached	
60'x120'	±83 lots
50'x120'	±39 lots
40'x120' (Rear loaded)	±101 lots
35'x120' (Rear loaded)	±9 lots
Townhomes	
Rear-loaded	±83 lots
Front-loaded	±45 lots

POWER EASEMENT
SCM
SCM
SCM
SCM
SCM
SCM
SCM
EXISTING LAKE
MAIN AMENITY
POCKET PARK
DOG PARK
2 LANE UNDIVIDED STREET
CHAMBLEE RD
POCKET PARK
PASSIVE PARK
EXISTING WETLANDS
SCM
2 LANE UNDIVIDED STREET
PERRY CURTIS RD
RIDGE VALLEY WAY
PERRY RIDGE CT

FRONT LOADED SINGLE-FAMILY DWELLINGS

MODIFICATIONS TO UDO STANDARDS

The Town of Zebulon UDO requires that any lot less than 70' in width be accessed via rear lane access (or side on a corner lot). In order to accommodate a more compact design that supports preservation of environmental sensitive features, this project would permit front-loading of lots 50' and larger with a minimum lot size of 6000 sq. ft. The planned development proposes a mix of 50' and 60' wide front-loaded lots, as shown in the associated Concept Plan. The applicant has offered tailored architectural standards for these units as a condition of the zoning approval.

To encourage interaction between the public and private realm, front-loaded single-family dwellings in Chamblee Lake will permit a minimum front setback of 20' feet, rather than the UDO requirement of 30 feet. Side and rear setbacks are also less than typical R4 requirements, as indicated below.

FRONT LOADED SFD DIMENSIONAL STANDARDS

Min. Lot Area	6000 sf
Min. Lot Width	50'
Front Setback (min)	20'
Side Setback (min)	5'
Corner Setback (min)	15'
Rear Setback (min)	20'
Maximum Height	35' / 3 stories
Permitted Front Porch Encroachment	5' into front setback

REAR LOADED SINGLE-FAMILY DWELLINGS

MODIFICATIONS TO UDO STANDARDS

The Town of Zebulon UDO requires that any lot within the R4 district be a minimum of 6000 sq. feet or more in size. In order to accommodate a more compact design that supports preservation of environmental sensitive features, this project would permit rear-loading of lots 35' wide and larger with a minimum lot size of 4000 sq. ft. The applicant has offered tailored architectural standards for these units as a condition of the zoning approval.

To encourage interaction between the public and private realm, rear-loaded single-family dwellings in Chamblee Lake will permit a minimum front setback of 10' feet, rather than the UDO requirement of 30 feet. Side and rear setbacks are also reduced compared to typical R4 requirements, as indicated below.

REAR LOADED SFD DIMENSIONAL STANDARDS

Min. Lot Area	4000 sf
Min. Lot Width	35'
Front Setback (min)	10'
Side Setback (min)	3'
Corner Setback (min)	10'
Rear Setback (min)	20'
Max Height	35' / 3 stories

TOWNHOUSES

MODIFICATIONS TO UDO STANDARDS

The Town of Zebulon UDO provides dimensional standards for attached single family development (i.e. Townhomes) based on the entire building unit. Rather than apply dimensional standards based on the entire Townhome building, Dory Meadows shall adhere to the following dimensional standards for each individual townhome lot (and be exempt from the dimensional standards contained in Section 3.3.4 of the UDO). Townhomes within Dory Meadows will be a mix of front-loaded and rear-loaded options. The applicant has offered tailored architectural standards for these units as a condition of the zoning approval, and hereby limits townhome buildings to no more than 6 consecutive townhome lots.

TOWNHOUSE DWELLING DIMENSIONAL STANDARDS

• Min. Lot Area	2000 SF
• Min. Street Setback (front or corner)	5' (20' for face of garage on front-loaded units)
• Min. Side Setback	N/A
• Min. Rear Setback	20'
• Min. Building Separation	10'
• Max Building Height	42' / 3 stories
• Min. Lot Width	20'

ARCHITECTURAL DESIGN STANDARDS (Voluntary Commitments)

Chamblee Lake offers the following architectural design standards as they relate to detached and attached single family homes:

Architectural Conditions for All Homes

1. All single‐family homes and townhomes will have a two or more of the following design features on the front facade (not including foundation):
    a. stone
    b. brick
    c. lap siding
    d. shakes
    e. board and batten
    f. window pediments
    g. recessed windows
    h. side and/or front window box bays
    i. roof gables
    j. roof dormers
    k. roofline cornices
    l. metal roofing as accent
    m. columns
    n. shutters
    o. other decorative features approved by the Planning Director
2. The exterior siding material on the side and rear facades will be fiber cement.
3. When two materials are used, the materials shall be different but complementary colors.
4. Vinyl siding shall not be permitted.
5. Vinyl may be used only for soffits, fascia, corner boards, decorative elements, trim and vinyl windows.
6. The use of corrugated metal siding, unpainted plywood, or smooth-face concrete block is prohibited.
7. All single-family attached and detached homes with crawlspaces, stem wall or poured concrete foundations shall have the front of the foundation wrapped in brick or stone; as well as on any foundation adjacent to a public right of way.
8. All street-facing garage doors shall contain window inserts and carriage-style adornments
9. Front and rear eaves shall project a minimum of 12”. Side eaves shall be a min of 4”. Eaves will be allowed to encroach into required setbacks.
10. No attached or detached home located adjacent, across the street, or diagonal shall have the same elevation and color combination.
11. Front doors shall be illuminated.
12. Each garage door shall be illuminated.
13. All exterior windows shall have a minimum 3" trim.

ARCHITECTURAL DESIGN CONDITIONS (Voluntary Commitments)

Architectural Conditions for All Homes (continued)

14. No venting will be provided on any front facades except that when a bathroom is located on the front of the home, a vent of a similar color to either the siding or the trim may be provided on the front of the home.
15. Trim color shall be distinct from the façade color.
16. Porch railings, if included on homes, shall be a complimentary color of the house and shall be made of either aluminum, or composite material.
17. Windows on front and side elevations shall feature shutters or trim. Shutters, when provided, shall accommodate the width of the corresponding window.
18. Each house will have a min. of 1 story and a maximum of 3 stories.
19. Street-facing garage doors shall not exceed a maximum width of 18 feet per garage door.
20. Vegetative screening for HVAC units shall be provided
21. For all detached and attached lots, the entire yard will be sodded.
22. Accessory buildings, if constructed, shall be of similar materials and colors of the single-family dwelling.
23. The mail kiosk structure(s) shall be covered.
24. All lots shall be served by public water and sanitary sewer.
25. We commit to exceed the architectural requirements in Section 5.2.4 of the UDO. We will work with Town Planning and Building staff to provide additional architectural features with the exception of Section 5.2.4.E.3.e. Garage doors will not be required to be located at least two or more feet behind a front porch or the primary entrance to the dwelling.
26. Each front entrance shall contain a covered stoop or porch.

Single-Family Attached Architectural Conditions

27. Single-family attached dwellings shall comply with all standards in UDO Section 4.3.3.O, except for 4.3.3.0.7.
28. Townhome main roof pitches (excluding porches) will be at least 6:12.
29. The roofline of each attached building cannot be a single mass; it must be broken up either horizontally and/or vertically between, at a minimum every two homes.
30. The building façade cannot be a single mass; it must be broken up by home articulations of at least 12 inches, at minimum, between every two homes.

ARCHITECTURAL DESIGN STANDARDS (Voluntary Commitments)

Single-Family Detached Architectural Conditions

31. Single-family detached dwellings shall comply with all standards in UDO SEction 4.3.3.P, except for Section 4.3.3.P.3.
32. UDO 4.3.3.P.1 – Finished Floor Height, Except for single-family detached dwellings subject to a deed restricting limiting the age of residents to 55 years of age or older, the finished floor elevation shall be at least 18 inches above the finished grade adjacent to the home's primary entrance.
33. UDO 4.3.3.P.2 - Single-family detached dwellings shall be configured so that each side of the dwelling includes some form of ingress or egress capable of allowing emergency exit from or entrance into the dwelling. Windows, doors, or other wall penetrations shall be credited towards these standards. Skylights shall also be credited towards these standards in cases where there is sufficient access to the ground from the room.
34. Single Family main roof pitches (excluding porches) will be at least 6:12.
35. A mail kiosk for the single family detached homes shall be located adjacent to the pool and clubhouse, subject to USPS Approval.

Example Building Elevations

The following example building elevations are representative of the type of design features intended for SFD detached and attached homes in Chamblee Lake in keeping with the architectural standards committed to as part of the zoning approval. However, to the extent which any differences exist and for review of submitted building permits to follow, the list of Architectural Design Standards (Voluntary Commitments) provided on the previous page shall control.

Front-Loaded SFD Example Elevations

Front-Loaded SFD Example Elevations

Front-Loaded SFD Example Elevations

Front-Loaded SFD Example Elevations

Rear-Loaded SFD Example Elevations

Rear-Loaded SFD Example Elevations

Rear-Loaded SFD Example Elevations

Rear-Loaded SFD Example Elevations (Rear Facades)

Townhome Example Elevations (Front Load)

Townhome Example Elevations (Front Load)

Townhome Example Elevations (Rear Load)

Townhome Example Elevations (Rear Loaded)

HOMEOWNERS ASSOCIATION

Prior to the issuance of the first certificate of occupancy for the Development, a Homeowners Association ('HOA') shall be formed to govern the affairs of Chamblee Lake. The HOA shall be responsible for maintaining the common areas of the Development including any shared stormwater facilities, landscaping, hardscape structures (such as signage, irrigation, lighting, and fountains), and recreation amenities.

LANDSCAPING DESIGN STANDARDS

To ensure the proposed development both respects and enhances the natural environment and provides context sensitive landscaping and screening, the applicant hereby commits to adhere to the landscaping design standards contained below. To the extent which these standards differ from those contained with the Town's adopted Unified Development ordinance, the standards contained in this document shall prevail.

Perimeter Buffers

Per Section 5.6.10 of the UDO, the proposed development will incorporate perimeter buffers along shared property boundaries with other parcels in order to create physical and visual separation between land uses in separate zoning districts. Said buffers will be split between 2 categories as defined below and will be identified on the associated Master Plan.

- **Type B Perimeter Buffer**
  - Where identified on the Master Plan, the Type B Perimeter Buffer shall adhere to the design and specifications outlined in Table 5.6.10.C of the UDO. This buffer shall have a minimum width of 20 ft, and shall be planted to 2 canopy trees, 4 understory trees, and 15 shrubs per linear feet. Final tree species shall be selected and approved by Town staff at a subsequent phase of development, but shall include fast-growing species.

- **Type B Perimeter Buffer (with Privacy Fence requirement)**
  - To create greater visual separation between the proposed development and the adjacent neighborhood to the south, a 6’ privacy fence must be added to any planted Type B Buffer along the applicant’s shared boundary with any lot fronting Perry Ridge Ct or Ridge Valley Way. Where existing vegetation is retained which satisfies the requirements of a Type B Buffer, no privacy fence shall be required.

LANDSCAPING DESIGN STANDARDS

Streetscape Buffers

The proposed planned development includes Streetscape Buffers along Chamblee Road and Perry Curtis Road to soften the view of development from the Town's or NCDOT's street rights-of-way and maintain a more 'rural' feel along these scenic viewsheds. Streetscape buffers shall not apply to the proposed Collector Road linking Perry Curtis and Chamblee road (internal to the development), as the majority of this road is fronted by rear-loaded units.

- The proposed development shall provide Streetscape Buffers which exceed the width requirements of Section 5.6.12 of the UDO. Streetscape Buffers shall maintain a minimum width of 30 feet and shall adhere to the following planting rates and spacing requirements:
  - 3 canopy trees per every 100 linear feet (maximum of 33 ft on-center spacing)
  - 6 understory trees per every 100 linear feet (maximum of 16 ft on center spacing)
  - 20 shrubs per every 100 linear feet (maximum of 5 feet on center spacing)

Minimum Landscaping for Residential Lots

- **Foundation Plantings**:
  - All residential lots shall contain foundation plantings in accordance with Section 5.6.11.D.1 of the UDO.

- **Site Landscaping:**
  - All residential lots shall require minimum tree plantings based on the following rates. These trees may be located anywhere on the lot, or within adjacent open spaces where specified below.
    - Front loaded SFD lots: 1 canopy tree and 1 understory tree
    - Rear loaded SFD lots: 2 understory trees
    - Townhome lot: 1 tree (understory or canopy) or 2 ornamental trees per lot
      - To avoid utility and driveway conflicts within Townhome areas, required residential site landscaping may be located either on the Townhome lot itself or within nearby HOA owned common areas.

Street Trees

- All Town-maintained streets shall include street trees along both sides of the street in accordance with Section 5.6.13 of the UDO, with the following exception:
  - Along street frontages with front-loaded townhomes, maximum street tree spacing may increase to 60' OC (instead of 50' OC) due to utility and driveway conflicts. The total number of street trees required along a given street segment shall be calculated based on 1 street tree per 50 LF.

Median Planting Requirements

Please take this statement out.

- Medians proposed on divided roadways will be subject to the following planting standard, subject to NCDOT review and approval. The applicant shall not be responsible for any median plantings which exceed that which is permitted by NCDOT within NCDOT maintained roadways.
  - **Median Planting Rate**: 4 understory trees and 15 shrubs per 100 LF

5 RECREATIONAL OPEN SPACE + AMENITIES

Images are illustrative in nature and are not intended to be considered or applied as project commitments.

RECREATIONAL OPEN SPACE AND AMENITIES

Dory Meadows will provide a diverse offering of active and passive recreation areas within the development. In total, over 33% of the gross acreage will be set aside as some form of open space.

Open Space Standards

- Total open space required: 13.6 acres (10% gross site area)
- Total open space provided: +/- 50 acres
- Active open space required: 3.4 acres
- Active open space provided: +/- 4.7 acres
- Passive open space provided: +/- 45 acres

Chamblee Lake's recreational open space will be anchored by a primary amenity site centrally located along a new E-W collector road, utilizing a large existing pond as the backdrop to this active open space. A pedestrian trail network will circle the existing pond, and supporting park spaces will be provided to the east and west for convenient access for all neighborhood residents (including the portion on the east side of Chamblee Road. The primary amenity site will incorporate a pool and clubhouse, while the site's other active open spaces shall incorporate such elements as trails, playgrounds, a dog park, and outdoor living space as further detailed on the following page and within the Master Plan set. While the exact design and layout shown on the Character Board on the following page and Master Plan set is conceptual in nature, the applicant commits to providing the list of open space amenities included.

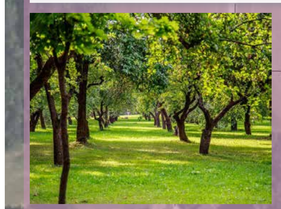
CHAMBLEE LAKE CHARACTER BOARD

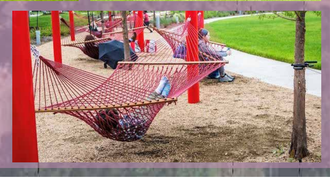
THE RETREAT

± 2.5 ACRE NEIGHBORHOOD PARK
± 21.0 ACRE PARK INCLUDING THE LAKE
PRIMARY CLUBHOUSE
SWIMMING POOL + LOUNGE AREA
TOT LOT AND 5-12 YEAR OLD PLAY ELEMENTS
POLLINATOR GARDENS + BIRD WATCHING
CENTRALIZED MAIL KIOSK
± 0.5 MILE WALKING LOOP + WETLAND BOARDWALKS
SEATING + SHADE TREES FOR BUS STOP AREA

THE NEIGHBORHOOD PARK

± 1.25 ACRE POCKET PARK
NATURAL PLAY OPPORTUNITIES
TURFGRASS PLAY FIELD
RAIN GARDEN
TREE ZONE WITH WALKING PATHS AND SEATING OPTIONS
HAMMOCK GARDEN
CUTTING/COMMUNITY GARDEN
HARDSCAPE PLAZA + GATHERING AREA



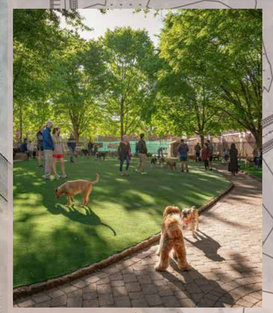


THE PLAY PARK

± 1.0 ACRE POCKET PARK
TOT LOT AND 5-12 YEAR OLD PLAY ELEMENTS
NATURAL TURFGRASS PLAY FIELD
WALKING PATHS AND SEATING OPTIONS
HARDSCAPE PLAZA
ON-STREET PARKING
CENTRALIZED MAIL KIOSK

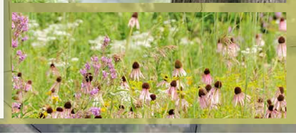
THE BARK PARK

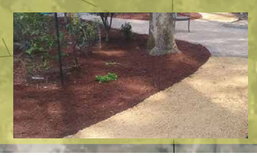
± 0.4 ACRE POCKET PARK
DOG PARK WITH INTEGRATED SHADE TREES
DOG + PEOPLE PLAY ELEMENTS
WET POND WITH FOUNTAIN



THE NATURAL PARK

± 2.5 ACRE POCKET PARK
WILDFLOWER PIEDMONT PRARIE
NATURAL TURFGRASS PLAY FIELD
NATIVE TREE PLANTINGS
BIRD BOXES
INFORMAL + FORMAL WALKING TRAILS
EXCERCISE STATIONS





6 INFRASTRUCTURE

STREETS + SIDEWALKS

All streets within Chamblee Lake shall be designed to meet the standards of the Town of Zebulon, except as otherwise modified by this document or its associated concept plan set (subject to NCDOT review and approval along NCDOT maintained roadways).

- Frontage along Chamblee Road shall be improved to a modified 2-lane divided cross-section along the project's half of the centerline (widened from the Town's typical 2-lane divided roadway to accommodate fire access and NCDOT clearance zones for the median).
- Perry Curtis Road will be widened to the ultimate cross-section, with a fee in lieu applied for the median due to the site's limited frontage.
- All proposed roads shall be public right-of-way.
- All proposed roads shall have pedestrian facilities on both sides of the road.

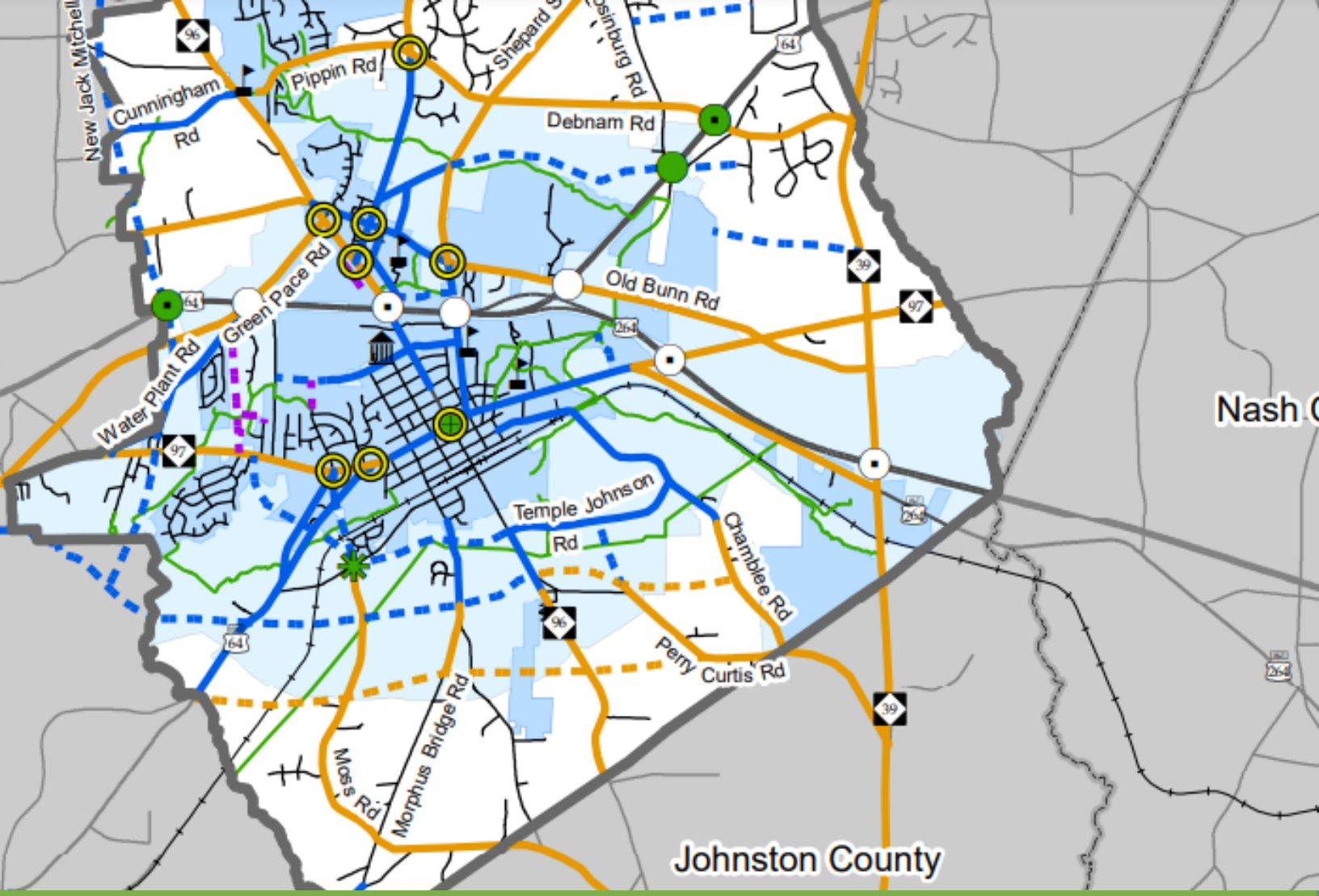
STORMWATER

The proposed development will require stormwater management measures for quality and quantity treatment in accordance with the Town of Zebulon's adopted stomwater ordinance (enforced by Wake County). A network of storm drainage conveyances will transport storm drainage from impervious areas to the proposed Stormwater Control Measures (SCM). Preliminary locations of these SCMS are provided in the Concept Plan which accompanies this planned development request, based on existing drainage basins. The majority of the site drains internally towards the existing lake. Location and adequate sizing for the proposed stormwater devices will be verified during final design. All stormwater management will be required to meet North Carolina Department of Environmental Quality and Town of Zebulon design requirements at the time of site construction drawing submittal.

WATER & SEWER

There are two existing waterline stubs to the south side of the Town of Zebulon. Each stub is a 6" main, one being on the south side of the Zebulon Community Park of South Arendell Avenue (HWY 96) and the other is stubbed 500' south of the intersection of East Horton Street and the Norfolk Southern Rail right of way. In either case, a 12" water main would tie to the 6" stub and extend to the property from the south side of the Town of Zebulon. The preferred alignment would be to utilize the HWY 96 NCDOT right of way and extend the watermain on the north side of Perry Curtis Road to the subject property. That water main would pass through the subject site and connect to an existing 12" water main stub that was placed within the Sidney Creek Subdivision east of the subject development. The Sidney Creek site pulls water from the CORPUD water network existing off Old US HWY 264. Through it's waterline extensions, the proposed development will create an interconnected grid network with two feeds, providing a much greater resiliency in this southern side of Zebulon on the very outer reach of CORPUD's distribution system.

There is an existing waste water treatment facility that the Town of Zebulon built along the Little Creek system (Little Creek WWTP) that CORPUD assumed control/ownership over when the merger happened in the early 2000's. From the existing WWTP, there is a sewer main that runs west of the little creek WWTP to serve the Sidney Creek subdivision. This 8" sewer main ties to the upstream receiving SSMH for the WWTP, and then runs over the creek to serve the wester side of this creek. The Chamblee Road site can gravity sewer to an existing 8" stub that is proposed with the Sidney Creek Phase 2 development approved by CORPUD. A sewer analysis is being performed to validate the capacity of this existing 8" sewer system. It is envisioned that the entirety of the proposed development will be served by the 8" sewer stub and any ensuing upsizing of that receiving gravity line that ties directly to the Little Creek WWTP.



7 TRANSPORTATION ANALYSIS

TRANSPORTATION IMPACT ANALYSIS SUMMARY

A Traffic Impact Analysis (TIA) was conducted by McAdams for the proposed development in accordance with the Zebulon (Town) Unified Development Ordinance (UDO) and North Carolina Department of Transportation (NCDOT) capacity analysis guidelines. A full copy of the TIA was submitted for review and approval with the PD submittal. A summary of the preliminary recommended traffic improvements is provided below for reference. The listed recommended improvements are subject to additional DOT review and revision.

STUDY AREA

The study area for the TIA was determined through coordination with the Town and NCDOT and consists of the following existing intersections:

- Chamblee Road/ E. Horton Street and Temple-Johnson Road
- NC 96 and Temple-Johnson Road
- NC 96 and Perry Curtis Road
- Perry Curtis Road and Perry Ridge Court
- Perry Ridge Court and Ridge Valley Way
- Perry Curtis Road / Wake County Line Road and Chamblee Road
- NC 39 and Wake County Line Road
- NC 39 and Old US 264
- Chamblee Road and Site Drive #1
- Chamblee Road and Site Drive #2
- Chamblee Road and Site Drive #3

RECOMMENDED IMPROVEMENTS

Based on the analysis of the TIA (including improvements to be installed by the adjacent Sidney Creek development), the following improvements have been recommended to be constructed by the developer to mitigate traffic impacts by the proposed development.

Chamblee Road and Site Drive #1

- Construct Site Drive #1 as the westbound approach with one (1) ingress lane and one (1) egress lane.
  - Note: This intersection will be restricted to right-in/right-out operations.
- Provide stop control on the westbound approach of the site drive.

Chamblee Road and Site Drive #2

- Construct Site Drive #2 with a full movement eastbound and westbound approach with one (1) ingress lane and one (1) egress lane each, respectively.
- Provide stop control on the eastbound and westbound approaches of the site drives.
- Construct a northbound left-turn lane on Chamblee Road with a minimum of 100 feet of full width storage and appropriate deceleration and taper.
- Construct a southbound left-turn lane on Chamblee Road with a minimum of 100 feet of full width storage and appropriate deceleration and taper.

RECOMMENDED IMPROVEMENTS (continued)

Chamblee Road and Site Drive #3

- Construct Site Drive #3 as a full movement eastbound approach with one (1) ingress lane and one (1) egress lane.
- Provide stop control on the eastbound approach of the site drive.
- Construct a northbound left-turn lane on Chamblee Road with a minimum of 100 feet of full width storage and appropriate deceleration and taper.

Perry Curtis Road and Site Drive #4

- Construct Site Drive #4 as a full movement southbound approach with one (1) ingress lane and one (1) egress lane.
- Provide stop control on the southbound approach of the site drive.
- Construct an eastbound left turn lane on Perry Curtis Road with a minimum of 100 feet of full width storage and appropriate deceleration and taper.

Perry Curtis Road and NC 96 (Arendell Avenue)

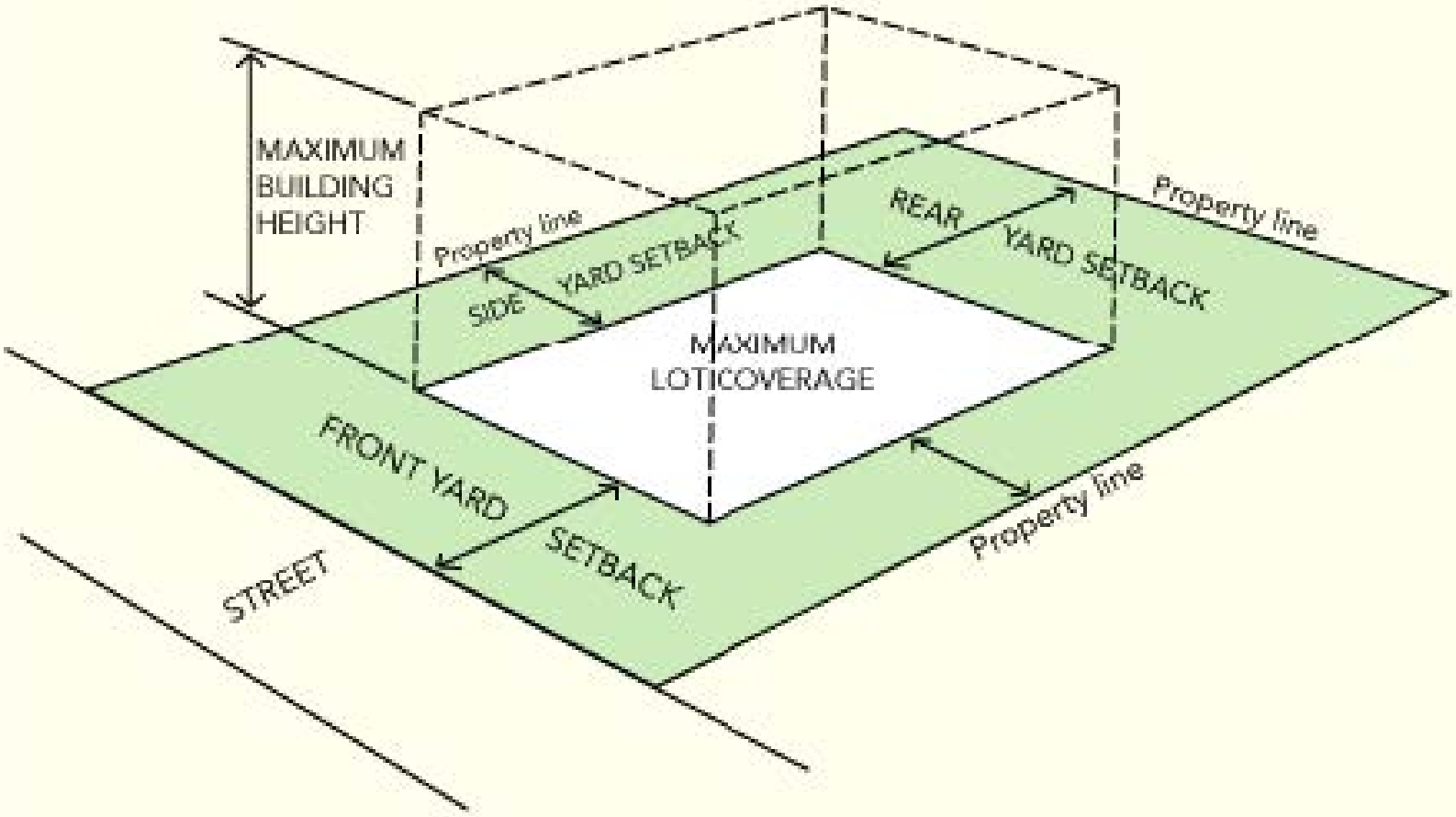
- Construct a southbound left-turn lane on NC 96 (Arendell Avenue) with a minimum of 100 feet of full width storage and appropriate deceleration and taper.
- Restripe the westbound approach of Perry Curtis Road to provide an improved alignment.

Wake County Line Road and NC 39

- Construct a southbound right-turn lane on NC 39 with a minimum of 100 feet of full width storage and appropriate deceleration and taper.
- Restripe the eastbound approach of Wake County Line Road to provide an improved alignment.

Perry Curtis Road / Wake County Line Road and Chamblee Road

- Monitor for all-way stop-control warrants and convert to an all-way stop-control intersection when warranted and approved by NCDOT.



8 ZONING CONDITIONS

UNIFIED DEVELOPMENT ORDINANCE (UDO) CONSISTENCY

Chamblee Lake has been designed to meet the requirements of the Unified Development Ordinance where practical and achievable. There are some instances where due to site constraints or desires to maximize open space preservation through more compact design, it is reasonable to deviate from the typical requirements of the Ordinance through customized dimensional standards. Furthermore, to enhance the design and quality of the development, there are instances where the applicant proposes to surpass code requirements through committed site elements and standards. The section below summarizes the project's customized dimensional standards and zoning conditions.

1. DRIVEWAY ORIENTATION / ACCESS

In order to accommodate a more compact design that supports preservation of environmental sensitive features, this project would permit front-loading of SFD detached lots 50' and larger (rather than 70'). The applicant has offered tailored architectural standards for these units as a condition of the zoning approval.

2. SFD DETACHED LOT DIMENSIONAL STANDARDS

To facilitate a more compact design and support preservation of open space and environmental sensitive features, Chamblee Lake proposes the following permitted dimensional standards. The applicant has offered tailored architectural standards for all SFD as a condition of the zoning approval.

	Proposed Standard	Notes
Min Lot Area	4000 SF Rear Load / 6000 SF Front-Load	
Min Lot Width	35' Rear Load / 50' Front Load	
Front Setback (min)	20' (10' for Rear-Load SFD)	20' normally allowed by UDO for porch
Rear Setback (min)	20'	
Side Setback (min)	3' or 5' (based on lot width)	
Front Porch Encroachment	5' into front setback	ONLY permitted for front-loaded lots

3. TOWNHOME DIMENSIONAL STANDARDS

To facilitate a more compact design and support preservation of open space and environmental sensitive features, Chamblee Lake proposes custom Townhome dimensional standards, based on individual townhome lots, rather than townhome buildings. These custom Townhome dimensional standards are contained within Section 3 of this document, and copied below for reference.

- Min. Lot Area — 2000 SF
- Min. Street Setback (front or corner) — 5' (20' for face of garage on front-loaded units)
- Min. Side Setback — N/A
- Min. Rear Setback — 20'
- Min. Building Separation — 10'
- Max Building Height — 42' / 3 stories
- Min. Lot Width — 20'

UNIFIED DEVELOPMENT ORDINANCE (UDO) CONSISTENCY

4. COMPREHENSIVE TRANSPORTATION PLAN (CTP) MODIFICATION

The adopted Comprehensive Transportation Plan (CTP) calls for a 4-lane divided roadway to traverse the northern portion of this property, west of Chamblee Road. As explained in the applicant's CTP amendment request, there is strong justification for a different road section to be applied. As such, this planned development shows a proposed 2-lane collector road with on-street parking connecting directly to Perry Curtis Road (in lieu of the CTP's proposed 4-lane divided E-W roadway). This plan also incorporates a 2-lane divided section with a multi-purpose path on one side for Chamblee Road.

5. MAX LOT COVERAGE

Chamblee Lake will apply a 35% maximum impervious requirement for the development as a whole (based on total acreage).

6. PRELIMINARY SITE PLAN APPROVAL

Pursuant to UDO Section 3.5.5.B.4, the applicant requests an exemption from subsequent site plan review. This PD includes a master plan that is detailed and meets the requirements for a site plan, as demonstrated by the included Zebulon Site Plan Checklist. Therefore, upon approval of this PD, the applicant shall be exempt from subsequent site plan review.

7. ENHANCED STREETSCAPE, PERIMETER BUFFER, AND MEDIAN STANDARDS

- The applicant commits to providing 30' wide streetscape buffers (exceeding the UDO required 15')
- The applicant commits to providing a 20' wide TypeB buffer along it's shared southern boundary with Perry Ridge Ct (exceeding the UDO required 10' Type A buffer). Where existing vegetation is not used to satisfy the Type B buffer requirement, a 6' privacy fence will also be provided.
- The applicant commits (subject to NCDOT review and approval) to providing 13' wide planted areas within medians (exceeding the UDO required 11')
- Perimeter and streetscape buffers shall be comprised of native or adaptive species.

8. ENHANCEDOPEN SPACE DEDICATOIN AND TREE SAVE

Based on the site's acreage, the UDO would require a minimum of 13.6 acres of dedicated open space (10% of the site) and 6.8 acres of Tree Save (5% of the site). The applicant hereby commits to providing a minimum of 41 acres of open space (30% of the site) and 13.6 acres of Tree Save (10% of the site).

9. ACTIVE BY DESIGN / FOOD TRUCK ACCOMODATION

To support community gatherings and active neighborhoods, the development's main amenity site and 2 pocket parks will incorporate off-street parking or marked on-street parking to accommodate visitors without impeding travel lanes. Said parking provides a safe and convenient location for food trucks to locate in support of community functions. Furthermore, the applicant commits to providing a minimum of 2 larger parking spaces within the main amenity site designed for food trucks or delivery vehicles, with an electrical outlet available.

UNIFIED DEVELOPMENT ORDINANCE (UDO) CONSISTENCY

10. ENHANCED BIKE / PEDESTRIAN ACCESS

In addition to providing (at a minimum) sidewalks on both sides of all roads (subject to NCDOT approval along DOT maintained roadways), the proposed development will further support pedestrian and bicycle access through the incorporation of a multi-use path along Chamblee Road and the site's proposed East-West collector road. Furthermore, Chamblee Lake will provide an off-street pedestrian trail network (both paved and unpaved) of a least 1 mile in length, with a minimum of 4 exercise stations along the trail. This pedestrian network, in connection with Sidney Creek's committed improvements, will provide a direct connection to Five County Stadium.

11. SITE IMRPOVEMENTS AND NCDOT APPROVAL

All planned improvements to roadways and right-of-way owned and maintained by the NC Department of Transportation (NCDOT), including improvements that require off-site property acquisition and/or easements, are subject to NCDOT approval during subsequent phases of development. If any improvements are not approved by NCDOT, alternative designs may be administratively approved by Town staff.

12. POOL/CLUBHOUSE

Construction of a pool and clubhouse structure shall be completed at the earlier of either 24 months from recordation of the Phase 1 plat, or prior to issuance of the 150th Certificate of Occupancy.

13. CONSTRUCTION TRAFFIC ACCESS

In order to protect adjacent neighborhoods, no construction traffic will utilize Perry Ridge Court or Ridge Valley Way as a means of access.

14. ENTRY FEATURES

Chamblee Lake shall include a prominent entry feature at the primary entrances on Chamblee Road.

15. STORMWATER CONTROL PONDS

At least one stormwater control pond shall contain a fountain. At least seventy-five percent (75%) of any required plants in the Stormwater Control Measure ponds, excluding grasses, shall be pollinator plants such as native milkweeds and other nectar-rich flowers.

16. BUS STOP

If a bus pickup location is approved by Wake County Public Schools in the neighborhood, one bust stop area, including a shelter, a bench, a trash can, and at least 5 bicycle spaces shall be provided with the second phase of development.

17. PET WASTE STATIONS

A minimum of four (4) pet waste stations shall be provided along the site's sidewalks, paths, or trails.

Dory Meadows Utility Allocation Worksheet

Base Points Provided: 10

Bonus Points Required: 50

BASE POINTS: List of Preferred Land Uses and Required Characteristics:

The uses listed below have been determined to be the most desirable and important uses for the Town of Zebulon to promote and maintain economic and housing diversity. Only projects that completely meet the stated performance characteristics will be considered for utility allocation. Please select one of the following Base Point classifications.

60 Base Points	**Single Family Homes (Expedited Subdivision or Recombination)** Newly constructed Single Family Homes built upon new lots created via the minor subdivision, exempt subdivision, expedited subdivision (3 or fewer lots) or recombination process.
60 Base Points	**Change of Use** This category captures renovation, rehabilitation, up-fit or retrofit of existing buildings or portions of buildings that pre-date this policy and require a code summary sheet, change in building occupancy, certificate of occupancy, building permit and/or building inspections and do not increase the utility demand from the previous use of the building.
45 Base Points	**Business Office/Finance/ Insurance / Professional Services Center - Large** Qualifying projects must exceed 100,000 square feet of heated floor space and create at least 150 employment positions that exceed the average annual Wake County salary according to Wake County Economic Development or the Employment Security Commission. Employees perform professional, scientific, and technical services for others. Such services require a high degree of expertise and training and provide high salaried employment opportunities. Examples include software engineering, legal, medical, accounting, consulting, architectural, biomedical, chemical, research and development, and administrative services. Finance or Insurance Centers shall also pool financial risks by underwriting insurance and annuities. Some establishments support employee benefit programs. Examples include bank or credit union headquarters, brokerages, investments, insurance, financing, and data processing establishments.
45 Base Points	**Manufacturing/Industrial Employment Center** Manufacturing or Industrial establishments in this category exceed 200,000 square feet of floor space located in plants, factories, or mills and employ power-

	driven machines and materials-handling equipment. They may also employ workers who assemble or create new products by hand, without the characteristic machinery-intensive enterprise. Many manufacturing establishments process products of agriculture, forestry, fishing, mining, or quarrying as well as products of other manufacturing establishments. Most manufacturing establishments have some form of captive services (e.g., research and development, and administrative operations, such as accounting, payroll, or management) in conjunction on-site.
45 Base Points	**Governmental Uses/Public Administration** This category encompasses centers for all government functions; it includes federal, state, and local government agencies that administer, oversee, and manage public programs and budgets and have executive, legislative, or judicial authority. Establishments develop policy, create laws, adjudicate civil and criminal legal cases, and provide for public safety and national defense.
40 Base Points	**Single Use Retail** Newly constructed single use, stand-alone building used primarily for retail, restaurant, or similar commercial use.
40 Base Points	**Hotels, Motels, or other Accommodation Service Establishments** This category serves lodging and short-term accommodations for travelers. They may offer a wide range of services, from overnight sleeping space to full-service hotel suites. They may offer these services in conjunction with other activities, such as entertainment or recreation. Stays in these establishments are generally less than one month. This classification does not include boarding or rooming houses.
40 Base Points	**Arts/Entertainment/Museums** These establishments operate facilities or provide services for a variety of cultural, entertainment, and performing art functions. Establishments include those that produce, promote, or participate in live performances, events, or exhibits intended for public viewing; those that preserve and exhibit objects and sites of historical, cultural, or educational interest; and those that operate facilities or provide services to serve activities associated with the aforementioned.
40 Base Points	**Amusement, Sports or Recreational Establishment** Establishments in this category operate either indoor or outdoor facilities offering family activities (i.e. sports, recreation, or amusement) and provide services, such as facilitating amusement in places operated by others, operating recreational sports groups and leagues. Examples include golf courses, indoor sports venues, bowling alleys, miniature golf courses, athletic clubs, skating rinks and arcades. This category may be used in conjunction with a commercial or residential development as a mixed use development.
40 Base Points	**Mixed Use Development (Transit Oriented)** Newly constructed or substantially rehabilitated collection of vertically mixed retail, office and residential uses in multi-story buildings centered within a one-half mile radius of an existing rail or bus transit station or the intersection of

	Horton Street and North Arendell Avenue in Downtown Zebulon. In order to qualify as mixed use, developments must dedicate at least one-third of the total heated square footage to residential use and the remainder to a mix of retail and office uses. All three use types must be represented and at least 10% of the heated square footage must be dedicated to street level, storefront retail uses.
40 Base Points	**Mixed Use Development (Urban Infill)** Newly constructed or substantially rehabilitated collection of mixed retail, office and residential uses in a multi-story building on a previously developed parcel within the corporate limits. In order to qualify as mixed use, developments must dedicate at least one-third of the total heated square footage to residential use and the remainder to a mix of retail and office uses. All three use types must be represented and at least 10% of the heated square footage must be dedicated to street level, storefront retail uses.
40 Base Points	**Mixed Use Development (Greenfield)** Newly constructed collection of mixed retail, office and residential uses in a multi-story building or buildings on a previously undeveloped parcel. In order to qualify as mixed use, developments must dedicate at least one-third of the total heated square footage to residential use and the remainder to a mix of retail and office uses. All three use types must be represented and at least 10% of the heated square footage must be dedicated to street level, storefront retail uses.
35 Base Points	**Housing Services for the Elderly Establishments** This category offers housing services for the aged, not requiring a license from the North Carolina Department of Health and Human Services, such as independent retirement housing, multi-unit assisted housing with services (MAHS), and continuing care retirement centers. All facilities must provide, but not necessarily be limited to, the following services/facilities: On-site laundry facilities, on site management, guaranteed transportation services at least four days per week, on-site exercise facilities, on-site computer access, and a clubhouse/common lounge area for all residents.
35 Base Points	**Mixture of Use Development (Retail/Office-Institutional/Commercial)** Newly constructed collection of horizontally arranged uses including retail, office-institutional and commercial within a master planned project on a previously undeveloped parcel or parcels totaling at least 10 acres. Mixture of use projects must include at least two (2) use types with at least 25% of the space devoted to each use type included in the development.
30 Base Points	**Retail/Commercial Center** Newly constructed center of at least 50,000 square feet, typically containing an anchor such as a grocery store and other smaller spaces and/or outparcels for subordinate uses. Uses are entirely consumer-driven and include all manner of retail, service and office possibilities.
30 Base Points	**Business Office/Finance/ Insurance / Professional Services Center – Medium** Qualifying projects must exceed 50,000 square feet of heated floor space and create at least 75 employment positions that exceed the average annual Wake County salary according to Wake County Economic Development or the

	Employment Security Commission. Employees perform professional, scientific, and technical services for others. Such services require a high degree of expertise and training and provide high salaried employment opportunities. Examples include software engineering, legal, medical, accounting, consulting, architectural, biomedical, chemical, research and development, and administrative services. Finance or Insurance Centers shall also pool financial risks by underwriting insurance and annuities. Some establishments support employee benefit programs. Examples include bank or credit union headquarters, brokerages, investments, insurance, financing, and data processing establishments.
30 Base Points	**Business Office/Finance/ Insurance / Professional Services Center – Small** Qualifying projects 50,000 square feet of heated floor space or less. Employees perform professional, scientific, and technical services for others. Such services require a high degree of expertise and training and provide high salaried employment opportunities. Examples include software engineering, legal, medical, accounting, consulting, architectural, biomedical, chemical, research and development, and administrative services. Finance or Insurance Centers shall also pool financial risks by underwriting insurance and annuities. Some establishments support employee benefit programs. Examples include bank or credit union headquarters, brokerages, investments, insurance, financing, and data processing establishments.
30 Base Points	**Multi-Tenant Retail Center** Newly constructed center 50,000 square feet or less, typically containing a more than one tenant space within a single structure. Uses are entirely consumer-driven and include all manner of retail, service and office possibilities.
30 Base Points	**Single Use Office** Newly constructed single use, stand-alone building used primarily for office and professional.
30 Base Points	**Bungalow Court or Pocket Neighborhood** Newly constructed Bungalow Court or Pocket Neighborhood per the standards of the Unified Development Ordinance.
30 Base Points	**Distribution/Trucking Center** Newly constructed center of at least 500,000 square feet where products and resources are transported to and delivered from via truck or rail.
25 Base Points	**Warehouse** Newly constructed center of at least 500,000 square feet where products and resources are stored.
25 Base Points	**Religious Institutions** Any facility such as a church, temple, synagogue, mosque or monastery used for worship by a non-profit organization and their customarily related uses.
20 Base Points	**Intensive Industrial Uses:** Uses classified as Special Land Uses within the Industrial Classification.

20 Base Points	**Multi-Family Residential & Condo Units**
20 Base Points	**Major Subdivision 4- 25 Lots** Any subdivision of land of four (4) – 25 Lots.
10 Base Points	**Major Subdivision 26 lots or more** Any subdivision of land of 26 or more lots.
Board Determination	**All Other Uses Not Categorized** This category of use captures all other uses not categorized elsewhere. Allocations for such uses are left to the discretion of the Town's Board of Commissioners upon recommendation of the Planning Board and acted on a case-by-case basis.

BONUS POINTS

Proposed projects can gain BONUS POINTS by agreeing to provide any of the following items over and above the UDO or Standard Specification requirements for their development proposal.

NOTE: No bonus points are given for UDO requirements.

CATEGORY 1 – Non-Conformity Abatement and Public Infrastructure Improvements

Section 1A - Abatement of Nonconformities		(Max - 3 points)
	Abatement of any existing non-conforming structures	3
	Abatement of any existing non-conforming use of land	2
	Abatement of any existing non-conforming lots	1

Section 1B - Roadway Infrastructure Not Warranted by TIA/UDO/CTP		(Max - 10 points)
	Construction of full cross section of existing off-site public street	5
	Nearby intersection improvements	5
	Traffic signal improvements	4
	Signage or striping improvements	1

Section 1C - Off-Site Public Greenway Improvements		(Max - 10 points)
	Construct more than 4000 linear feet of 10-foot-wide path	10
	Construct more than 3000 linear feet of 10-foot-wide path	8
	Construct more than 2000 linear feet of 10-foot-wide path	6
	Construct more than 1000 linear feet of 10-foot-wide path	4
	Construct 500 to 1000 linear feet of 10-foot-wide path	2

Section 1D – Off-Site Bike-Ped Improvements		
	Construction of off-site sidewalk improvements (Subject to TRC Approval)	
	Construction of off-site bike lane improvements (Subject to TRC Approval)	

We would only count the acres that are being used for the fitness trail as it states that the area has to meet the Active Open Space requirements.

CATEGORY 2. Green Development Standards/ Building & Site Design

Section 2A - Conservation of Natural Habitat Meeting Active Open Space Requirements as Defined in the UDO		(Max - 10 points)	Points Earned
	One point per acre up to 10 acres	1 - 10	**10**

Section 2B - Parking		(Max – 15 points)	Points Earned
	Structured Parking Facilities - must reduce footprint by 20%	10	
	EV Charging Stations (two-port)	5	
	Provision of on-street public parking (1 point per stall up to 10 Max)	1 - 10	**10**

Section 2C - Stormwater SCM's		(Max – 10 points)	Points Earned
	Stormwater - Restored Riparian Buffer	10	
	Construct a fountain or other stormwater amenity within the BMP/SCM (as approved by Staff)	4	4
	Stormwater - Landscaped Green Roof	5	
	Stormwater - Underground capture system for on-site irrigation	5	
	Stormwater - Bioretention	5	
	Stormwater - Wetland	5	
	Exclusive use of porous pavement in parking areas where suitable	2	

Section 2D - Building/Site Design		(Max - 20 points)	Points Earned
	Compliance with residential design guidelines per Section 5.2 of the UDO	10	10
	Non-Residential building design that incorporates an active upper story.	5	
	Pedestrian oriented and walkable site design which promotes alternatives to vehicular travel within the development. (Subject to TRC Approval)	5	5

Section 2E - Infill/Redevelopment	
	Development or Redevelopment within DTC
	Development or Redevelopment within DTP
	Redevelopment of previously vacant building space ove square feet
	Redevelopment of previously vacant building space unc square feet

We would not consider this site pedestrian oriented as it does not go above what is already required by the ordinance and it does not have a mix of uses that residents can access without vehicular travel.

Section 2F - Historic Preservation		
	Historic Structure Preservation via Deed Restriction (Determined by TRC)	10
	Restoration of Historic Structure (Must be approved by TRC)	5

Section 2G – LEED Certification		(Max – 10 points)
	LEED Certification for Neighborhood Development (LEED ND)	10
	Platinum LEED Certification	10
	Gold LEED Certification	8
	Silver LEED Certification	6
	Bronze LEED Certification	4
	LEED Certified Certification	2

CATEGORY 3 – Outdoor Enhancement and Transit Improvements

Section 3A – Outdoor Enhancement		(Max – 12 points)
	Construction of a Parkway Street Section on a Collector level street	5

Please label on the site plan where the pollinator garden will be located.

	Construction or Preservation of Gateway Landscaping or Structure (Subject to Comprehensive Plan Consistency and TRC approval)	5	Points Earned
	Outdoor Display of Public Art (Subject to TRC Approval)	4	
	Public Facing Outdoor Mural (Subject to TRC Approval)	4	
	Maintenance of Roadside Gateway Plant Bed (requires maintenance agreement)	3	
	Planting Pollinator Garden (225 Square Foot Minimum)	3	3
	Exclusive use of xeriscaping techniques and drought tolerant species	3	
	Enhanced Roadside Landscaping (Subject to TRC Approval)	2	
	Enhanced Buffer Landscaping (Subject to TRC Approval)	2	
	Construction of a Parkway Street Section on a Local level street	2	
	Installation of Native Shade Tree Species (per Tree up to 10 Trees)	1	

Section 3B – Transit (Pursuant to location being adjacent to a planned or active transit route)		(Max - 8 points)
	Provision of more than 50 designated Park & Ride Stalls	8
	Provision of 25 designated Park & Ride Stalls	5
	Provision of 10 designated Park & Ride Stalls	3
	Provision of mass transit easement w/ structure (bus stop with shelter & bench)	2

CATEGORY 4 - Amenities

Section 4A - Private Greenway		(Max - 3 points)
	Construction of more than 3000 linear feet private greenway meeting Town of Zebulon standards	3
	Construction of more than 2000 linear feet of private greenway meeting Town of Zebulon standards	2
	Construction of more than 1000 linear feet of private greenway meeting Town of Zebulon standards	1

Section 4B – Pool (Combinations may be approved by TRC)		(Max - 8 points)	Points Earned
	Olympic Pool and Aquatic Center	8	
	Junior Olympic Pool	5	
	Lap Pool (four lane minimum)	3	
	Resort Style Pool	2	2
	Any Other Pool	1	

Section 4C - Outdoor Deck/Patio		(Max - 3 points)	Points Earned
	Deck/Patio - More than 3000 square feet	3	
	Deck/Patio - More than 2000 square feet	2	
	Deck/Patio - More than 1000 square feet	1	1

Section 4D - Pool Amenities	(Max - 2 points)

			Points Earned
	Jacuzzi/Hot Tub/Whirlpool	2	
	Water Playground with apparatus	2	2
	Sauna/Steam room	2	

Section 4E - Clubhouse		(Max - 10 points)	Points Earned
	Commercial Coffee Shop with at least 10 designated public seating spaces.	10	
	With full kitchen and over 4000 square feet of meeting space	10	
	With full kitchen and less than 4000 square feet of meeting space	9	
	Meeting space without kitchen more than 3500 square feet	8	
	Meeting space without kitchen 2500 - 3499 square feet	7	
	Meeting Space without kitchen 1500 - 2499 square feet	5	
	Meeting Space without kitchen less than 1500 square feet	4	
	No meeting space, bathrooms and changing rooms only	3	3
	Outdoor Kitchen or Grills	2	

Section 4F - Additional Active Recreation		(Max - 10 points)	Points Earned
	Gymnasium (regulation size indoor basketball court)	10	
	Baseball/Softball Field (regulation size)	5	
	Football/Soccer Field (regulation size)	5	
	Skate Park	5	
	Tennis Courts (two regulation courts, fenced)	5	
	Multi-Use Hardcourt (two regulation basketball courts, street hockey, fenced)	5	
	Pickleball Court (three regulation courts, fenced)	5	
	Pocket Park – 5,000 square feet	3	3
	IPEMA Certified Playground Equipment	4	4
	Lighted Field of Play for nighttime use	3	
	Electronic Scoreboard or Covered Dugouts or Bleachers	3	
	Community Garden – 15-foot by 15-foot, with water access and potting shed.	3	

Section 4G – Additional Urban Open Space Enhancements (Within Non Residential Zoning Districts)		(Max – 10 points)
	Fountain	2
	Canopy Including Fixed Permanent Seating	2
	Drinking Fountain with Pet Fountain	2
	Permanent Game Tables	1
	Permanent Tables with Shade Cover	1
	All Weather Bulletin Board	1
	Covered or Internal Bicycle Parking	1
	Artist-Design Bicycle Racks	1
	Little Free Library	1
	Drinking Fountain	1
	Public Work Bike Stand With Tools	1

CATEGORY 5 – Affordable Housing

Inclusion of a percentage of the provided housing stock of a proposed development cost no more than 30% of a household income not exceeding 80% of the Area Median Income (AMI)		(Max – 10 Points
	15% Affordable Housing	10
	10% Affordable Housing	5

CATEGORY 6 – Other

(Max 5 Points)

	Integrated public safety operation systems (EX. Flock Safety or others as approved by the Police Department)	3
	Smart Waste and Recycling Stations	2

Total Points Earned
67 **(10 + 57 Bonus)**

August 4, 2023

Michael J. Clark, AICP, CZO
Town of Zebulon
1003 North Arendell Avenue
Zebulon, NC 27597
919.823.1808

RE: Chamblee Lake – Zebulon, North Carolina – Traffic Impact Analysis Addendum

Dear Mr. Clark,

TIA ADDENDUM

This letter presents updated analysis as an addendum to the previously completed Traffic Impact Analysis (TIA) for the proposed Chamblee Lake development that was completed in November of 2022 by McAdams. The Town of Zebulon (Town) TIA reviewer issued comments dated January 9, 2023, and North Carolina Department of Transportation (NCDOT) approved the TIA on November 29, 2022. These comments and approvals are provided in the attachments. The proposed residential development will be located along Chamblee Road north of Perry Curtis Road in Zebulon, North Carolina. The purpose of this TIA Addendum is to determine the potential traffic impacts of the proposed development as it relates to the change in development density and site access from the previously completed TIA, as well as to identify transportation improvements that may be required to mitigate the development's impact on the surrounding roadway network. This addendum reviews the operations at all study intersections from the original TIA under revised Build (2027) traffic conditions. Since background assumptions are not expected to change within this addendum, capacity analysis results from Existing (2022) and No-Build (2027) conditions from the original TIA are utilized. Refer to the previously completed TIA for a breakdown of the assumed methodology and depiction of Existing (2022) and No-Build (2027) traffic volumes.

BUILD TRAFFIC

The original TIA considered a density of 211 single family detached homes and 119 townhomes. The revised analysis in this addendum considers an updated buildout density of 232 single family detached homes and 128 townhomes, as well as a proposed site driveway on Perry Curtis Road that was not previously considered at the time of preparation of the original TIA. Based on the Institute for Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition, and the suggested method of trip calculations provided in NCDOT's *Rate vs. Equation spreadsheet*, trips for the proposed development were calculated for weekday daily, weekday AM peak hour, and weekday PM peak hour. Refer to Table 1, on the following page, for the trip generation for the proposed land uses.

TABLE 1: TRIP GENERATION									
Land Use (ITE Code)	**Density**	**Calculation Methodology**	**Daily Trips**	**AM Peak Hour**			**PM Peak Hour**		
				Enter	**Exit**	**Total**	**Enter**	**Exit**	**Total**
Single family detached (210)	232 units	Adjacent / Equation	2,189	40	120	160	138	81	219
Townhomes (215)	128 units	Adjacent / Equation	925	15	46	61	43	30	73
		Total	**3,114**	**55**	**166**	**221**	**181**	**111**	**292**

Site trips were distributed according to the approved regional distributions in the original TIA with modifications made to the way traffic was assumed to enter and exit the site due to the change in the site access for the proposed site. Refer to Figure 1 in the attachments for the detailed trip distribution percentages within the study area.

The trip distribution was applied to the updated trip generation to determine the trip assignment for the proposed development at all study intersections. Refer to Figure 2 in the attachments for the site trip assignment. To determine the future traffic volumes at the study intersections with buildout of the proposed site, the No-Build (2027) traffic volumes from the original TIA were added to the updated site trip assignment to determine Build (2027) traffic volumes. Refer to Figure 3 in the attachments for the Build (2027) traffic volumes.

CAPACITY ANALYSIS

The intersections and analysis scenarios included in this study were analyzed to determine the potential impact by the proposed development and to recommend improvements to mitigate any potential impacts. The capacity analysis reviews the level of service (LOS), delay, and vehicle queues expected under each analysis scenario utilizing the methodology contained in the *Highway Capacity Manual* (HCM), 6th Edition, published by the Transportation Research Board.

LOS is a qualitative measurement of traffic operations based on the average total vehicle delay of the movement, approach, or intersection. The HCM includes six levels of service, ranging from level "A" (free flow conditions) to level "F" (where over-saturated conditions are evident).

A computer software package, Synchro (version 11.1), was utilized for the analysis of operations within this study. Within this software package, SimTraffic was also used to review queue lengths and the operations of intersections within the context of location and spacing in the study area. The capacity analysis summary table for each study intersection provides the delay and LOS for each approach and overall intersection, when appropriate. More detailed queues and delay information is provided in the attachments.

CHAMBLEE ROAD / E. HORTON STREET + TEMPLE-JOHNSTON ROAD

The intersection of Chamblee Road / E. Horton Street and Temple-Johnston Road is an unsignalized, three-leg intersection. This intersection was analyzed under Build (2027) conditions in this addendum, with analysis of Existing (2022) and No-Build (2027) conditions provided from the previously completed TIA.

Table 2 provides the capacity analysis for the subject intersection with the lane configurations and traffic control shown in the table. Refer to the attachments for the Synchro capacity analysis reports.

TABLE 2: CAPACITY ANALYSIS SUMMARY OF CHAMBLEE ROAD / E. HORTON STREET + TEMPLE-JOHNSTON ROAD

Conditions	APPROACH	Lane Configurations	Weekday AM Peak Hour		Weekday PM Peak Hour	
			LOS and Approach Delay (seconds)	Overall Delay (seconds)	LOS and Approach Delay (seconds)	Overall Delay (seconds)
Existing (2022) *From Original TIA*	EB[2] NB[1] SB	1 LT-RT 1 LT-TH 1 TH-RT	A (9) A (7) --	N/A	A (9) A (7) --	N/A
No-Build (2027) *From Original TIA*	EB[2] NB[1] SB	1 LT-RT 1 LT-TH 1 TH-RT	A (9) A (7) --	N/A	A (9) A (7) --	N/A
Build (2027)	EB[2] NB[1] SB	1 LT-RT 1 LT-TH 1 TH-RT	A (9) A (7) --	N/A	A (9) A (7) --	N/A

1.Level of service for major-street left-turn movement.
2.Level of service for minor-street approach.

Capacity analysis of Existing (2022), No-Build (2027), and Build (2027) conditions indicate that the minor-street approach and major-street left-turn movement at the intersection of Chamblee Road / E. Horton Street and Temple-Johnston Road are expected to operate at LOS A during the weekday AM and PM peak hours. Due to the minor impacts at this intersection by the proposed development and expected acceptable future operations, no improvements are recommended.

TEMPLE-JOHNSTON ROAD + NC 96

The intersection of Temple-Johnston Road and NC 96 is an unsignalized, three-leg intersection. This intersection was analyzed under Build (2027) conditions in this addendum, with analysis of Existing (2022) and No-Build (2027) conditions provided from the previously completed TIA.

Table 3 provides the capacity analysis for the subject intersection with the lane configurations and traffic control shown in the table. Refer to the attachments for the Synchro capacity analysis reports.

TABLE 3: CAPACITY ANALYSIS SUMMARY OF TEMPLE-JOHNSTON ROAD + NC 96

Conditions	APPROACH	Lane Configurations	Weekday AM Peak Hour		Weekday PM Peak Hour	
			LOS and Approach Delay (seconds)	Overall Delay (seconds)	LOS and Approach Delay (seconds)	Overall Delay (seconds)
Existing (2022) *From Original TIA*	WB[2] NB SB[1]	1 LT-RT 1 TH-RT 1 LT-TH	B (11) -- A (8)	N/A	B (11) -- A (8)	N/A
No-Build (2027) *From Original TIA*	WB[2] NB SB[1]	1 LT-RT 1 TH-RT 1 LT-TH	B (11) -- A (8)	N/A	B (11) -- A (8)	N/A
Build (2027)	WB[2] NB SB[1]	1 LT-RT 1 TH-RT 1 LT-TH	B (12) -- A (8)	N/A	B (12) -- A (8)	N/A

1.Level of service for major-street left-turn movement.
2.Level of service for minor-street approach.

Capacity analysis of Existing (2022), No-Build (2027), and Build (2027) conditions indicate that the major-street left-turn movement and minor-street approach at the intersection of Temple-Johnston Road and NC 96 are expected to operate at LOS B or better during the weekday AM and PM peak hours. Based on comparison of No-Build (2027) and Build (2027) conditions, the proposed development is expected to account for a negligible increase in delay to the major-street left-turn movement and minor-street approach. Additionally, the site trips from the proposed development are not expected to have a high level of utilization for Temple-Johnston Road due to the more direct access on Perry Curtis Road. Under Build (2027) conditions, the proposed development is expected to add approximately three (3) southbound left-turns during the weekday AM peak hour and nine (9) southbound left-turns during the PM peak hour. Due to the minor impacts at this intersection by the proposed development and expected acceptable future operations, no improvements are recommended.

PERRY CURTIS ROAD + NC 96

The intersection of Perry Curtis Road and NC 96 is an unsignalized, three-leg intersection. This intersection was analyzed under Build (2027) conditions in this addendum, with analysis of Existing (2022) and No-Build (2027) conditions provided from the previously completed TIA. Based on NCDOT comments on the previously completed TIA, the following improvement is required to be constructed by the developer:

- Construct an exclusive southbound left-turn lane on NC 96 with a minimum of 100 feet of full width storage and appropriate deceleration and taper.

Table 4 provides the capacity analysis for the subject intersection with the lane configurations and traffic control shown in the table. Refer to the attachments for the Synchro capacity analysis reports.

TABLE 4: CAPACITY ANALYSIS SUMMARY OF PERRY CURTIS ROAD + NC 96

Conditions	APPROACH	Lane Configurations	Weekday AM Peak Hour		Weekday PM Peak Hour	
			LOS and Approach Delay (seconds)	Overall Delay (seconds)	LOS and Approach Delay (seconds)	Overall Delay (seconds)
Existing (2022) *From Original TIA*	WB[2] NB SB[1]	1 LT-RT 1 TH-RT 1 LT-TH	B (10) -- A (8)	N/A	B (10) -- A (8)	N/A
No-Build (2027) *From Original TIA*	WB[2] NB SB[1]	1 LT-RT 1 TH-RT 1 LT-TH	B (11) -- A (8)	N/A	B (12) -- A (8)	N/A
Build (2027)	WB[2] NB SB[1]	1 LT-RT 1 TH-RT **1 LT**, 1 TH	B (12) -- A (8)	N/A	B (14) -- A (8)	N/A

Improvements by Developer are shown in **BOLD.**
1.Level of service for major-street left-turn movement.
2.Level of service for minor-street approach.

Capacity analysis of Existing (2022), No-Build (2027), and Build (2027) conditions indicate that the major-street left-turn movement and minor-street approach at the intersection of Perry Curtis Road and NC 96 are expected to operate at LOS B or better during the weekday AM and PM peak hours. Based on comparison of No-Build (2027) and Build (2027) conditions, the proposed development is expected to account for a minor increase in delay to the major-street left-turn movement and minor-street approach. Based on coordination with NCDOT, the developer is expected to construct a southbound left-turn lane on NC 96.

PERRY CURTIS ROAD + PERRY RIDGE COURT

The intersection of Perry Curtis Road and Perry Ridge Court is an unsignalized, three-leg intersection. This intersection was analyzed under Build (2027) conditions in this addendum, with analysis of Existing (2022) and No-Build (2027) conditions provided from the previously completed TIA.

Table 5 provides the capacity analysis for the subject intersection with the lane configurations and traffic control shown in the table. Refer to the attachments for the Synchro capacity analysis reports.

TABLE 5: CAPACITY ANALYSIS SUMMARY OF PERRY CURTIS ROAD + PERRY RIDGE COURT

Conditions	APPROACH	Lane Configurations	Weekday AM Peak Hour		Weekday PM Peak Hour	
			LOS and Approach Delay (seconds)	Overall Delay (seconds)	LOS and Approach Delay (seconds)	Overall Delay (seconds)
Existing (2022) *From Original TIA*	WB[2] NB SB[1]	1 LT-RT 1 TH-RT 1 LT-TH	A (9) -- A (7)	N/A	A (9) -- A (7)	N/A
No-Build (2027) *From Original TIA*	WB[2] NB SB[1]	1 LT-RT 1 TH-RT 1 LT-TH	A (9) -- A (8)	N/A	A (9) -- A (7)	N/A
Build (2027)	WB[2] NB SB[1]	1 LT-RT 1 TH-RT 1 LT-TH	A (9) -- A (8)	N/A	A (9) -- A (7)	N/A

1.Level of service for major-street left-turn movement.
2.Level of service for minor-street approach.

Capacity analysis of Existing (2022), No-Build (2027), and Build (2027) conditions indicate that the major-street left-turn movement and minor-street approach at the intersection of Perry Curtis Road and Perry Ridge Court are expected to operate at LOS A during the weekday AM and PM peak hours. Based on comparison of No-Build (2027) and Build (2027) conditions, the proposed development is expected to account for a negligible increase in delay to the minor-street approach and major-street left-turn movement. Due to the minor impacts at this intersection by the proposed development and expected acceptable future operations, no improvements are recommended.

PERRY RIDGE COURT + RIDGE VALLEY WAY

The intersection of Perry Ridge Court and Ridge Valley Way is an unsignalized, three-leg intersection. This intersection was analyzed under Build (2027) conditions in this addendum, with analysis of Existing (2022) and No-Build (2027) conditions provided from the previously completed TIA.

Table 6 provides the capacity analysis for the subject intersection with the lane configurations and traffic control shown in the table. Refer to the attachments for the Synchro capacity analysis reports.

TABLE 6: CAPACITY ANALYSIS SUMMARY OF PERRY RIDGE COURT + RIDGE VALLEY WAY

Conditions	APPROACH	Lane Configurations	Weekday AM Peak Hour		Weekday PM Peak Hour	
			LOS and Approach Delay (seconds)	Overall Delay (seconds)	LOS and Approach Delay (seconds)	Overall Delay (seconds)
Existing (2022) *From Original TIA*	EB[1] WB SB[2]	1 LT-TH 1 TH-RT 1 LT-RT	A (7) -- A (9)	N/A	A (7) -- A (9)	N/A
No-Build (2027) *From Original TIA*	EB[1] WB SB[2]	1 LT-TH 1 TH-RT 1 LT-RT	A (7) -- A (9)	N/A	A (7) -- A (9)	N/A
Build (2027)	EB[1] WB SB[2]	1 LT-TH 1 TH-RT 1 LT-RT	A (7) -- A (9)	N/A	A (7) -- A (9)	N/A

1.Level of service for major-street left-turn movement.
2.Level of service for minor-street approach.

Capacity analysis of Existing (2022), No-Build (2027), and Build (2027) conditions indicate that the major-street left-turn movement and minor-street approach at the intersection of Perry Ridge Court and Ridge Valley Way are expected to operate at LOS A during the weekday AM and PM peak hours. Due to the minor impacts at this intersection by the proposed development and expected acceptable future operations, no improvements are recommended.

PERRY CURTIS ROAD / WAKE COUNTY LINE ROAD + CHAMBLEE ROAD

The intersection of Perry Curtis Road / Wake County Line Road and Chamblee Road is an unsignalized, three-leg intersection. This intersection was analyzed under Build (2027) conditions in this addendum, with analysis of Existing (2022) and No-Build (2027) conditions provided from the previously completed TIA.

Table 7 provides the capacity analysis for the subject intersection with the lane configurations and traffic control shown in the table. Refer to the attachments for the Synchro capacity analysis reports.

TABLE 7: CAPACITY ANALYSIS SUMMARY OF PERRY CURTIS ROAD / WAKE COUNTY LINE ROAD + CHAMBLEE ROAD

Conditions	APPROACH	Lane Configurations	Weekday AM Peak Hour		Weekday PM Peak Hour	
			LOS and Approach Delay (seconds)	Overall Delay (seconds)	LOS and Approach Delay (seconds)	Overall Delay (seconds)
Existing (2022) *From Original TIA*	EB[1] WB SB[2]	1 LT, 1 RT 1 LT, 1 TH 1 TH, 1 RT	A (7) -- A (9)	N/A	A (7) -- A (9)	N/A
No-Build (2027) *From Original TIA*	EB[1] WB SB[2]	1 LT, 1 RT 1 LT, 1 TH 1 TH, 1 RT	A (7) -- A (9)	N/A	A (8) -- A (10)	N/A
Build (2027)	EB[1] WB SB[2]	1 LT-TH 1 TH-RT 1 LT-RT	A (7) -- A (10)	N/A	A (8) -- B (11)	N/A

1.Level of service for major-street left-turn movement.
2.Level of service for minor-street approach.

Capacity analysis of Existing (2022), No-Build (2027), and Build (2027) conditions indicate that the major-street left-turn movement and minor-street approach at the intersection of Perry Curtis Road / Wake County Line Road and Chamblee Road are expected to operate at LOS B or better during the weekday AM and PM peak hours. Due to the minor impacts at this intersection by the proposed development and expected acceptable future operations, no improvements are recommended.

The potential need for a multi-way stop control was evaluated based on the guidelines contained within the *Manual on Uniform Control Devices* (MUTCD) due to previous comments provided by the Town TIA reviewer. Weekday AM and PM peak hour traffic volumes analyzed under Build (2027) conditions were utilized to evaluate the potential need for multi-way stop control based on the vehicular volume thresholds outlined in the MUTCD. Based on the results, this intersection is not expected to satisfy the minimum volume thresholds during either the weekday AM or PM peak hours and as such, is not expected to satisfy these thresholds for the extended 8-hour period required for consideration of conversion to multi-way stop control. Based on the low expected traffic volumes at this intersection upon buildout of the development, conversion of this intersection to a multi-way stop control is not recommended. Refer to Table 14 for a summary of the multi-way stop control warrant analysis.

WAKE COUNTY LINE ROAD + NC 39

The intersection of Wake County Line Road and NC 39 is an unsignalized, three-leg intersection. This intersection was analyzed under Build (2027) conditions in this addendum, with analysis of Existing (2022) and No-Build (2027) conditions provided from the previously completed TIA. Based on NCDOT comments on the previously completed TIA, the following improvement is required to be constructed by the developer:

- Construct an exclusive southbound right-turn lane on NC 39 with a minimum of 100 feet of full width storage and appropriate deceleration and taper.

Table 8 provides the capacity analysis for the subject intersection with the lane configurations and traffic control shown in the table. Refer to the attachments for the Synchro capacity analysis reports.

TABLE 8: CAPACITY ANALYSIS SUMMARY OF WAKE COUNTY LINE ROAD + NC 39

Conditions	APPROACH	Lane Configurations	Weekday AM Peak Hour		Weekday PM Peak Hour	
			LOS and Approach Delay (seconds)	Overall Delay (seconds)	LOS and Approach Delay (seconds)	Overall Delay (seconds)
Existing (2022) *From Original TIA*	EB[2] NB[1] SB	1 LT-TH 1 LT-TH 1 TH-RT	B (12) A (8) --	N/A	B (13) A (8) --	N/A
No-Build (2027) *From Original TIA*	EB[2] NB[1] SB	1 LT-TH 1 LT-TH 1 TH-RT	B (12) A (8) --	N/A	B (14) A (8) --	N/A
Build (2027)	EB[2] NB[1] SB	1 LT-TH 1 LT-TH 1 TH, **1 RT**	C (17) A (8) --	N/A	C (19) A (9) --	N/A

Improvements by Developer are shown in **BOLD.**
1.Level of service for major-street left-turn movement.
2.Level of service for minor-street approach.

Capacity analysis of Existing (2022), No-Build (2027), and Build (2027) conditions indicate that the major-street left-turn movement and minor-street approach at the intersection of Wake County Line Road and NC 39 are expected to operate at LOS C or better during the weekday AM and PM peak hours. Based on comparison of No-Build (2027) and Build (2027) conditions, the proposed development is expected to account for a minor increase in delay to the major-street left-turn movement and minor-street approach. Based on coordination with NCDOT, the developer is expected to construct a southbound right-turn lane on NC 39.

NC 39 + OLD US 264

The intersection of NC 39 and Old US 264 is currently an unsignalized, four-leg intersection. This intersection was analyzed under Build (2027) conditions in this addendum, with analysis of Existing (2022) and No-Build (2027) conditions provided from the previously completed TIA. Based on coordination with City and NCDOT staff, Sidney Creek is expected to construct improvements at the subject intersection prior to the 2027 buildout of the proposed development. These improvements were included under all future year analyses (No-Build and Build conditions). The improvements included as adjacent development improvements are:

- Monitor for signalization and install once warranted and approved by NCDOT.
- Construct an exclusive eastbound right-turn lane on Old US 264 with a minimum of 100 feet of full width storage and appropriate deceleration and taper.
- Construct an exclusive eastbound left-turn lane on Old US 264 with a minimum of 50 feet of full width storage and appropriate deceleration and taper.
- Construct and exclusive westbound right-turn lane on Old US 264 with a minimum of 125 feet of full width storage and appropriate deceleration and taper.
- Construct an exclusive westbound left-turn lane on Old US 264 with a minimum of 50 feet of full width storage and appropriate deceleration and taper.
- Extend the existing southbound left-turn lane on NC 39 to provide a minimum of 100 feet of full width storage and appropriate deceleration and taper.

Table 9 provides the capacity analysis for the subject intersection with the lane configurations and traffic control shown in the table. Refer to the attachments for the Synchro capacity analysis reports.

TABLE 9: CAPACITY ANALYSIS SUMMARY OF NC 39 + OLD US 264

Conditions	APPROACH	Lane Configurations	Weekday AM Peak Hour		Weekday PM Peak Hour	
			LOS and Approach Delay (seconds)	Overall Delay (seconds)	LOS and Approach Delay (seconds)	Overall Delay (seconds)
Existing (2022) *From Original TIA*	EB[2] WB[2] NB[1] SB[1]	1 LT-TH-RT 1 LT-TH-RT 1 LT, 1 TH-RT 1 LT, 1 TH-RT	C (16) C (21) A (8) A (8)	N/A	F (76) D (32) A (8) A (8)	N/A
No-Build (2027) *From Original TIA*	EB WB NB SB	1 LT, 1 TH, 1 RT 1 LT, 1 TH, 1 RT 1 LT, 1 TH-RT 1 LT, 1 TH-RT	D (38) D (38) C (29) C (25)	C (30)	D (43) D (40) C (32) C (29)	C (33)
Build (2027)	EB WB NB SB	1 LT, 1 TH, 1 RT 1 LT, 1 TH, 1 RT 1 LT, 1 TH-RT 1 LT, 1 TH-RT	D (39) D (40) C (30) C (25)	C (31)	D (47) D (46) C (33) C (30)	D (35)

Background Improvements by Sidney Creek are shown underlined.
1.Level of service for major-street left-turn movement.
2.Level of service for minor-street approach.

Capacity analysis of Existing (2022) conditions indicate that the intersection of NC 39 and Old US 264 currently operates at LOS A for the major-street left-turn movement and at LOS D or better for the minor-street approach during the weekday AM and PM peak hours, with the exception of the eastbound approach (LOS F) during the PM peak hour. Under future 2027 conditions, the Sidney Creek adjacent development is expected to install a traffic signal in addition to constructing geometric improvements at this intersection. Capacity analysis of No-Build (2027) and Build (2027) conditions indicate that this intersection is expected to operate at an overall LOS D or better during the weekday AM and PM peak hours. The proposed development is expected to add 1 second of delay during the weekday AM peak hour and 2 seconds of delay during the weekday PM peak hour. Due to the minor impacts at this intersection by the proposed development and expected acceptable future operations, no improvements are recommended.

CHAMBLEE ROAD + SITE DRIVE #1

The proposed intersection of Chamblee Road and Site Drive #1 is expected to operate as an unsignalized, three-leg intersection. This intersection was analyzed under Build (2027) conditions. The driveway is expected to be restricted to right-in/right-out (RIRO) operations. Based on review of the capacity analysis, the following improvements are recommended to be constructed by the developer:

- Construct Site Drive #1 as the westbound approach with one (1) ingress lane and one (1) egress lane.
- Provide stop-control for the westbound approach of the site drive.

Table 10 provides the capacity analysis for the subject intersection with the lane configurations and traffic control shown in the table. Refer to the attachments for the Synchro capacity analysis reports.

TABLE 10: CAPACITY ANALYSIS SUMMARY OF CHAMBLEE ROAD + SITE DRIVE #1

Conditions	APPROACH	Lane Configurations	Weekday AM Peak Hour		Weekday PM Peak Hour	
			LOS and Approach Delay (seconds)	Overall Delay (seconds)	LOS and Approach Delay (seconds)	Overall Delay (seconds)
Build (2027)	**WB**[1] NB SB	**1 RT** 1 TH-**RT** 1 TH	A (9) -- --	N/A	A (9) -- --	N/A

Improvements by Developer are shown in **BOLD.**
1. Level of service for minor-street approach.

Capacity analysis of Build (2027) conditions indicate that the minor street approach of the intersection of Chamblee Road and Site Drive #1 is expected to operate at LOS A during the weekday AM and PM peak hours.

CHAMBLEE ROAD + SITE DRIVE #2

The proposed intersection of Chamblee Road and Site Drive #2 is expected to be an unsignalized, four-leg intersection. This intersection was analyzed under Build (2027) conditions. Based on coordination with NCDOT, exclusive left-turn lanes are expected to be required along Chamblee Road for the northbound and southbound approaches. These improvements were included under Build (2027) conditions. The improvements included as developer improvements are:

- Construct Site Drive #2 with a full movement eastbound and westbound approach with one (1) ingress lane and one (1) egress lane for each approach.
- Provide stop-control on the eastbound and westbound approaches of the site drives.
- Construct an exclusive southbound left-turn lane on Chamblee Road with a minimum of 100 feet of full width storage and appropriate deceleration and taper.
- Construct an exclusive northbound left-turn lane on Chamblee Road with a minimum of 100 feet of full width storage and appropriate deceleration and taper.

Table 11 provides the capacity analysis for the subject intersection with the lane configurations and traffic control shown in the table. Refer to the attachments for the Synchro capacity analysis reports.

TABLE 11: CAPACITY ANALYSIS SUMMARY OF CHAMBLEE ROAD + SITE DRIVE #2

Conditions	APPROACH	Lane Configurations	Weekday AM Peak Hour		Weekday PM Peak Hour	
			LOS and Approach Delay (seconds)	Overall Delay (seconds)	LOS and Approach Delay (seconds)	Overall Delay (seconds)
Build (2027)	**EB[2]** **WB[2]** NB[1] SB[1]	**1 LT-TH-RT** **1 LT-TH-RT** **1 LT**, 1 TH-**RT** **1 LT**, 1 TH-**RT**	A (9) A (10) A (7) A (7)	N/A	A (10) B (10) A (8) A (7)	N/A

Improvements by Developer are shown in **BOLD.**
1.Level of service for major-street left-turn movement.
2.Level of service for minor-street approach.

Capacity analysis of Build (2027) conditions indicate the major-street left-turn movements at the intersection of Chamblee Road and Site Drive #2 are expected to operate at LOS A during the weekday AM and PM peak hours. The minor-street approaches are expected to operate at LOS B or better during the weekday AM and PM peak hours. Based on coordination with NCDOT, the developer is expected to construct northbound and southbound left-turn lanes on Chamblee Road.

CHAMBLEE ROAD + SITE DRIVE #3

The proposed intersection of Chamblee Road and Site Drive #3 is expected to be an unsignalized three-leg intersection. This intersection was analyzed under Build (2027) conditions. Based on coordination with NCDOT, an exclusive left-turn lane is expected to be required along Chamblee Road for the northbound approach. This improvement was included under Build (2027) conditions. The improvement included as a developer improvement is:

- Construct Site Drive #3 as the eastbound approach with one (1) ingress lane and one (1) egress lane.
- Provide stop-control for the eastbound approach of the site drive.
- Construct an exclusive northbound left-turn lane on Chamblee Road with a minimum of 100 feet of full width storage and appropriate deceleration and taper.

Table 12 provides the capacity analysis for the subject intersection with the lane configurations and traffic control shown in the table. Refer to the attachments for the Synchro capacity analysis reports.

TABLE 12: CAPACITY ANALYSIS SUMMARY OF CHAMBLEE ROAD + SITE DRIVE #3

Conditions	APPROACH	Lane Configurations	Weekday AM Peak Hour		Weekday PM Peak Hour	
			LOS and Approach Delay (seconds)	Overall Delay (seconds)	LOS and Approach Delay (seconds)	Overall Delay (seconds)
Build (2027)	**EB**[2] NB[1] SB	**1 LT-RT** **1 LT**, 1 TH 1 TH-**RT**	A (9) A (7) --	N/A	A (9) A (8) --	N/A

Improvements by Developer are shown in **BOLD.**
1.Level of service for major-street left-turn movement.
2.Level of service for minor-street approach.

Capacity analysis of Build (2027) conditions indicate that the major-street left-turn movement and minor-street approach at the intersection of Chamblee Road and Site Drive #3 are expected to operate at LOS A during the weekday AM and PM peak hours. Based on coordination with NCDOT, the developer is expected to construct a northbound left-turn lane on Chamblee Road.

PERRY CURTIS ROAD + SITE DRIVE #4

The proposed intersection of Perry Curtis Road and Site Drive #4 is expected to be an unsignalized three-leg intersection. This intersection was analyzed under Build (2027) conditions. Based on coordination with NCDOT, a turn lane is expected to be required along Perry Curtis Road for the southbound approach. This improvement was included under Build (2027) conditions. The improvement included as a developer improvement is:

- Construct Site Drive #4 as the westbound approach with one (1) ingress lane and one (1) egress lane.
- Provide stop-control for the westbound approach of the site drive.
- Construct an exclusive southbound left-turn lane on Perry Curtis Road with a minimum of 100 feet of full width storage and appropriate deceleration and taper.

Table 13 provides the capacity analysis for the subject intersection with the lane configurations and traffic control shown in the table. Refer to the attachments for the Synchro capacity analysis reports.

TABLE 13: CAPACITY ANALYSIS SUMMARY OF PERRY CURTIS ROAD + SITE DRIVE #4

Conditions	APPROACH	Lane Configurations	Weekday AM Peak Hour		Weekday PM Peak Hour	
			LOS and Approach Delay (seconds)	Overall Delay (seconds)	LOS and Approach Delay (seconds)	Overall Delay (seconds)
Build (2027)	WB[2] NB SB[1]	**1 LT-RT** 1 TH-**RT** **1 LT**, 1 TH	A (10) -- A (8)	N/A	A (9) -- A (8)	N/A

Improvements by Developer are shown in **BOLD.**
1.Level of service for major-street left-turn movement.
2.Level of service for minor-street approach.

Capacity analysis of Build (2027) conditions indicate that the major-street left-turn movement and minor-street approach at the intersection of Perry Curtis Road and Site Drive #4 are expected to operate at LOS A during the weekday AM and PM peak hours. According to the NCDOT warrant for left and right-turn lanes at unsignalized driveways chart contained within the NCDOT Driveway Manual, a southbound left-turn lane on Perry Curtis Road is recommended. Based on coordination with NCDOT, the developer is expected to construct a 100-foot left-turn lane on Perry Curtis Road.

MULTI-WAY STOP CONTROL WARRANT ANALYSIS

Per coordination with Town staff on the recommendations of the November 2022 TIA, analysis of the potential need for multi-way stop control at the intersection of Perry Curtis Road / Wake County Line Road and Chamblee Road was performed to determine the potential need for conversion upon buildout of the proposed development. Weekday AM and PM peak hour traffic volumes analyzed under Build (2027) conditions were evaluated based on the vehicular volume thresholds outlined in Criteria C within the *Manual on Uniform Traffic Control Devices* (MUTCD). Refer to the Table 14 for a summary of the multi-way stop control warrant analysis under Build (2027) conditions.

TABLE 14: MULTI-WAY STOP CONTROL WARRANT ANALYSIS SUMMARY

Conditions	Volumes (vph)		Criteria		
	Major-Street	Minor-Street	C1 + C2		C3
			Major (300 vph)	Minor (200 vph)	70% of Threshold
AM Peak Hour	119	138	N	N	N
PM Peak Hour	264	108	N	N	Y
Criteria Met			NO		NO

Based on a review of the volume-based criteria for the intersection of Perry Curtis Road / Wake County Line Road and Chamblee Road, this intersection is not expected to satisfy these thresholds during either the weekday AM or PM peak hours and as such, is not expected to satisfy these thresholds for the extended 8-hour period required for consideration of conversion to multi-way stop control. Based on a review of the capacity analysis results of this intersection, this intersection is expected to operate at acceptable levels-of service under Build (2027) conditions. Based on the low expected traffic volumes at this intersection upon buildout of the development, conversion of this intersection to a multi-way stop control is not a recommended improvement by the proposed development.

SUMMARY / RECOMMENDATIONS

This letter presents the results of the capacity analysis of the TIA Addendum for the proposed Chamblee Lake development in Zebulon, NC. This addendum serves to provide an updated analysis of buildout conditions surrounding the proposed Chamblee Lake development as a result of a change in density and site access compared to the original TIA prepared in November of 2022 by McAdams. Based on the findings of this study and coordination during the review of the original TIA, the following improvements summarized below have been identified or are recommended to accommodate future traffic conditions. Refer to Figure 4 in the attachments for a graphical representation of the recommended improvements at the study intersections.

Improvements by Sidney Creek

NC 39 and Old US 264

- Monitor for signalization and install once warranted and approved by NCDOT.
- Construct an exclusive eastbound right-turn lane on Old US 264 with a minimum of 100 feet of full width storage and appropriate deceleration and taper.
- Construct an exclusive eastbound left-turn lane on Old US 264 with a minimum of 50 feet of full width storage and appropriate deceleration and taper.
- Construct and exclusive westbound right-turn lane on Old US 264 with a minimum of 125 feet of full width storage and appropriate deceleration and taper.
- Construct an exclusive westbound left-turn lane on Old US 264 with a minimum of 50 feet of full width storage and appropriate deceleration and taper.
- Extend the existing southbound left-turn lane on NC 39 to provide a minimum of 100 feet of full width storage and appropriate deceleration and taper.

Recommended Improvements by Developer

Perry Curtis Road and NC 96

- Construct an exclusive southbound left-turn lane on NC 96 with a minimum of 100 feet of full width storage and appropriate deceleration and taper.

Wake County Line Road and NC 39

- Construct an exclusive southbound right-turn lane on NC 39 with a minimum of 100 feet of full width storage and appropriate deceleration and taper.

Chamblee Road and Site Drive #1

- Construct Site Drive #1 as the westbound approach with one (1) ingress lane and one (1) egress lane.
- Provide stop-control for the westbound approach of the site drive.

Chamblee Road and Site Drive #2

- Construct Site Drive #2 with a full movement eastbound and westbound approach with one (1) ingress lane and one (1) egress lane for each approach.
- Provide stop-control on the eastbound and westbound approaches of the site drives.
- Construct an exclusive southbound left-turn lane on Chamblee Road with a minimum of 100 feet of full width storage and appropriate deceleration and taper.
- Construct an exclusive northbound left-turn lane on Chamblee Road with a minimum of 100 feet of full width storage and appropriate deceleration and taper.

Chamblee Road and Site Drive #3

- Construct Site Drive #3 as the eastbound approach with one (1) ingress lane and one (1) egress lane.
- Provide stop-control for the eastbound approach of the site drive.
- Construct an exclusive northbound left-turn lane on Chamblee Road with a minimum of 100 feet of full width storage and appropriate deceleration and taper.

Perry Curtis Road and Site Drive #4

- Construct Site Drive #4 as the westbound approach with one (1) ingress lane and one (1) egress lane.
- Provide stop-control for the westbound approach of the site drive.
- Construct an exclusive southbound left-turn lane on Perry Curtis Road with a minimum of 100 feet of full width storage and appropriate deceleration and taper.

If you should have any questions or comments relative to this study, please feel free to contact me at 919.287.0741.

Sincerely,

MCADAMS

Nate Bouquin, PE, PTOE
Traffic Engineering Lead, Transportation

CC: NCDOT District Office
NCDOT Congestion Management

Attachments: Town TIA Review
NCDOT TIA Review
Site Plan
Figures
Capacity Analysis Reports

434 Fayetteville Street, Ste 1500
Raleigh, NC 27601
Office: 919.836.4040
NC Licensure # F-0165
www.wsp.com

Date: January 9, 2023

To: Michael Clark, AICP, CZO, Planning Director, Town of Zebulon
Nate Bouquin, PE, PTOE, Traffic Engineering Lead, McAdams

From: Sravya Suryadevara, PE, Traffic Engineering Director, WSP USA Inc.

Subject: Chamblee Property Traffic Impact Analysis Review #2

Per your request, WSP has performed a review of the Chamblee property traffic impact study submitted by McAdams, dated November 1, 2022, and the additional information provide via email on December 7, 2022. We have the following comments:

Site Plan and Site Access:

- The site plan provided with the TIA does not include the following and hence could not be reviewed:
    a. Right-of-way lines, easements and restrictions, if any, and property lines.
    b. Driveway approaches and roadway alignment.
    c. Interior drives, channelization, traffic flow pattern, traffic control devices, pavement markings, internal truck, service and delivery routing, emergency vehicle access, etc.
    d. Distance of intersecting roads, streets, driveways within the study area
    e. Width of rights-of-way and sight distance areas
    f. Width and type of adjacent road surface
    g. Width, radii, and lane use of the proposed driveways or streets
    h. Existing/proposed speed limits
    i. Width of property frontage.
    j. Distance between driveways being requested.
    k. Location of sidewalks and crosswalks

- The access to/from Perry Curtis Road is provided through the Perry Ridge neighborhood via Perry Ridge Court and Ridge Valley Road although the site has frontage along Perry Curtis Road. Consider providing access directly to Perry Curtis Road to avoid traffic through an existing neighborhood.

Traffic Volumes:

- The revised Build (2027) Peak Hour Traffic Volumes along Chamblee Road are accurate. There is no need for additional analysis to reflect this change.

Conclusions/Recommendations:

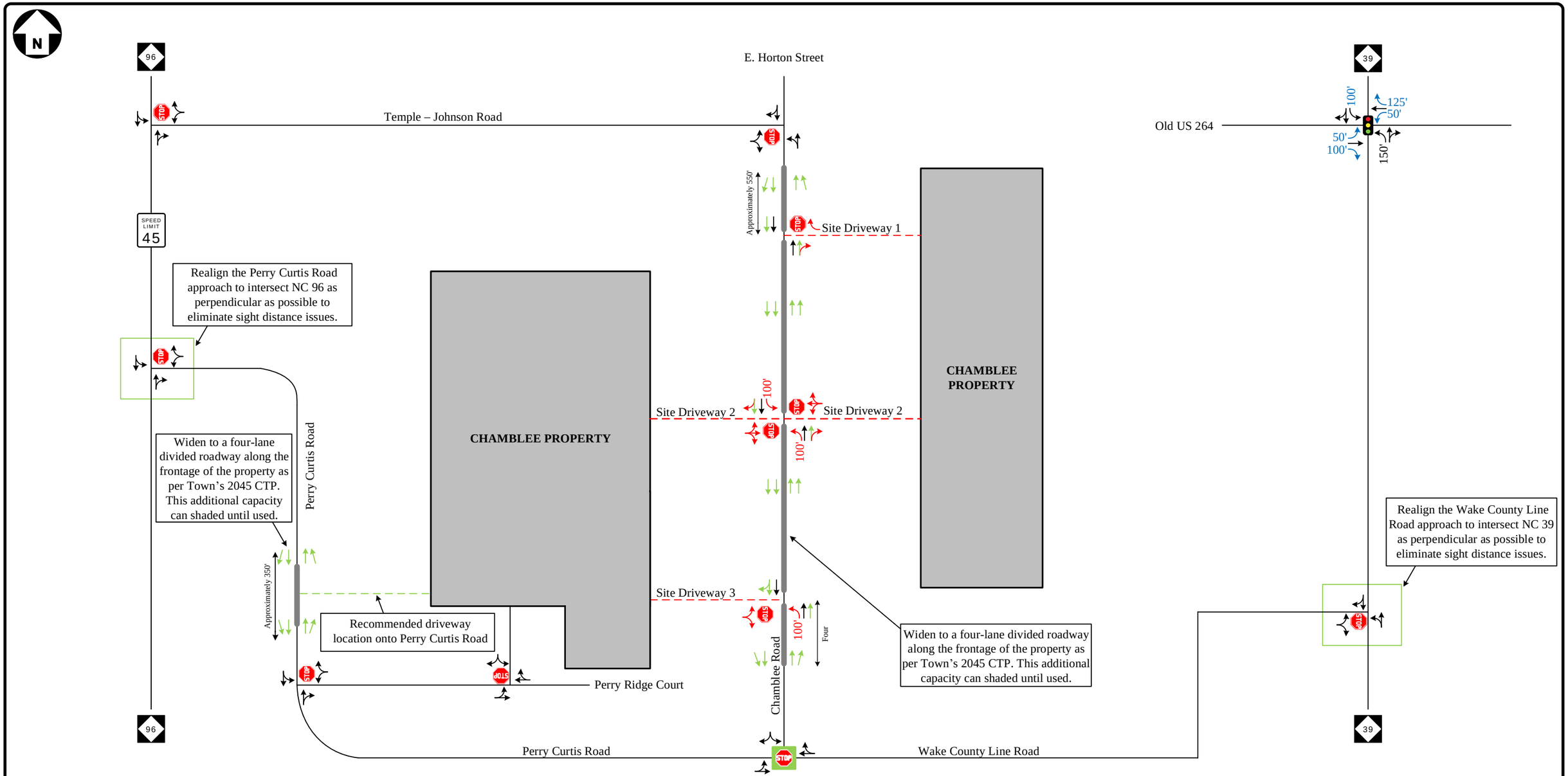
- As per the Town's 2045 Comprehensive Transportation Plan (CTP), Chamblee Road, Perry Curtis Road, and Future Collector Street within the proposed development, are planned to be four-lane divided roadways. The Town expects this development to construct the collector street within the property as well as widen Perry Curtis Road and Chamblee Road along the property's frontage to provide the future cross-sections as per the Town's 2045 CTP.

- Perry Curtis Road and Chamblee Road Intersection
    - Convert this stop-controlled intersection to an all-way stop-controlled intersection.

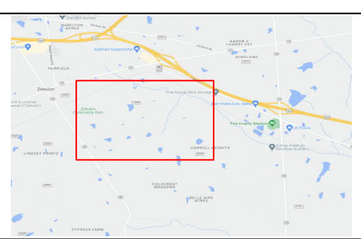
- NC 39 and Wake County Line Road Intersection
    - A significant portion of the site traffic (40%) is anticipated to travel through this skewed-angle intersection making a sharp left and right-turning movements between eastbound Wake County Line Road and southbound NC 39. A Google Streetview of this intersection shows tire marks of cars making these maneuvers and indicates safety concerns. The intersection is recommended to be realigned such that Wake County Line Road intersects NC 39 as close to perpendicular as possible.

- NC 96 (S Arendell Avenue) and Perry Curtis Road Intersection
    - This intersection is also a skewed angle and is recommended to be realigned such that Perry Curtis Road intersects NC 96 as close to perpendicular as possible.

The attached figure shows the recommended lane configuration. If you have any questions about this review, please do not hesitate to contact me at 984-389-2944 or sravya.suryadevara@wsp.com.



Not to scale



LEGEND

- Existing Roadway
- Future Roadway
- Turning Movement
- ###' Storage Length
- Posted Speed Limit
- Yield Control
- Stop Control
- Signal Control
- Recommended Stop Control
- Improvements by Chamblee Property
- Improvements by Sidney Creek
- Recommended by Town / WSP
- Median

CHAMBLEE PROPERTY
ZEBULON, NC

Recommended Lane Configuration and Traffic Control

DATE: December 2022

FIGURE: 1

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

November 29, 2022

Chamblee Property

Traffic Impact Analysis Review Report
Congestion Management Section

TIA Project: SC-2022-329
Division: 5
County: Wake

Clarence B. Bunting, IV, P.E. Regional Engineer
Charles Sorrell, Project Design Engineer

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Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
750 N. GREENFIELD PARKWAY
GARNER, NC 27529

Chamblee Property TIA

SC-2022-329	Zebulon	Wake County

Per your request, the Congestion Management Section (CMS) of the Transportation Mobility and Safety Division has completed a review of the subject site. The comments and recommendations contained in this review are based on data for background conditions presented in the Traffic Impact Analysis (TIA) and are subject to the approval of the local District Engineer's Office and appropriate local authorities.

Date Initially Received by CMS	11/1/22	Date of Site Plan	N/A
Date of Complete Information	11/14/22	Date of Sealed TIA	11/1/22

Proposed Development

The TIA assumes the development is to be completed by 2027 and consist of the following:

Land Use	Land Use Code	Size
Single-Family Detached Housing	210	211 units
Single-Family Attached Housing	215	119 units

Trip Generation - Unadjusted Volumes During a Typical Weekday			
	IN	**OUT**	**TOTAL**
AM Peak Hour	55	148	203
PM Peak Hour	164	103	267
Daily Trips			2,862

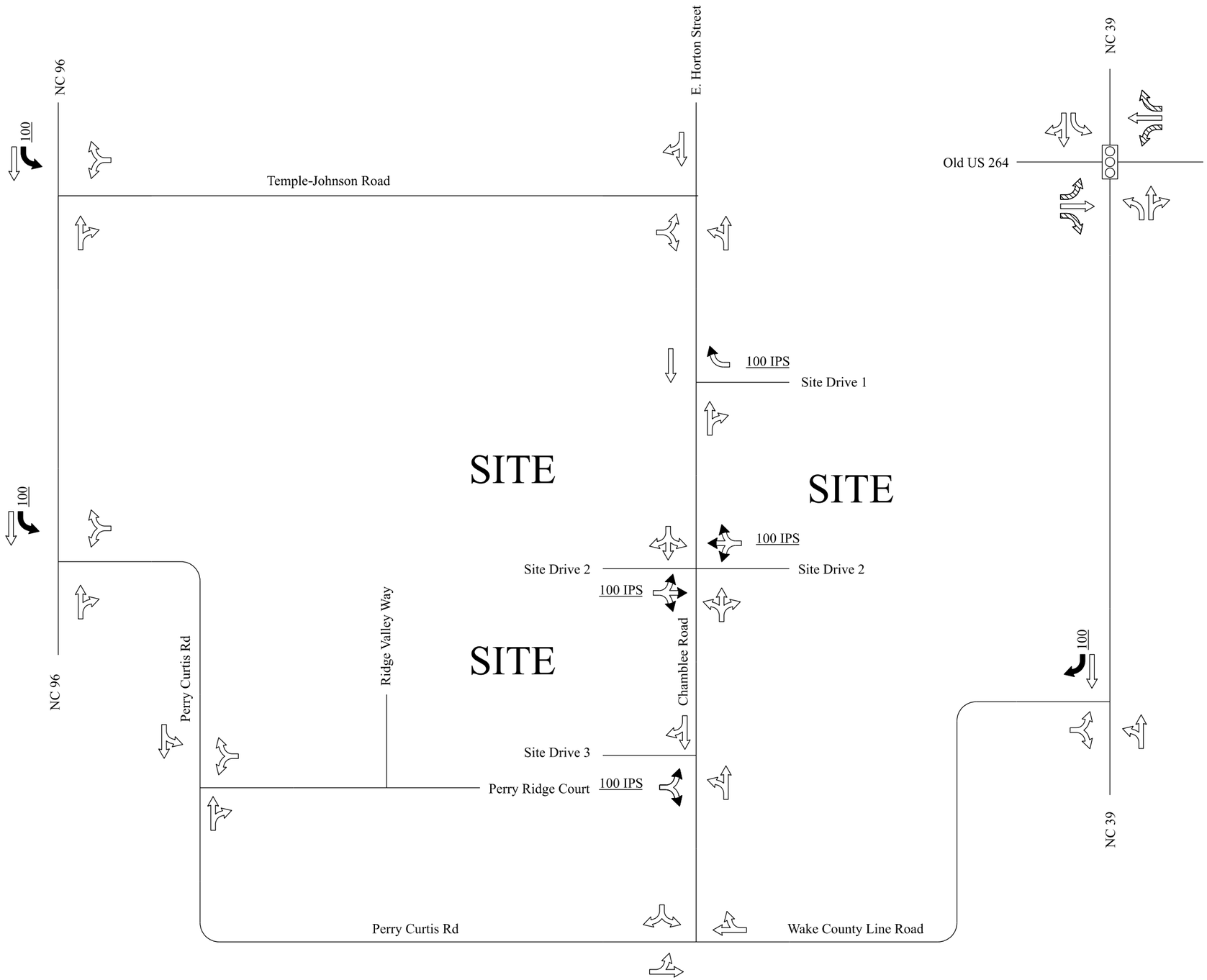
General Reference

For reference to various documents applicable to this review please reference the following link: *https://connect.ncdot.gov/resources/safety/Pages/Congestion-Management.aspx*

Once the driveway permit has been approved and issued, a copy of the final driveway permit requirements should be forwarded to this office. If we can provide further assistance, please contact the Congestion Management Section.

Improvements By Others

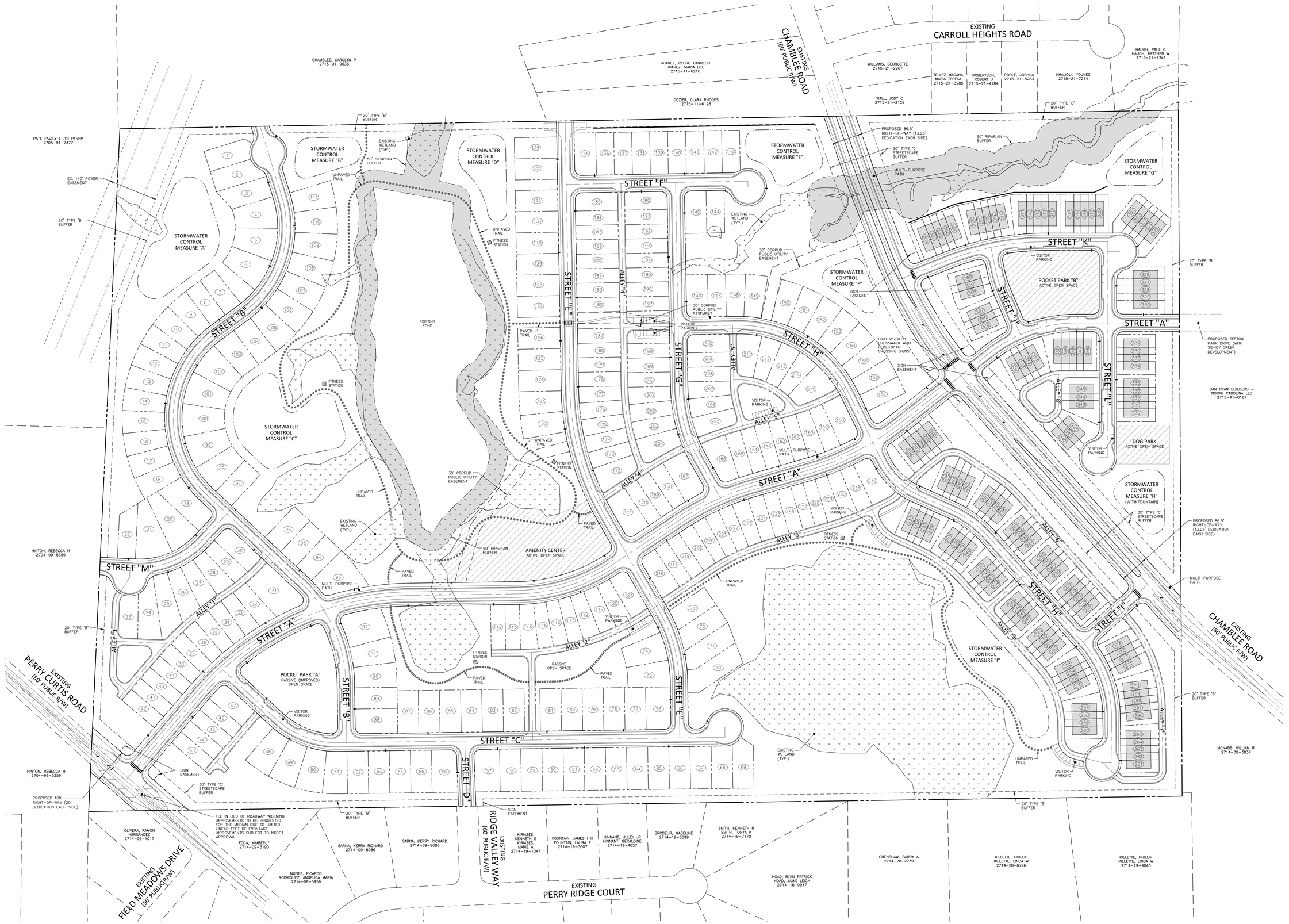
The analysis includes background improvements by others. If these improvements are not in place at the time of construction, the site should provide these improvements or analysis demonstrating mitigation is not necessary.



Chamblee Property
SC-2022-329

- Existing Laneage
- Recommended Laneage
- Laneage Built By Others
- NCDOT Recommendation
- Existing Signal
- Monitor for Signal
- Developer Proposed Signal
- XXX Storage
- XXX NCDOT Recommended Storage
- <XXX> Distance Between Intersections
- IPS Internal Protected Stem
- All Distances in Feet
- Drawing Not to Scale

N



GENERAL NOTES

1. STREET LIGHTS: RESIDENTIAL FIXTURE TYPE - 16' FIBERGLASS POLE IN BLACK OR GREEN WITH TYPE "A" (ACORN) FIXTURE WITH 9500 LUMENS HIGH PRESSURE SODIUM. NO WOOD OR ALUMINUM POLES WILL BE ALLOWED. INSTALLATION MUST BE COORDINATED WITH DUKE PROGRESS ENERGY AND THE TOWN OF ZEBULON PUBLIC WORKS DEPARTMENT.

2. ALL PLANNED IMPROVEMENTS TO ROADWAYS AND RIGHT-OF-WAY OWNED AND MAINTAINED BY THE NC DEPARTMENT OF TRANSPORTATION (NCDOT), INCLUDING IMPROVEMENTS THAT REQUIRE OFF-SITE PROPERTY ACQUISITION AND/OR EASEMENTS, ARE SUBJECT TO NCDOT APPROVAL DURING SUBSEQUENT PHASES OF DEVELOPMENT. IF ANY IMPROVEMENTS ARE NOT APPROVED BY NCDOT, ALTERNATIVE DESIGNS MAY BE ADMINISTRATIVELY APPROVED BY TOWN STAFF.

IMPROVED OPEN SPACE AREAS

ACTIVE	AMENITY CENTER (CLUBHOUSE, POOL, TOT LOT, POLLINATOR GARDEN, MAIL KIOSK)	1.85 AC
PASSIVE	POCKET PARK "A" (PLAY FIELD, RAIN GARDEN, HARDSCAPE PLAZA, TREE ORCHARD)	1.26 AC
ACTIVE	POCKET PARK "B" (TOT LOT, TURFGRASS PLAY FIELD, HARDSCAPE PLAZA, MAIL KIOSK)	1.07 AC
ACTIVE	DOG PARK	0.38 AC
ACTIVE	TRAILS & FITNESS STATIONS	1.43 AC

GRAPHIC SCALE
0 50 100 200
1 inch = 100 ft.

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

M:\Projects\DRH\DRH22004\04-Production\Planning and LA\Concept Plan\Current Drawings\DRH22004-S1.dwg, 7/28/2023 10:59:25 AM, Rich Updegrove

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

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CLIENT

D.R. HORTON, INC.
7208 FALLS OF NEUSE ROAD, SUITE 201
RALEIGH, NC 27615
CONTACT: JON HOLTVEDT
PHONE: 919. 809. 4207
EMAIL: JHoltvedt@drhorton.com

D·R·HORTON America's Builder

CHAMBLEE LAKE
CONCEPT PLAN
1509 CHAMBLEE ROAD
ZEBULON, NORTH CAROLINA

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33828 RYAN C. AYERS
NOT FOR CONSTRUCTION

REVISIONS

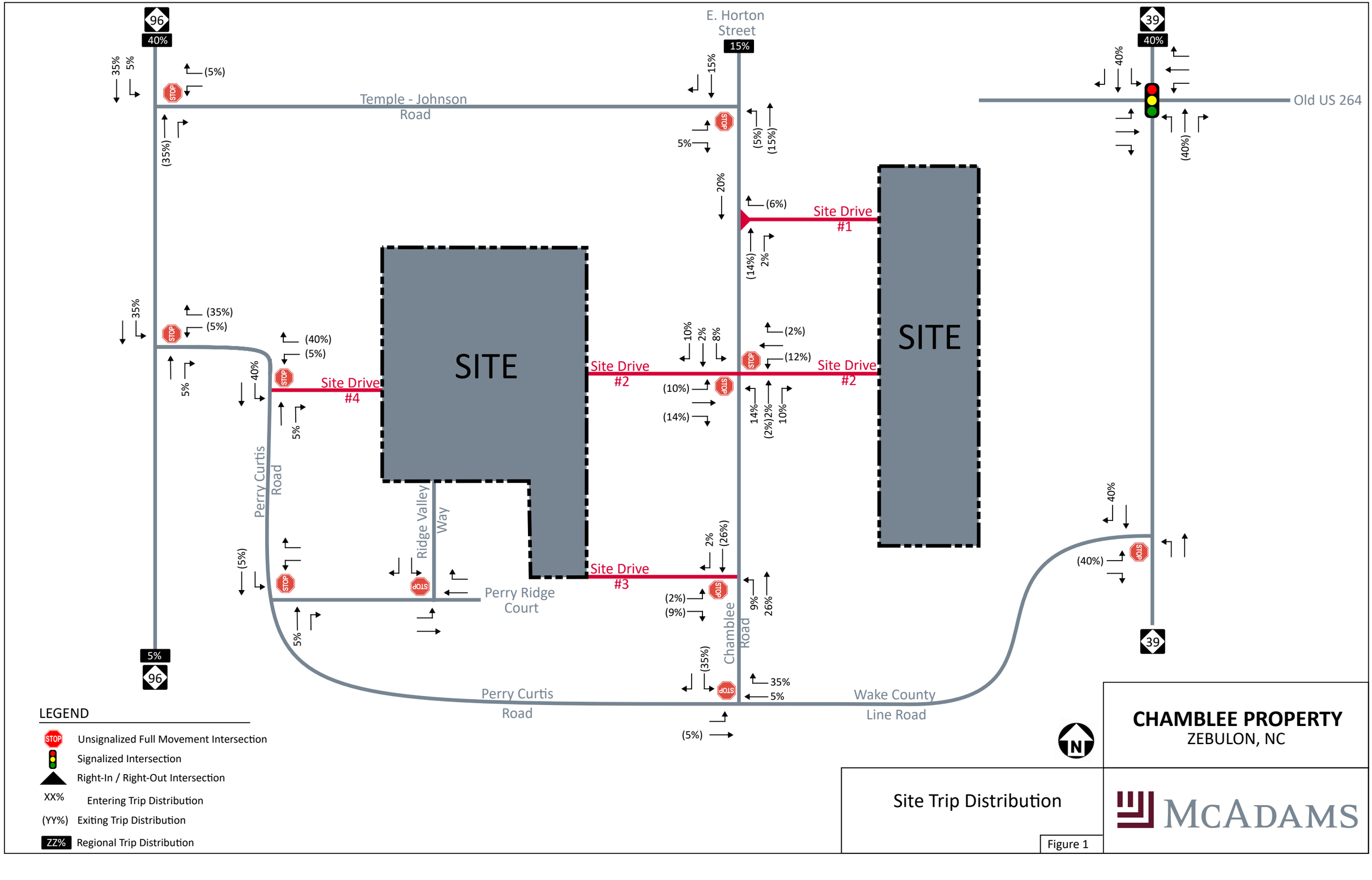
NO.	DATE	
1	07. 28. 2023	PER TOWN COMMENTS

PLAN INFORMATION

PROJECT NO.	DRH-22004
FILENAME	DRH22004-S1
CHECKED BY	RCA
DRAWN BY	RLU
SCALE	1"=100'
DATE	11. 01. 2022

SHEET

SITE PLAN
C2.00



LEGEND

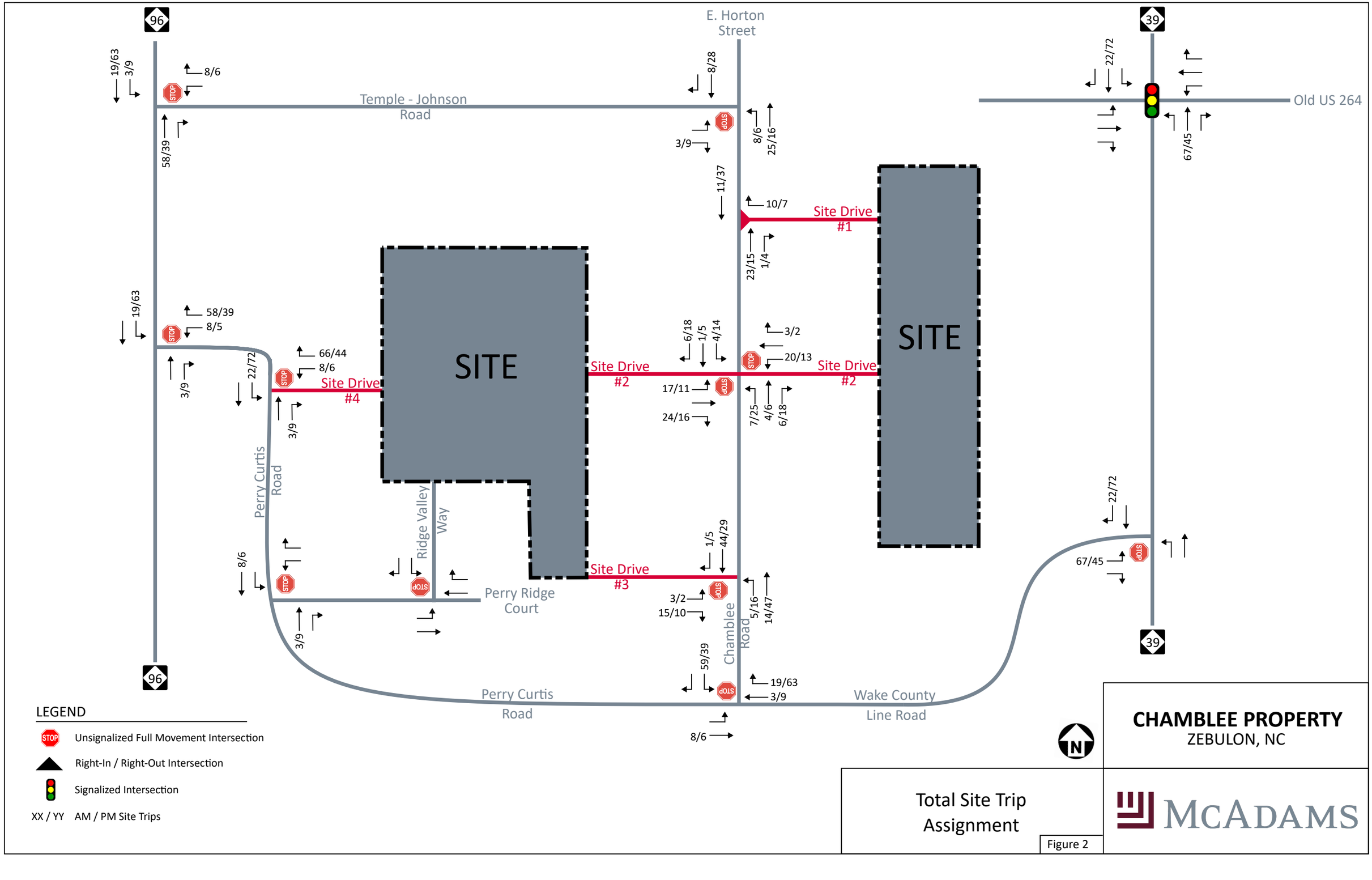
- STOP — Unsignalized Full Movement Intersection
- Signalized Intersection
- Right-In / Right-Out Intersection
- XX% — Entering Trip Distribution
- (YY%) — Exiting Trip Distribution
- ZZ% — Regional Trip Distribution

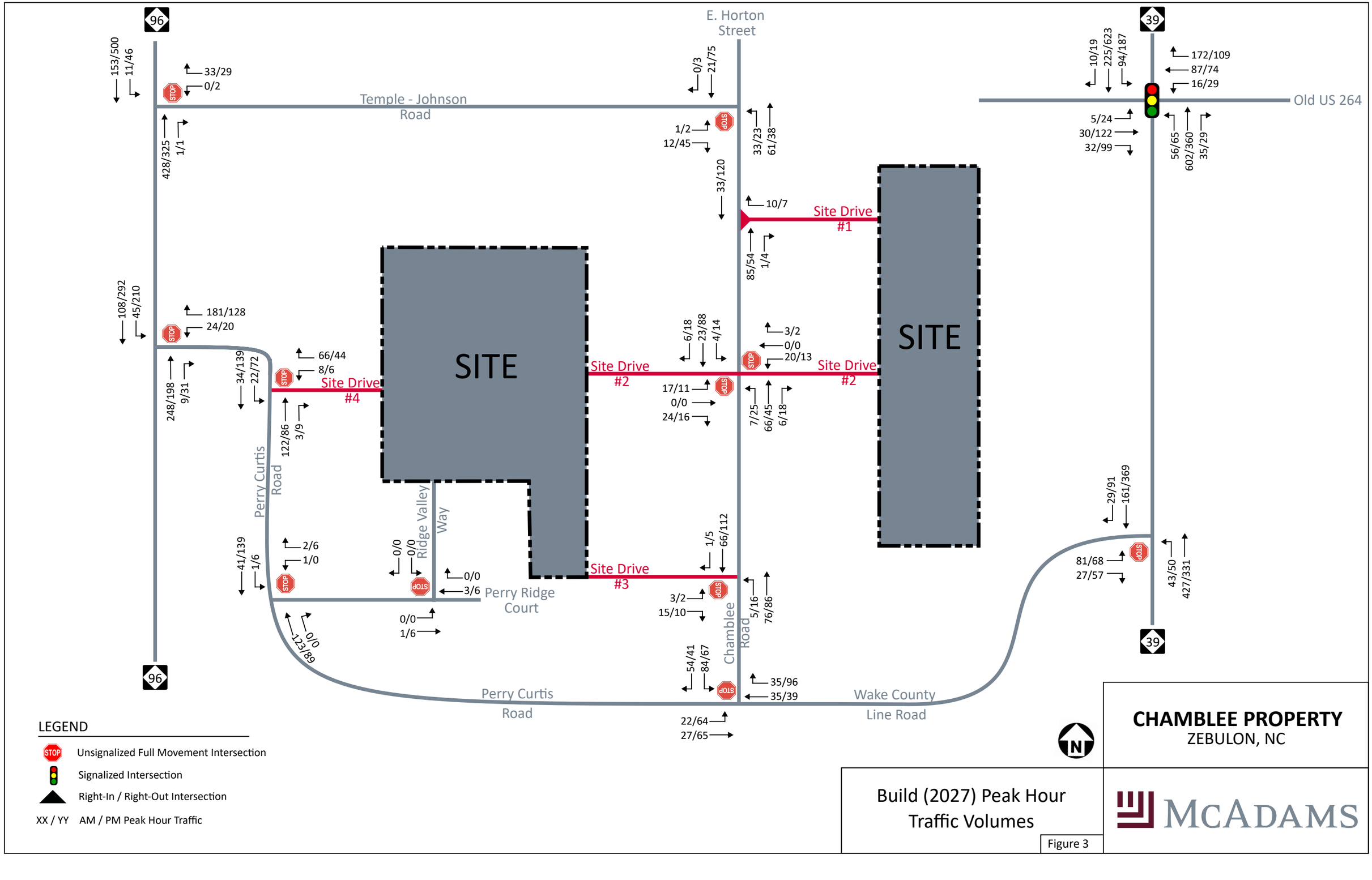
CHAMBLEE PROPERTY
ZEBULON, NC

Site Trip Distribution

Figure 1

McADAMS


96
39
E. Horton Street
Temple - Johnson Road
Old US 264
Site Drive #1
Site Drive #2
Site Drive #3
Site Drive #4
SITE
SITE
Perry Curtis Road
Ridge Valley Way
Perry Ridge Court
Chamblee Road
Perry Curtis Road
Wake County Line Road
19/63
3/9
8/6
58/39
8/28
3/9
8/6
25/16
11/37
10/7
23/15
1/4
22/72
67/45
58/39
8/5
19/63
3/9
22/72
66/44
8/6
3/9
6/18
1/5
4/14
3/2
20/13
17/11
24/16
7/25
4/6
6/18
8/6
1/5
44/29
3/2
15/10
5/16
14/47
59/39
19/63
3/9
8/6
22/72
67/45
LEGEND
Unsignalized Full Movement Intersection
Right-In / Right-Out Intersection
Signalized Intersection
XX / YY AM / PM Site Trips
N
CHAMBLEE PROPERTY
ZEBULON, NC
Total Site Trip Assignment
Figure 2
McAdams

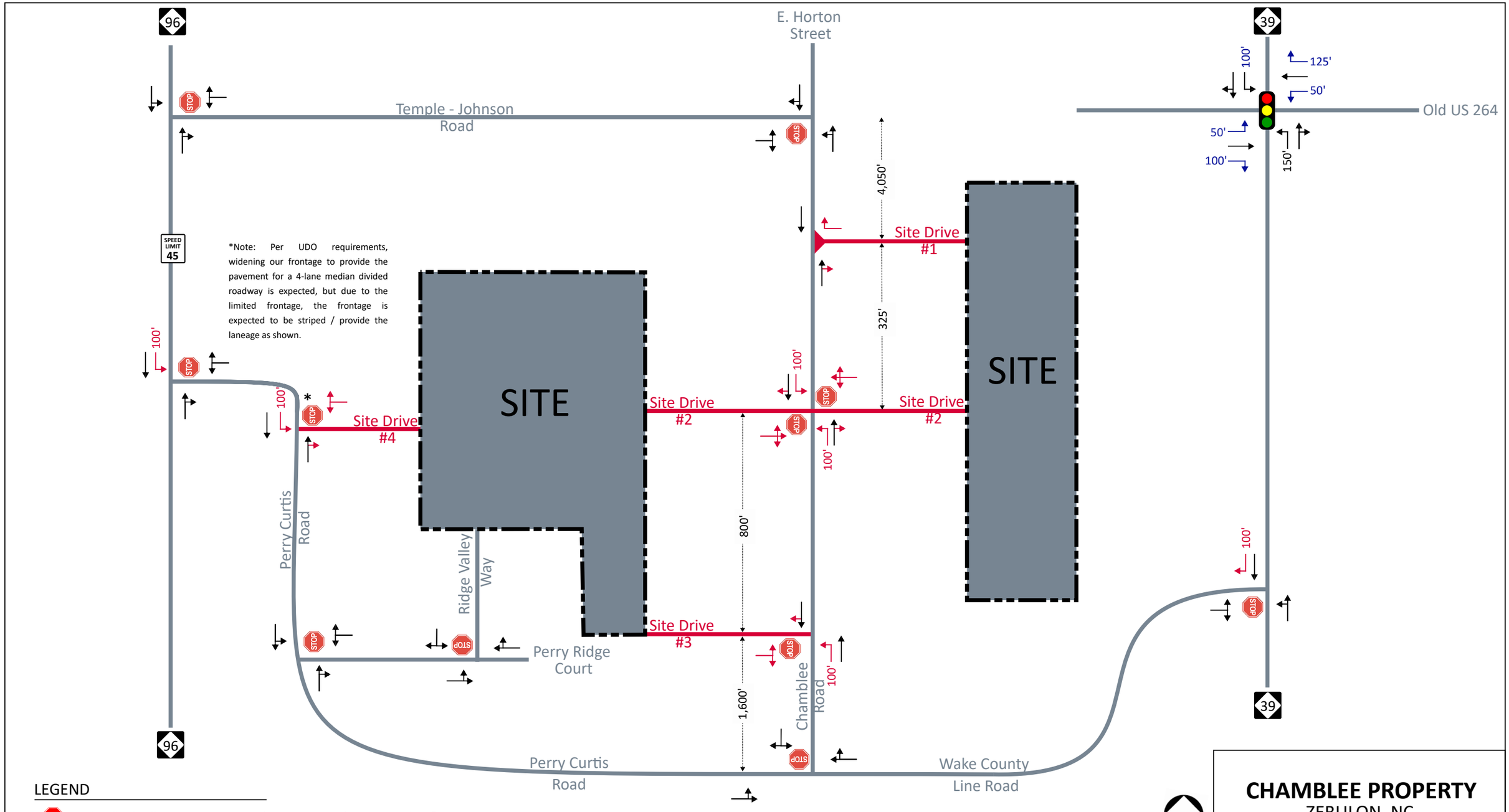


CHAMBLEE PROPERTY
ZEBULON, NC

Build (2027) Peak Hour Traffic Volumes

Figure 3

McADAMS



LEGEND

- Unsignalized Full Movement Intersection
- Signalized Intersection
- Right-In / Right-Out Intersection
- Existing Lane
- X' Storage (In Feet)
- Improvement by Developer
- Improvement by Sidney Creek

CHAMBLEE PROPERTY
ZEBULON, NC

Recommended Lane Configurations

Figure 4

McAdams

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	12	33	61	21	4
Future Vol, veh/h	4	12	33	61	21	4
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	4	13	37	68	23	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	167	25	27	0	-	0
Stage 1	25	-	-	-	-	-
Stage 2	142	-	-	-	-	-
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	823	1051	1587	-	-	-
Stage 1	998	-	-	-	-	-
Stage 2	885	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	803	1051	1587	-	-	-
Mov Cap-2 Maneuver	803	-	-	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	885	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	2.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1587	-	976	-	-
HCM Lane V/C Ratio	0.023	-	0.018	-	-
HCM Control Delay (s)	7.3	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	45	23	38	75	4
Future Vol, veh/h	4	45	23	38	75	4
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	4	50	26	42	83	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	179	85	87	0	-	0
Stage 1	85	-	-	-	-	-
Stage 2	94	-	-	-	-	-
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	811	974	1509	-	-	-
Stage 1	938	-	-	-	-	-
Stage 2	930	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	796	974	1509	-	-	-
Mov Cap-2 Maneuver	796	-	-	-	-	-
Stage 1	921	-	-	-	-	-
Stage 2	930	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	2.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1509	-	957	-	-
HCM Lane V/C Ratio	0.017	-	0.057	-	-
HCM Control Delay (s)	7.4	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	33	428	4	11	153
Future Vol, veh/h	4	33	428	4	11	153
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	4	37	476	4	12	170

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	672	478	0	0	480	0
Stage 1	478	-	-	-	-	-
Stage 2	194	-	-	-	-	-
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	421	587	-	-	1082	-
Stage 1	624	-	-	-	-	-
Stage 2	839	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	416	587	-	-	1082	-
Mov Cap-2 Maneuver	416	-	-	-	-	-
Stage 1	624	-	-	-	-	-
Stage 2	829	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	562	1082	-
HCM Lane V/C Ratio	-	-	0.073	0.011	-
HCM Control Delay (s)	-	-	11.9	8.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	29	325	4	46	500
Future Vol, veh/h	4	29	325	4	46	500
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	4	32	361	4	51	556

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1021	363	0	0	365	0
Stage 1	363	-	-	-	-	-
Stage 2	658	-	-	-	-	-
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	262	682	-	-	1194	-
Stage 1	704	-	-	-	-	-
Stage 2	515	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	246	682	-	-	1194	-
Mov Cap-2 Maneuver	246	-	-	-	-	-
Stage 1	704	-	-	-	-	-
Stage 2	483	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	561	1194	-
HCM Lane V/C Ratio	-	-	0.065	0.043	-
HCM Control Delay (s)	-	-	11.9	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	4.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	24	181	248	9	45	108
Future Vol, veh/h	24	181	248	9	45	108
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	-	-	-	100	-
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	27	201	276	10	50	120

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	501	281	0	0	286	0
Stage 1	281	-	-	-	-	-
Stage 2	220	-	-	-	-	-
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	530	758	-	-	1276	-
Stage 1	767	-	-	-	-	-
Stage 2	817	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	509	758	-	-	1276	-
Mov Cap-2 Maneuver	509	-	-	-	-	-
Stage 1	767	-	-	-	-	-
Stage 2	785	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	2.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	717	1276	-
HCM Lane V/C Ratio	-	-	0.318	0.039	-
HCM Control Delay (s)	-	-	12.3	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	1.4	0.1	-

Intersection	
Int Delay, s/veh	4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	128	198	31	210	292
Future Vol, veh/h	20	128	198	31	210	292
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	-	-	-	100	-
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	22	142	220	34	233	324

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1027	237	0	0	254	0
Stage 1	237	-	-	-	-	-
Stage 2	790	-	-	-	-	-
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	260	802	-	-	1311	-
Stage 1	802	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	214	802	-	-	1311	-
Mov Cap-2 Maneuver	214	-	-	-	-	-
Stage 1	802	-	-	-	-	-
Stage 2	367	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.5	0	3.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	585	1311	-
HCM Lane V/C Ratio	-	-	0.281	0.178	-
HCM Control Delay (s)	-	-	13.5	8.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	1.1	0.6	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	4	123	4	4	41
Future Vol, veh/h	4	4	123	4	4	41
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	4	4	137	4	4	46

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	193	139	0	0	141	0
Stage 1	139	-	-	-	-	-
Stage 2	54	-	-	-	-	-
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	796	909	-	-	1442	-
Stage 1	888	-	-	-	-	-
Stage 2	969	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	794	909	-	-	1442	-
Mov Cap-2 Maneuver	794	-	-	-	-	-
Stage 1	888	-	-	-	-	-
Stage 2	966	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	848	1442	-
HCM Lane V/C Ratio	-	-	0.01	0.003	-
HCM Control Delay (s)	-	-	9.3	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	6	89	4	6	139
Future Vol, veh/h	4	6	89	4	6	139
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	4	7	99	4	7	154

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	269	101	0	0	103	0
Stage 1	101	-	-	-	-	-
Stage 2	168	-	-	-	-	-
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	720	954	-	-	1489	-
Stage 1	923	-	-	-	-	-
Stage 2	862	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	716	954	-	-	1489	-
Mov Cap-2 Maneuver	716	-	-	-	-	-
Stage 1	923	-	-	-	-	-
Stage 2	858	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	842	1489	-
HCM Lane V/C Ratio	-	-	0.013	0.004	-
HCM Control Delay (s)	-	-	9.3	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	4	4	4	4	4
Future Vol, veh/h	4	4	4	4	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	-	-	-	-	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	4	4	4	4	4	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	8	0	-	0	18	6
Stage 1	-	-	-	-	6	-
Stage 2	-	-	-	-	12	-
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	1612	-	-	-	1000	1077
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	1011	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1612	-	-	-	998	1077
Mov Cap-2 Maneuver	-	-	-	-	998	-
Stage 1	-	-	-	-	1015	-
Stage 2	-	-	-	-	1011	-

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1612	-	-	-	1036
HCM Lane V/C Ratio	0.003	-	-	-	0.009
HCM Control Delay (s)	7.2	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	6	6	4	4	4
Future Vol, veh/h	4	6	6	4	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	-	-	-	-	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	4	7	7	4	4	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	11	0	-	0	24	9
Stage 1	-	-	-	-	9	-
Stage 2	-	-	-	-	15	-
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	1608	-	-	-	992	1073
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	1008	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1608	-	-	-	990	1073
Mov Cap-2 Maneuver	-	-	-	-	990	-
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	1008	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1608	-	-	-	1030
HCM Lane V/C Ratio	0.003	-	-	-	0.009
HCM Control Delay (s)	7.2	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	27	35	35	84	54
Future Vol, veh/h	22	27	35	35	84	54
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	24	30	39	39	93	60

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	78	0	-	0	137	59
Stage 1	-	-	-	-	59	-
Stage 2	-	-	-	-	78	-
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	1520	-	-	-	856	1007
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	945	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1520	-	-	-	842	1007
Mov Cap-2 Maneuver	-	-	-	-	842	-
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	945	-

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1520	-	-	-	900
HCM Lane V/C Ratio	0.016	-	-	-	0.17
HCM Control Delay (s)	7.4	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	64	65	39	96	67	41
Future Vol, veh/h	64	65	39	96	67	41
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	71	72	43	107	74	46

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	150	0	-	0	311	97
Stage 1	-	-	-	-	97	-
Stage 2	-	-	-	-	214	-
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	1431	-	-	-	681	959
Stage 1	-	-	-	-	927	-
Stage 2	-	-	-	-	822	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1431	-	-	-	646	959
Mov Cap-2 Maneuver	-	-	-	-	646	-
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	822	-

Approach	EB	WB	SB
HCM Control Delay, s	3.8	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1431	-	-	-	737
HCM Lane V/C Ratio	0.05	-	-	-	0.163
HCM Control Delay (s)	7.6	0	-	-	10.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	81	27	43	427	161	29
Future Vol, veh/h	81	27	43	427	161	29
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	-	-	-	-	100
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	90	30	48	474	179	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	749	179	211	0	-	0
Stage 1	179	-	-	-	-	-
Stage 2	570	-	-	-	-	-
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	379	864	1360	-	-	-
Stage 1	852	-	-	-	-	-
Stage 2	566	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	361	864	1360	-	-	-
Mov Cap-2 Maneuver	361	-	-	-	-	-
Stage 1	811	-	-	-	-	-
Stage 2	566	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.9	0.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1360	-	422	-	-
HCM Lane V/C Ratio	0.035	-	0.284	-	-
HCM Control Delay (s)	7.7	0	16.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.2	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	68	57	50	331	369	91
Future Vol, veh/h	68	57	50	331	369	91
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	-	-	-	-	100
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	76	63	56	368	410	101

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	890	410	511	0	-	0
Stage 1	410	-	-	-	-	-
Stage 2	480	-	-	-	-	-
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	313	642	1054	-	-	-
Stage 1	670	-	-	-	-	-
Stage 2	622	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	292	642	1054	-	-	-
Mov Cap-2 Maneuver	292	-	-	-	-	-
Stage 1	625	-	-	-	-	-
Stage 2	622	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.3	1.1	0
HCM LOS	C		

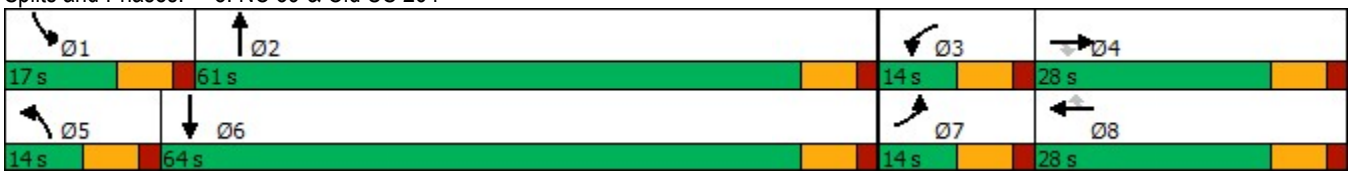
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1054	-	389	-	-
HCM Lane V/C Ratio	0.053	-	0.357	-	-
HCM Control Delay (s)	8.6	0	19.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.6	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	30	32	16	87	172	56	602	35	94	225	10
Future Volume (vph)	5	30	32	16	87	172	56	602	35	94	225	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		125	50		125	150		0	100		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.992			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1848	0	1770	1852	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1770	1848	0	1770	1852	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1272			1346			8116			1238	
Travel Time (s)		15.8			16.7			100.6			15.3	
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
Adj. Flow (vph)	6	33	36	18	97	191	62	669	39	104	250	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	33	36	18	97	191	62	708	0	104	261	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	14.0		7.0	14.0	
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	21.0		14.0	21.0	
Total Split (s)	14.0	28.0	28.0	14.0	28.0	28.0	14.0	61.0		17.0	64.0	
Total Split (%)	11.7%	23.3%	23.3%	11.7%	23.3%	23.3%	11.7%	50.8%		14.2%	53.3%	
Maximum Green (s)	7.0	21.0	21.0	7.0	21.0	21.0	7.0	54.0		10.0	57.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Act Effct Green (s)	10.0	15.8	15.8	10.0	19.1	19.1	10.0	42.3		12.0	44.3	
Actuated g/C Ratio	0.12	0.18	0.18	0.12	0.22	0.22	0.12	0.49		0.14	0.51	
v/c Ratio	0.03	0.10	0.13	0.09	0.24	0.55	0.31	0.79		0.43	0.28	
Control Delay	47.2	38.1	38.6	47.1	35.7	42.2	49.4	28.7		48.8	15.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	47.2	38.1	38.6	47.1	35.7	42.2	49.4	28.7		48.8	15.0	
LOS	D	D	D	D	D	D	D	C		D	B	
Approach Delay		39.1			40.4			30.3			24.6	
Approach LOS		D			D			C			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	3	15	16	9	45	95	33	318		54	78	
Queue Length 95th (ft)	18	51	54	38	116	219	94	638		138	174	
Internal Link Dist (ft)		1192			1266			8036			1158	
Turn Bay Length (ft)	50		125	50		125	150			100		
Base Capacity (vph)	203	548	465	203	555	471	203	1248		271	1297	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.03	0.06	0.08	0.09	0.17	0.41	0.31	0.57		0.38	0.20	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 86.9			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 31.4		Intersection LOS: C	
Intersection Capacity Utilization 62.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: NC 39 & Old US 264

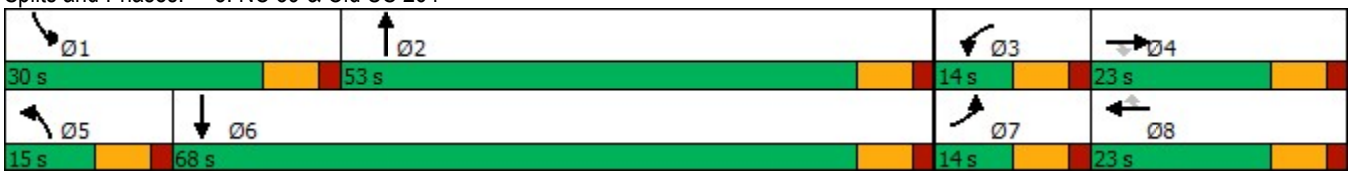


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	122	99	29	74	109	65	360	29	187	623	19
Future Volume (vph)	24	122	99	29	74	109	65	360	29	187	623	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		125	50		125	150		0	100		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.989			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1842	0	1770	1855	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1770	1842	0	1770	1855	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1272			1346			8116			1238	
Travel Time (s)		15.8			16.7			100.6			15.3	
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
Adj. Flow (vph)	27	136	110	32	82	121	72	400	32	208	692	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	136	110	32	82	121	72	432	0	208	713	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	14.0		7.0	14.0	
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	21.0		14.0	21.0	
Total Split (s)	14.0	23.0	23.0	14.0	23.0	23.0	15.0	53.0		30.0	68.0	
Total Split (%)	11.7%	19.2%	19.2%	11.7%	19.2%	19.2%	12.5%	44.2%		25.0%	56.7%	
Maximum Green (s)	7.0	16.0	16.0	7.0	16.0	16.0	8.0	46.0		23.0	61.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Act Effct Green (s)	10.0	14.6	14.6	10.0	14.6	14.6	10.6	33.2		18.4	45.9	
Actuated g/C Ratio	0.11	0.16	0.16	0.11	0.16	0.16	0.12	0.37		0.21	0.51	
v/c Ratio	0.14	0.45	0.43	0.16	0.27	0.47	0.34	0.63		0.57	0.75	
Control Delay	49.5	45.8	46.7	49.7	42.8	47.8	51.3	29.8		43.9	26.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	49.5	45.8	46.7	49.7	42.8	47.8	51.3	29.8		43.9	26.2	
LOS	D	D	D	D	D	D	D	C		D	C	
Approach Delay		46.6			46.3			32.8			30.2	
Approach LOS		D			D			C			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	16	80	65	19	47	72	44	223		122	385	
Queue Length 95th (ft)	51	164	139	57	107	151	104	366		227	567	
Internal Link Dist (ft)		1192			1266			8036			1158	
Turn Bay Length (ft)	50		125	50		125	150			100		
Base Capacity (vph)	197	415	352	197	415	352	219	1094		547	1359	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.14	0.33	0.31	0.16	0.20	0.34	0.33	0.39		0.38	0.52	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 89.7			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 35.2		Intersection LOS: D	
Intersection Capacity Utilization 68.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 8: NC 39 & Old US 264



Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	10	85	4	0	33
Future Vol, veh/h	0	10	85	4	0	33
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	0	11	94	4	0	37

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	96	0	0	-	-
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	960	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	960	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	960	-
HCM Lane V/C Ratio	-	-	0.012	-
HCM Control Delay (s)	-	-	8.8	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	7	54	4	0	120
Future Vol, veh/h	0	7	54	4	0	120
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	0	8	60	4	0	133

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	62	0	0	-	-
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	1003	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1003	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	1003	-
HCM Lane V/C Ratio	-	-	0.008	-
HCM Control Delay (s)	-	-	8.6	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	4	24	20	4	4	7	66	6	4	23	6
Future Vol, veh/h	17	4	24	20	4	4	7	66	6	4	23	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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	19	4	27	22	4	4	8	73	7	4	26	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	135	134	30	146	134	77	33	0	0	80	0	0
Stage 1	38	38	-	93	93	-	-	-	-	-	-	-
Stage 2	97	96	-	53	41	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	836	757	1044	823	757	984	1579	-	-	1518	-	-
Stage 1	977	863	-	914	818	-	-	-	-	-	-	-
Stage 2	910	815	-	960	861	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	823	751	1044	793	751	984	1579	-	-	1518	-	-
Mov Cap-2 Maneuver	823	751	-	793	751	-	-	-	-	-	-	-
Stage 1	972	860	-	909	814	-	-	-	-	-	-	-
Stage 2	896	811	-	928	858	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	9.6	0.6	0.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1579	-	-	919	809	1518	-	-
HCM Lane V/C Ratio	0.005	-	-	0.054	0.038	0.003	-	-
HCM Control Delay (s)	7.3	-	-	9.1	9.6	7.4	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	4	16	13	4	4	25	45	18	14	88	18
Future Vol, veh/h	11	4	16	13	4	4	25	45	18	14	88	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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	12	4	18	14	4	4	28	50	20	16	98	20

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	260	266	108	267	266	60	118	0	0	70	0	0
Stage 1	140	140	-	116	116	-	-	-	-	-	-	-
Stage 2	120	126	-	151	150	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	693	640	946	686	640	1005	1470	-	-	1531	-	-
Stage 1	863	781	-	889	800	-	-	-	-	-	-	-
Stage 2	884	792	-	851	773	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	671	621	946	654	621	1005	1470	-	-	1531	-	-
Mov Cap-2 Maneuver	671	621	-	654	621	-	-	-	-	-	-	-
Stage 1	847	773	-	872	785	-	-	-	-	-	-	-
Stage 2	858	777	-	822	765	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	10.4	2.1	0.9
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1470	-	-	780	693	1531	-	-
HCM Lane V/C Ratio	0.019	-	-	0.044	0.034	0.01	-	-
HCM Control Delay (s)	7.5	-	-	9.8	10.4	7.4	-	-
HCM Lane LOS	A	-	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	15	5	76	66	4
Future Vol, veh/h	4	15	5	76	66	4
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	-	100	-	-	-
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	4	17	6	84	73	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	171	75	77	0	-	0
Stage 1	75	-	-	-	-	-
Stage 2	96	-	-	-	-	-
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	819	986	1522	-	-	-
Stage 1	948	-	-	-	-	-
Stage 2	928	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	816	986	1522	-	-	-
Mov Cap-2 Maneuver	816	-	-	-	-	-
Stage 1	944	-	-	-	-	-
Stage 2	928	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1522	-	945	-	-
HCM Lane V/C Ratio	0.004	-	0.022	-	-
HCM Control Delay (s)	7.4	-	8.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	10	16	86	112	5
Future Vol, veh/h	4	10	16	86	112	5
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	-	100	-	-	-
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	4	11	18	96	124	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	259	127	130	0	-	0
Stage 1	127	-	-	-	-	-
Stage 2	132	-	-	-	-	-
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	730	923	1455	-	-	-
Stage 1	899	-	-	-	-	-
Stage 2	894	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	721	923	1455	-	-	-
Mov Cap-2 Maneuver	721	-	-	-	-	-
Stage 1	888	-	-	-	-	-
Stage 2	894	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1455	-	855	-	-
HCM Lane V/C Ratio	0.012	-	0.018	-	-
HCM Control Delay (s)	7.5	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	66	122	4	22	34
Future Vol, veh/h	8	66	122	4	22	34
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	-	-	-	100	-
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	9	73	136	4	24	38

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	224	138	0	0	140	0
Stage 1	138	-	-	-	-	-
Stage 2	86	-	-	-	-	-
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	764	910	-	-	1443	-
Stage 1	889	-	-	-	-	-
Stage 2	937	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	751	910	-	-	1443	-
Mov Cap-2 Maneuver	751	-	-	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	921	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	890	1443	-
HCM Lane V/C Ratio	-	-	0.092	0.017	-
HCM Control Delay (s)	-	-	9.5	7.5	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	44	86	9	72	139
Future Vol, veh/h	6	44	86	9	72	139
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	-	-	-	100	-
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	7	49	96	10	80	154

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	415	101	0	0	106	0
Stage 1	101	-	-	-	-	-
Stage 2	314	-	-	-	-	-
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	594	954	-	-	1485	-
Stage 1	923	-	-	-	-	-
Stage 2	741	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	562	954	-	-	1485	-
Mov Cap-2 Maneuver	562	-	-	-	-	-
Stage 1	923	-	-	-	-	-
Stage 2	701	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	2.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	880	1485	-
HCM Lane V/C Ratio	-	-	0.063	0.054	-
HCM Control Delay (s)	-	-	9.4	7.6	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.2	-

1: Chamblee Road/E. Horton Street & Temple-Johnston Road Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	3.3	0.6	0.4	0.6	0.0	0.0	0.5

2: NC 96 & Temple-Johnston Road Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.2	0.0
Total Del/Veh (s)	8.1	2.0	1.2	0.5	2.4	0.2	1.0

3: NC 96 & Perry Curtis Road Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.3	0.0	0.0	0.1
Total Del/Veh (s)	9.4	5.3	1.3	0.7	3.4	0.5	3.0

4: Perry Curtis Road & Perry Ridge Court Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.8	2.5	0.4	0.0	7.3	0.4	0.5

5: Perry Ridge Court & Ridge Valley Way Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Total Del/Veh (s)	1.6	0.1	0.0	0.0	3.5	2.5	1.6

6: Perry Curtis Road/Wake County Line Road & Chamblee Road Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	0.9	1.0	0.5	0.0	3.5	2.3	1.7

7: NC 39 & Wake County Line Road Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.4	0.3	0.0	0.0	0.2
Total Del/Veh (s)	10.3	0.0	1.9	2.1	2.1	6.2	5.2	4.0

8: NC 39 & Old US 264 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.2	0.3	4.0	3.3	0.5	3.7	0.3	0.2	0.1	3.4	0.6	0.3
Total Del/Veh (s)	45.3	40.8	24.1	37.2	27.2	28.1	52.5	30.0	27.4	41.5	14.5	6.2

8: NC 39 & Old US 264 Performance by movement

Movement	All
Denied Del/Veh (s)	1.1
Total Del/Veh (s)	28.2

9: Chamblee Road & Site Drive #1 Performance by movement

Movement	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.2	0.4	0.0	0.0	0.4

10: Chamblee Road & Site Drive #2 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.9	4.2	2.5	3.8	4.6	2.9	0.3	0.3	0.0	0.2	0.2	0.0

10: Chamblee Road & Site Drive #2 Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	1.5

11: Chamblee Road & Site Drive #3 Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.5	0.0	0.0	0.0	0.1
Total Del/Veh (s)	3.3	2.2	0.2	0.2	0.6	0.3	0.6

12: Perry Curtis Road & Site Drive #4 Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.9	3.4	0.5	0.0	0.8	0.9	1.5

Total Network Performance

Denied Del/Veh (s)	0.8
Total Del/Veh (s)	24.0

Intersection: 1: Chamblee Road/E. Horton Street & Temple-Johnston Road

Movement	EB
Directions Served	LR
Maximum Queue (ft)	25
Average Queue (ft)	7
95th Queue (ft)	24
Link Distance (ft)	1058
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: NC 96 & Temple-Johnston Road

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	30	27
Average Queue (ft)	16	4
95th Queue (ft)	34	19
Link Distance (ft)	1187	1196
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: NC 96 & Perry Curtis Road

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	103	52
Average Queue (ft)	21	10
95th Queue (ft)	59	35
Link Distance (ft)	1072	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Perry Curtis Road & Perry Ridge Court

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	30	23
Average Queue (ft)	10	1
95th Queue (ft)	34	8
Link Distance (ft)	410	695
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Perry Ridge Court & Ridge Valley Way

Movement	SB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	9
95th Queue (ft)	31
Link Distance (ft)	998
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Perry Curtis Road/Wake County Line Road & Chamblee Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	28	66
Average Queue (ft)	3	31
95th Queue (ft)	16	49
Link Distance (ft)	2528	1499
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: NC 39 & Wake County Line Road

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	31	91
Average Queue (ft)	6	11
95th Queue (ft)	21	47
Link Distance (ft)	2444	1184
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: NC 39 & Old US 264

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	TR	L	TR
Maximum Queue (ft)	11	52	42	38	124	166	250	395	136	160
Average Queue (ft)	1	8	7	5	33	63	47	206	54	74
95th Queue (ft)	6	28	27	19	82	139	146	372	111	136
Link Distance (ft)		1212			1286			7962		1181
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	50		125	50		125	150		100	
Storage Blk Time (%)		0		0	5	1		18	3	3
Queuing Penalty (veh)		0		0	9	1		10	8	3

Intersection: 9: Chamblee Road & Site Drive #1

Movement	WB
Directions Served	R
Maximum Queue (ft)	18
Average Queue (ft)	4
95th Queue (ft)	16
Link Distance (ft)	1010
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Chamblee Road & Site Drive #2

Movement	EB	WB	NB
Directions Served	LTR	LTR	L
Maximum Queue (ft)	20	35	8
Average Queue (ft)	13	10	0
95th Queue (ft)	28	24	3
Link Distance (ft)	1066	1072	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Chamblee Road & Site Drive #3

Movement	EB
Directions Served	LR
Maximum Queue (ft)	16
Average Queue (ft)	8
95th Queue (ft)	20
Link Distance (ft)	972
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: Perry Curtis Road & Site Drive #4

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	53	26
Average Queue (ft)	31	3
95th Queue (ft)	49	18
Link Distance (ft)	1021	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 32

1: Chamblee Road/E. Horton Street & Temple-Johnston Road Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	3.6	0.0	1.3	0.6	0.3	0.4	0.6	0.6

2: NC 96 & Temple-Johnston Road Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.4	0.4	0.3
Total Del/Veh (s)	8.5	2.0	0.9	0.5	2.3	1.6	1.5

3: NC 96 & Perry Curtis Road Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.2	0.1	0.0	0.0	0.0
Total Del/Veh (s)	13.4	4.1	1.3	0.3	4.5	2.1	3.0

4: Perry Curtis Road & Perry Ridge Court Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.4	2.7	0.6	0.0	0.1	0.3	0.5

5: Perry Ridge Court & Ridge Valley Way Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Total Del/Veh (s)	1.9	0.1	0.0	0.0	3.9	2.6	1.3

6: Perry Curtis Road/Wake County Line Road & Chamblee Road Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.9	1.7	1.4	0.4	4.4	0.3	2.0	1.8

7: NC 39 & Wake County Line Road Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.3	0.0	0.0	0.1
Total Del/Veh (s)	24.0	0.2	13.6	9.1	4.0	11.3	11.1	10.0

8: NC 39 & Old US 264 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.6	0.5	3.6	3.9	0.4	3.8	0.1	0.1	0.0	3.2	1.0	1.2
Total Del/Veh (s)	52.2	30.9	34.8	45.2	34.4	36.9	53.5	30.1	24.9	49.0	30.7	23.0

8: NC 39 & Old US 264 Performance by movement

Movement	All
Denied Del/Veh (s)	1.3
Total Del/Veh (s)	34.4

9: Chamblee Road & Site Drive #1 Performance by movement

Movement	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.9	0.1	0.5	0.6	0.5

10: Chamblee Road & Site Drive #2 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.9	6.6	3.6	5.4	4.2	2.4	0.8	0.3	0.0	0.6	0.5	0.0

10: Chamblee Road & Site Drive #2 Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	1.3

11: Chamblee Road & Site Drive #3 Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.8	2.6	0.6	0.3	0.7	0.5	0.6

12: Perry Curtis Road & Site Drive #4 Performance by movement

Movement	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.7	0.6	0.0	1.4	0.7	1.0

Total Network Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	29.9

Intersection: 1: Chamblee Road/E. Horton Street & Temple-Johnston Road

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	28	27
Average Queue (ft)	16	4
95th Queue (ft)	33	18
Link Distance (ft)	1058	1661
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: NC 96 & Temple-Johnston Road

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	30	71
Average Queue (ft)	18	10
95th Queue (ft)	34	41
Link Distance (ft)	1188	1189
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: NC 96 & Perry Curtis Road

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	64	75
Average Queue (ft)	7	38
95th Queue (ft)	35	64
Link Distance (ft)	1068	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Perry Curtis Road & Perry Ridge Court

Movement	WB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	11
95th Queue (ft)	34
Link Distance (ft)	410
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Perry Ridge Court & Ridge Valley Way

Movement	SB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	6
95th Queue (ft)	27
Link Distance (ft)	998
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Perry Curtis Road/Wake County Line Road & Chamblee Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	48	18	51
Average Queue (ft)	7	1	27
95th Queue (ft)	27	6	41
Link Distance (ft)	2535	1202	1500
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: NC 39 & Wake County Line Road

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	124	178
Average Queue (ft)	26	44
95th Queue (ft)	81	117
Link Distance (ft)	2449	1186
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: NC 39 & Old US 264

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	TR	L	TR
Maximum Queue (ft)	61	134	83	55	74	106	250	382	200	523
Average Queue (ft)	25	41	33	11	22	30	68	176	125	281
95th Queue (ft)	56	96	75	34	63	77	178	306	223	475
Link Distance (ft)		1212			1286			7962		1181
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	50		125	50		125	150		100	
Storage Blk Time (%)	4	8		0	6	0		11	13	26
Queuing Penalty (veh)	9	10		1	9	0		7	86	49

Intersection: 9: Chamblee Road & Site Drive #1

Movement	WB
Directions Served	R
Maximum Queue (ft)	19
Average Queue (ft)	2
95th Queue (ft)	11
Link Distance (ft)	1010
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Chamblee Road & Site Drive #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	43	38	17	16
Average Queue (ft)	14	10	2	1
95th Queue (ft)	34	27	9	8
Link Distance (ft)	1066	1062		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			100	100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Chamblee Road & Site Drive #3

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	16	23
Average Queue (ft)	6	1
95th Queue (ft)	19	8
Link Distance (ft)	962	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: Perry Curtis Road & Site Drive #4

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	30	50
Average Queue (ft)	25	7
95th Queue (ft)	44	29
Link Distance (ft)	1022	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 171

REZONING OF PROPERTY CONSISTING OF +/- 136 ACRES,
LOCATED ALONG CHAMBLEE ROAD AND PERRY CURTIS ROAD,
IN THE TOWN OF ZEBULON

REPORT OF VOLUNTARY 2ND NEIGHBORHOOD MEETING WITH
NEIGHBORING PROPERTY OWNERS AND TENANTS
ON JULY 25, 2023

In order provide updates to neighbors who participated in the first neighborhood meeting (On October 17, 2022) and to expand outreach to residents within 750 feet of the subject property in recognition of amended notification requirements, a voluntary second neighborhood meeting was held with respect to a potential rezoning with neighboring property owners and tenants on Tuesday, July 25, 2023, from 7:00 p.m. to 8:30 p.m. The property considered for this potential rezoning totals approximately 136 acres, and is located along Chamblee Road and Perry Curtis Road, in the Town of Zebulon, having Wake County Parcel Identification No. 2715101559. This meeting was held at the Zebulon Community Center (301 S Arendell Ave, Zebulon, NC 27597) from 7:00pm to 8:30pm. All owners and tenants of property within 750 feet of the subject property were invited to attend the meeting.

Attached hereto as **Exhibit A** is a copy of the neighborhood meeting notice. A copy of the required mailing list for the meeting invitations and pictures of the on-site signage posted is attached hereto as **Exhibit B**. The sign-in sheet showing the individuals who attended the meeting is attached hereto as **Exhibit C**. A summary of the items discussed at the meeting (issue/response sheet) is attached hereto as **Exhibit D**. The site plan shared with those in attendance as the primary talking point is attached hereto as **Exhibit E**.

EXHIBIT A – NEIGHBORHOOD MEETING NOTICE

July 14, 2023

NEIGHBORHOOD MEETING NOTICE

Dear Property Owner:

You are invited to a neighborhood meeting to learn more about a proposed project adjacent to or near your property. This invitation represents a second neighborhood meeting held for the proposed Dory Meadows project. The first neighborhood meeting was held at the Zebulon Community Center on October 17, 2022, prior to project submittal. This additional neighborhood meeting is a voluntary effort undertaken by the applicant to provide notification to a wider range of area residents and project updates to those who attended the original neighborhood meeting. The meeting will be an opportunity for residents and property owners to learn more about the project and provide feedback.

Meeting Date: July 25, 2023 **Meeting Time**: 7PM-8PM

- **Meeting Location**: Zebulon Community Center (301 S Arendell Ave, Zebulon NC 27597)
- **Application Type**: Planned Unit Development
- **Submittal Status:** Submitted November 2022
- **Property Owner(s) Name(s):** Chamblee, R M Heirs; C/O Jim Edwards
- **Applicants:** McAdams (Engineer), DR Horton (Developer), and Parker Poe (Attorney)
- **Primary Contact:** Ashley Honeycutt Terrazas (Parker Poe)
  - **Phone:** 919-835-4043
  - **Email**: ashleyterrazas@parkerpoe.com
- **Property Address**: 1509 Chamblee Rd, Zebulon NC (PIN # 2715101559)

Project Description: Dory Meadows is a proposed Planned Development application for a mixed residential neighborhood with ~ 360 homes (single family detached and townhomes) that spans from Chamblee Rd and Perry Curtis Rd (136-acre tract).

To ensure that all neighbors have a full understanding of the proposal, you will find the following items included in this mailer:

1. An agenda
2. A vicinity map
3. A copy of the conceptual site plan (an enlarged version will be shown at the Neighborhood Meeting. The development team is working on a new Project Name, which is reflected on the site plan)

If you have questions, or cannot attend the meeting but would like further information, please feel free to contact Ashley Honeycutt Terrazas with Parker Poe by email (ashleyterrazas@parkerpoe.com) or by phone (919-835-4043).

MCADAMS

Dory Meadows Planned Dev. – Neighborhood Meeting Agenda

Location: 301 S Arendell Ave., Zebulon NC 27597 (Zebulon Community Center)

Date: July 25, 2023

Time: 7:00 P.M. – 8:00 P.M.

Agenda details:

7:00 PM **Welcome & Introductions**

7:05 PM **Purpose of the Meeting**

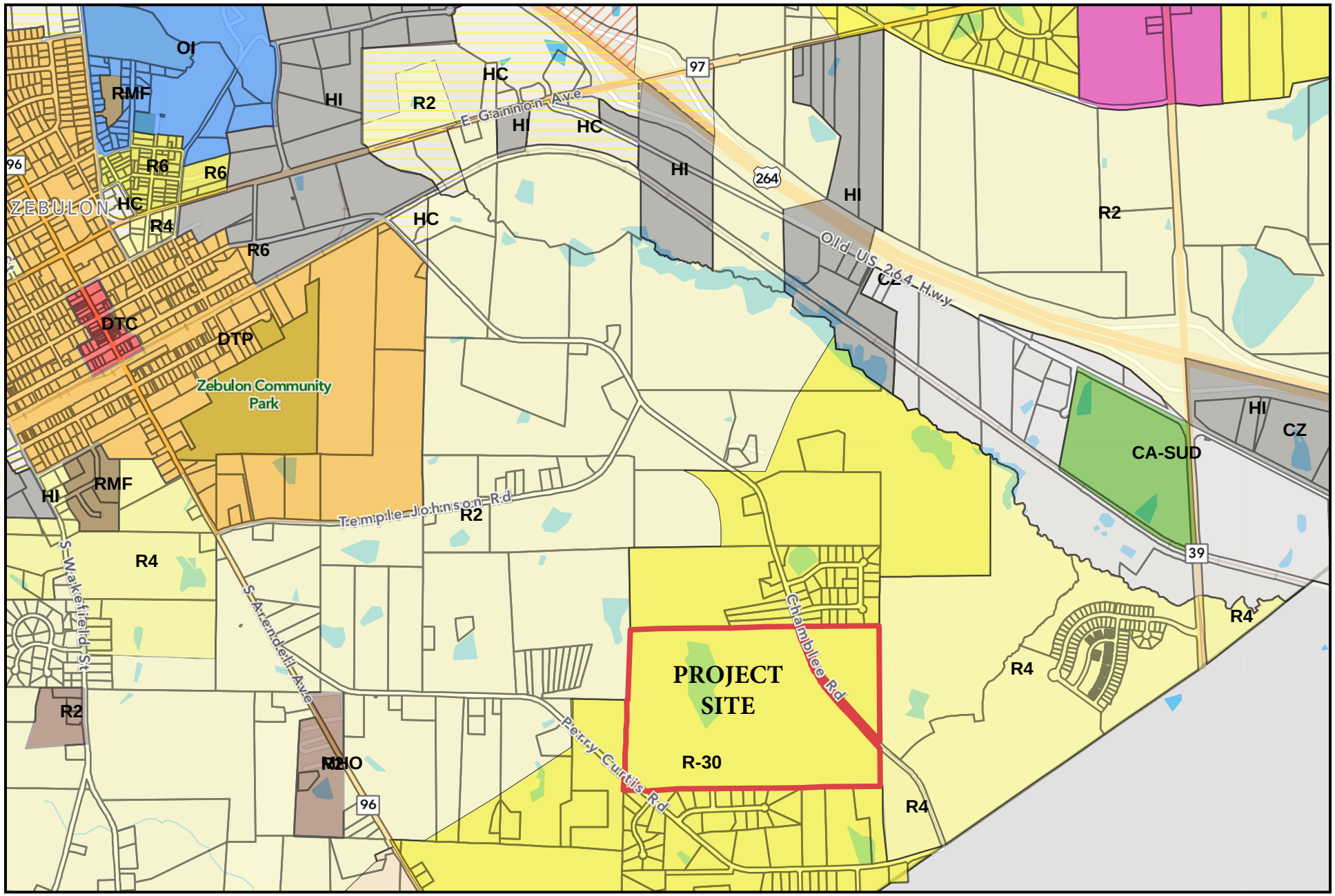
7:10 PM **Planned Development Review Process**

7:15 PM **Project Overview**

A. Description of Property
B. Current Zoning
C. Policy Guidance
D. Proposed Zoning & Concept Updates
E. Next Steps

7:35 PM **Question and Answer Period**

8:00 PM **Adjourn**



Chamblee Rd PD - Vicinity Map & Existing Zoning

N

0 800 1600 3200 ft

1 inch equals 1,600 feet

Disclaimer

*iMaps makes every effort to produce and publish the most current and accurate information possible. However, the maps are produced for information purposes, and are **NOT** surveys. No warranties, expressed or implied ,are provided for the data therein, its use,or its interpretation.*

PROPOSED NAME HERE CONCEPTUAL MASTER PLAN

SITE DATA TABLE

Existing Site Area	±135.88 acres
PIN	2715101559
Total Proposed Lots	±360 lots
Proposed Density	±2.65 units/acre
Single Family Detached	
60'x120'	±83 lots
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Front-loaded	±45 lots

POWER EASEMENT
SCM
SCM
SCM
SCM
SCM
SCM
SCM
EXISTING LAKE
MAIN AMENITY
POCKET PARK
DOG PARK
CHAMBLEE RD
2 LANE UNDIVIDED STREET
PASSIVE PARK
POCKET PARK
EXISTING WETLANDS
SCM
2 LANE UNDIVIDED STREET
PERRY CURTIS RD
RIDGE VALLEY WAY
PERRY RIDGE CT

EXHIBIT B – NOTICE MAILING LIST
& ON-SITE SIGNAGE POSTED

Chamblee Lake - Voluntary 2nd Neigh Meeting Mailing Labels (750 ft Radius)

STRICKLAND, FRANCES MARIE STRICKLAND, ROGER L
1101 FIELD MEADOWS DR
ZEBULON NC 27597-6852

LIVERMAN, LORAINE A
1404 CHAMBLEE RD
ZEBULON NC 27597-9668

VINSON, THOMAS EDWARD VINSON, APRIL R
520 PERRY CURTIS RD
ZEBULON NC 27597-8877

STOKES, ELLIS EARL STOKES, MARY B
1401 CHAMBLEE RD
ZEBULON NC 27597-9669

SHERROD, THELMA M
1505 CARROLL HEIGHTS RD
ZEBULON NC 27597-9641

ROSE, LUTHER ROSE, KATIE M
1404 CARROLL HEIGHTS RD
ZEBULON NC 27597-9638

FOUNTAIN, JAMES I III FOUNTAIN, LAURA E
10405 PERRY RIDGE CT
ZEBULON NC 27597-6844

POOLE, JOSHUA
1516 CARROLL HEIGHTS RD
ZEBULON NC 27597-9640

ANGELES, SILVIA TEPETATE
6100 DOGTROTT CT
RALEIGH NC 27616-6126

BOONE, CHARLES E
1509 CARROLL HEIGHTS RD
ZEBULON NC 27597-9641

HERNDON, JAMES M
1521 CARROLL HEIGHTS RD
ZEBULON NC 27597-9641

RAZAI, SAM
2025 PORT ROYAL RD
RALEIGH NC 27609-4131

DRSFA LLC
2099 GAITHER RD STE 600
ROCKVILLE MD 20850-4018

LASKIN, RHONDA ANN
1513 CARROLL HEIGHTS RD
ZEBULON NC 27597-9641

MITCHELL, F WADDELL MITCHELL, JANE H
504 PERRY CURTIS RD
ZEBULON NC 27597-8877

KILLETTE, PHILLIP KILLETTE, LINDA W
929 PERRY CURTIS RD
ZEBULON NC 27597-8886

BECK, KAYE M BECK, RICHARD D
PO BOX 518
ZEBULON NC 27597-0518

JOHNSON, DEWEY L JOHNSON, DOROTHY H
220 BEAVER RIDGE DR
YOUNGSVILLE NC 27596-8776

JOHNSON, DEWEY L JOHNSON, DOROTHY H
220 BEAVER RIDGE DR
YOUNGSVILLE NC 27596-8776

CRENSHAW, BARRY A
833 PERRY CURTIS RD
ZEBULON NC 27597-8884

KILLETTE, PHILLIP KILLETTE, LINDA W
929 PERRY CURTIS RD
ZEBULON NC 27597-8886

DOZIER, CLARA RHODES
255 DAVIS RD
ZEBULON NC 27597-7046

MITCHELL, FRANK W MITCHELL, JANE H
504 PERRY CURTIS RD
ZEBULON NC 27597-8877

ROBERTSON, ROBERT J
1512 CARROLL HEIGHTS RD
ZEBULON NC 27597-9640

HP FLEMING FAMILY LLC
308 WESTRIDGE DR
RALEIGH NC 27609-5219

PATE FAMILY I LTD PTNRP
2333 ZEBULON RD
ZEBULON NC 27597-8155

KHALIOUI, YOUNES
1520 CARROLL HEIGHTS RD
ZEBULON NC 27597-9640

TAYLOR, JOSEPHINE
1320 CHAMBLEE RD
ZEBULON NC 27597-9666

KIRIAZES, KENNETH E KIRIAZES, MARIE A
10401 PERRY RIDGE CT
ZEBULON NC 27597-6844

BRODEUR, MADELINE
10413 PERRY RIDGE CT
ZEBULON NC 27597-6844

HINNANT, HULEY JR HINNANT, GERALDINE
10409 PERRY RIDGE CT
ZEBULON NC 27597-6844

SMITH, KENNETH R SMITH, TONYA K
10417 PERRY RIDGE CT
ZEBULON NC 27597-6844

SESSOMS, SHARON
10416 PERRY RIDGE CT
ZEBULON NC 27597-6843

HORTON, MARSHALL L HORTON, FLONNIE T
1317 CARROLL HEIGHTS RD
ZEBULON NC 27597-9637

FRICK, SANDRA HAYNES
1320 CARROLL HEIGHTS RD
ZEBULON NC 27597-9632

HERNDON, JAMES M MASSENGILL, COLLEEN J
1521 CARROLL HEIGHTS RD
ZEBULON NC 27597-9641

MATTHEWS, DALE SCOTT MATTHEWS, GINGER FAYE
203 EAGLEWOOD DR
MIDDLESEX NC 27557-8235

MATTHEWS, RALPH C MATTHEWS, MARY A
1317 CHAMBLEE RD
ZEBULON NC 27597-9667

LUVIANOS CALDERON, SALOMON LOPEZ AYALA, ELIZABETH
4715 WENDELL BLVD
WENDELL NC 27591-6920

FAULKNER, AUBREY LEROY FAULKNER, PEGGY
10404 PERRY RIDGE CT
ZEBULON NC 27597-6843

HINTON, REBECCA H
409 S ARENDELL AVE
ZEBULON NC 27597-2807

CURTIS, BETTY M; CO EDWARD DENMARK
1207 RAINESVIEW LN
APEX NC 27502-7151

CHAMBLEE, R M HEIRS; C/O JIM EDWARDS
2711 ROYSTER ST
RALEIGH NC 27608-1529

CHAMBLEE, CAROLYN P
1922 TRAWICK RD
RALEIGH NC 27604-3839

GRISWOLD RENTAL & REAL ESTATE INC
2021 WYNNSCOTT FARM LN
ZEBULON NC 27597-7392

TORRES, BENITO TORRES, EMMA
10300 PERRY RIDGE CT
ZEBULON NC 27597-6841

HARBAR, LINDA WATKINS, ANGELA
1501 CARROLL HEIGHTS RD
ZEBULON NC 27597-9641

AGUILAR, SANDRA E REYES, PEDRO P
1405 CARROLL HEIGHTS RD
ZEBULON NC 27597-9639

CURTIS, ANNIE GOUDE
101 BENT BRANCH LOOP APT 102
CLAYTON NC 27527-5468

MOZINGO, JUDY B
708 PERRY CURTIS RD
ZEBULON NC 27597-8881

BLOUNT, JERRY BLOUNT, DOROTHY
1117 FIELD MEADOWS DR
ZEBULON NC 27597-6852

JUAREZ, PEDRO CARREON JUAREZ, MARIA DEL
1408 CHAMBLEE RD
ZEBULON NC 27597-9668

CHAMBLEE, CAROLYN P
1922 TRAWICK RD
RALEIGH NC 27604-3839

SARNA, KERRY RICHARD
1001 RIDGE VALLEY WAY
ZEBULON NC 27597-6845

LAND, MARK LAND, PAMELA
10400 PERRY RIDGE CT
ZEBULON NC 27597-6843

VALERIO, JUANA QUIRA FERNANDEZ
1313 CARROLL HEIGHTS RD
ZEBULON NC 27597-9637

GONZALEZ, ALFONSO GONZALEZ
10303 PERRY RIDGE CT
ZEBULON NC 27597-6842

VINSON, MARTHA H
500 PERRY CURTIS RD
ZEBULON NC 27597-8877

M3A PROPERTY MANAGEMENT LLC
2616 ROCKWOOD DR
RALEIGH NC 27610-5216

WILLIAMS, GEORGETTE
1413 CHAMBLEE RD
ZEBULON NC 27597-9669

KRS AND ASSOCIATES INC
1001 RIDGE VALLEY WAY
ZEBULON NC 27597-6845

HAUGH, HEATHER
1532 CARROLL HEIGHTS RD
ZEBULON NC 27597-9640

ALVAREZ-CORNEJO, AZUCENA
1104 FIELD MEADOWS DR
ZEBULON NC 27597-6852

RUSSELL, ROBERT F
1421 HUNTING RIDGE RD
RALEIGH NC 27615-7023

GORE, KAY
10412 PERRY RIDGE CT
ZEBULON NC 27597-6843

DAN RYAN BUILDERS - NORTH CAROLINA LLC
2099 GAITHER RD STE 600
ROCKVILLE MD 20850-4018

MITCHELL, FRANK WADELL MITCHELL, JANE H
504 PERRY CURTIS RD
ZEBULON NC 27597-8877

JORDAN, CHRISTOPHER L WILSON, REBECCA
1325 CARROLL HEIGHTS RD
ZEBULON NC 27597-9637

BEDELL, DEANA KAREN
1316 CARROLL HEIGHTS RD
ZEBULON NC 27597-9632

MCNABB, WILLIAM R
204 W GANNON AVE
ZEBULON NC 27597-2626

FOCA, KIMBERLY
706 PERRY CURTIS RD
ZEBULON NC 27597-8881

WYNN, JACQUELINE ROLLINS
PO BOX 1053
MORRISVILLE NC 27560-1053

TELLEZ MAGANA, MARIA TERESA
1508 CARROLL HEIGHTS RD
ZEBULON NC 27597-9640

WALL, JODY C
133 W 1ST ST
WENDELL NC 27591-7600

ALVAREZ, ABIGAIL CRUZ AVILES, JOSE ARTEMIO CARBA
651 THOMAS ARNOLD RD
ZEBULON NC 27597-5828

ALVAREZ, ABIGAIL CRUZ AVILES, JOSE ARTEMIO CARBA
651 THOMAS ARNOLD RD
ZEBULON NC 27597-5828

JONES, CANDICE D EVERETT, KENNETH
817 PERRY CURTIS RD
ZEBULON NC 27597-8884

ASARO, VITO
1116 FIELD MEADOWS DR
ZEBULON NC 27597-6852

ORIOL INVESTMENTS LLC
202 LANE OF SIR GAWAINE
GARNER NC 27529-9550

HOME RE-DO INC
1121 OAKGROVE DR
KNIGHTDALE NC 27545-9299

JOHNSON, PATRICK H
PO BOX 1334
ZEBULON NC 27597-1334

BAKER, ASHLEY N
10408 PERRY RIDGE CT
ZEBULON NC 27597-6843

HOAD, RYAN PATRICK HOAD, JAMIE LEIGH
10421 PERRY RIDGE CT
ZEBULON NC 27597-6844

GALEAS, OSWALDO M GALEAS, GABINA PAZOS-CANALES
1121 FIELD MEADOWS DR
ZEBULON NC 27597-6852

NORRIS, MARK A NORRIS, MARTHA R
1312 CARROLL HEIGHTS RD
ZEBULON NC 27597-9632

NUNEZ, RICARDO RODRIGUEZ, ANGELICA MARIA
10301 PERRY RIDGE CT
ZEBULON NC 27597-6842

OLVERA, RAMON HERNANDEZ
1100 FIELD MEADOWS DR
ZEBULON NC 27597-6852

Chamblee Lake 2nd Neighborhood Meeting: On-site Signs Posted

Chamblee Road Location

Perry Curtis Road Location

EXHIBIT C – MEETING ATTENDEES

Neighborhood Meeting for Chamblee Lake Planned Development

Zebulon Community Center, 301 S. Arendell Ave., Zebulon, NC 27597

Date: July 25, 2023

Name	Address	Email Address (Optional)
CHARLIE BOONE	1509 CARROLL HOTS. RD., ZEBULON	FORD5K@GMAIL.COM
Rick Fleming	507 Woodland Rd RAEFORD	Bestsen@Hotmail.com
Phil & Linda Killette	929 Perry Curtis Rd, Zebulon, NC	pkillette45@gmail.com
Jane H. Mitchell	504 Perry-Curtis Rd, Zebulon	jane.h.mitchell@att.net
" " "	620 " " "	" "
Ken & Tonya Smith	10417 Perry Ridge Ct. Zebulon	tksmith991@gmail.com
MADELINE BRODEUR	10413 Perry Ridge Ct Zebulon	MADELINE BRODEUR@gmail.com
Leanna Keggereis	300 S Arendell Ave	LKeggereis11@gmail.com
RYAN Hoad	10421 Perry Ridge Ct	hoad.ryan@gmail
James Fountain	10405 Perry Ridge Ct	jfiii02@gmail.com

EXHIBIT D – ITEMS DISCUSSED

7/25/23 Chamblee Rd: 2nd Voluntary Neighborhood Meeting Log

Ashley Honeycutt Terrazas with Parker Poe provided a summary of the basis for zoning, the Planned Development process in Zebulon specifically, and the reasons for holding a voluntary second neighborhood meeting. Using the updated illustrative site plan, Ashley explained that the renamed 'Chamblee Lake' project would be a quality development with a range of uses, lot types (front loaded and rear loaded) and product types. She said the overall design of this development would provide an abundance of open space and amenities. Ashley said this development, in terms of its uses and density, was aligned with the Town's future land use plan, would help support the Mudcats stadium, and would bring significant utility extensions to the area to serve as a safety net to county residents in the event they had issues with their wells in the future.

Following Ashley's presentation, she opened the floor for neighbor's questions. The section below summarizes questions and concerns expressed by residents, and responses provided by the development team.

- **Concern / Question**: A resident asked where the new E-W collector road would access Perry Curtis in relation to her driveway.
    - **Response**: The development team explained that they only had approximately 250 LF of road frontage, and the access drive would be centered within that space, probably 120-150 east of the trailer she said she owned.
- **Concern / Question**: A resident asked if the majority of her neighbors in her neighborhood wanted to annex, could she be forced to annex as well.
    - **Response**: The development team explained state law makes it nearly impossible for the Town to attempt involuntary annexation, even if they were so inclined. She would not be required to annex unless she voluntarily petitioned for it.
- **Concern / Question**: Multiple residents raised concerns over the level of traffic this development would generate and stated that there were no plans for road improvements in this area.
    - **Response**: The development team explained that the TIA's recommended traffic improvements would be funded by developers . They explained that many road widening and intersection improvements were conducted by developers as a result of these TIAs, and the private sector could incrementally help provide needed improvements even if DOT didn't have the funding. They said the improvements to the site's frontage roads went above and beyond what was called for by the TIA.
- **Concern / Question**: Residents expressed general concerns over the amount of development occurring in this region and how it was impacting rural areas.
    - Response: The development team said they understood the concern. They said this whole region was experiencing growing pains, but at least in this case over 1/3rd of the site would remain as open space.
- **Concern / Question**: A resident asked how many trips the TIAs traffic counts show for the intersection of Chamblee Road and Perry Curtis Road.

    - **Response**: Nate responded that the existing traffic counts were recorded based on highest peak hour (not daily) and that that the highest peak hour trips were still less than 30. He clarified that this figure was for existing conditions and that additional trips created by the development were separately accounted for in the TIA.
- **Concern / Question**: A resident asked about the anticipated price target for the homes in the proposed development and what they would sell for if they were built today.
    - **Response**: The development team explained that with the rate of inflation, changing interest rates, and crazy price fluctuations in home prices, it was impossible to anticipate accurate home prices 2 years from now. A real estate agent present (not part of the development team) stated that he was seeing Townhomes in this area currently starting in the mid 200's and SFD detached homes in the high 200's or low 300's. He said that the final price was typically significantly higher as add-ons and features were selected.
- **Concern / Question**: A resident stated that stormwater drainage would be a big problem for his development. He said that there were existing perking problems, and that he had a video of standing water on the subject property.
    - **Response**: The development team explained that this area generally had a lot of clay soil, which does not perk or drain well. However, as part of the development, the site would be engineered and graded to direct the flow of water to inlets and catch-basins and ultimately to stormwater control measures. One positive thing about this site is that it largely drains internally towards the existing lake. The project would be subject to strict stormwater regulations that prevented post-development runoff from exceeding pre-development runoff. By law, the developer would not be able to negatively impact the surrounding properties due to stormwater runoff.
    - **Response**: Ryan Akers said he would be happy to meet the neighbor on site to discuss drainage concerns if that would help.
- **Concern / Question**: A resident expressed concern over the proposed connection to Ridge Valley way and said that the proposed development would draw more traffic through their neighborhood to the south.
    - **Response**: The development team explained that concern over cut-through traffic was the primary driver for the change made to create a direct connection not Perry Curtis Road. They said that the new road contained within Chamblee Lake would be the most direct and most logical route for motorists to take. They said that the Town required the Ridge Valley Way connection due to the existing stub. This connection should draw very little through traffic but allows residents or children from one neighborhood to reach the other without going on Perry Curtis Road.
- **Concern / Question**: A resident asked for details on the proposed buffer along the southern perimeter.
    - **Response**: The development team stated that the proposed buffer is an enhanced 20' Type B buffer. They said the Town's regulations only required a 10' Type A buffer since their neighborhood is outside the Town's zoning jurisdiction. However, the development team is proposing a 20' buffer that would also include a 6' privacy fence along any portion of the buffer that did not use existing vegetation in order to give more immediate privacy as the buffer grows and fills out.

- **Concern / Question**: A resident expressed concern that the 20' buffer would block runoff coming off the rears of the neighboring lots to the south, causing it to pool in their back yards.
    - **Response**: The development explained that they would be grading the internal portions of their site down, but they would not be creating any type of berm along the buffer edge that would block drainage. With that said, while their development can't drainage or runoff, they also aren't responsible for fixing existing off-site drainage issues. Sometimes development will improve a neighbor's drainage issues, but that is not the responsibility of the developer.
- **Concern / Question**: A resident asked if the buffer along the site's southern boundary would keep the existing trees.
    - **Response**: The development team explained that many of those trees were in a wetland and would remain. They said that outside of the wetland, it could be that the buffer retains existing trees or plants new trees, depending on how the site needs to be graded and whether that grading allows the existing trees to stay. They said where they could retain trees and make the grading work, that was the preference.
- **Concern/Question**: A resident asked what type of buffer would be along the northern side of the development along Chamblee Road.
    - **Response**: The development team explained that on the west side of Chamblee, the site would have a 20' Type B buffer. Along the eastern side of Chamblee, the buffer would be significantly larger, as there is a protected Neuse riparian buffer there and some trees further north of that buffer that would remain as well.
- **Concern / Question**: A resident complained that the Town was moving their Fire/EMS station further away from the neighborhood.
- **Concern / Question**: A resident said that she had been told that this property was subject to use limitations under a land trust.
    - **Response**: The development team said that following the first neighborhood meeting their lawyers looked over the title documents and found the land to be free of any such encumbrances that would prohibit development.
- **Concern / Question**: A resident expressed concern that development would reduce the amount of farmland in the area.
    - **Response**: The development team said they understood this would take this land out of agricultural use, but that the owner still had the right to sell his land if he wished.
- **Concern / Question**: A resident expressed concerns about construction traffic using Perry Ridge Ct.
    - **Response**: The development team said construction traffic would not utilize Perry Ridge Court and they were happy to add that as a zoning condition to provide more assurances.
- **Concern / Question**: A resident expressed concern over water quality impacts.
    - **Response**: The development explained that they would be subject to soil and erosion control standards, which regulate nitrogen and suspended solids. They said they would look into this further to ensure that their development would not negatively impact water quality in the area.
- **Concern / Question**: A resident asked where the proposed trails would be, would they be open to the public, and would they connect to any regional trails.

    - **Response**: The development explained that the development would include over a mile of trails and indicated where they would be located on the map. They said that the trails were technically for the use of Chamblee Lake residents, but so long as nobody was creating a nuisance, no one would be policing who walks along a trail. They said that there were no adopted public greenways going through this land, but that there were some planned greenways further north from the site, so they had provided a stub of their trail networking circling the lake to their northern property boundary.
- **Concern / Question**: A resident expressed concern over the lack of maintenance occurring along Perry Ridge Ct.
    - **Response**: The development team said Perry Ridge Court was a DOT maintained roadway. They said they couldn't control how well or often DOT performed maintenance, but they could do some digging to determine if this roadway was in DOT's schedule to be resurfaced in the next 5 years.
- **Concern/Question**: A resident expressed concern that the additional impervious surface from this development would negatively impact the aquifer and cause wells to run dry.
    - **Response**: The development team stated that the geotechnical studies had not showed any large deposits of rock. They said negative impact on wells, while rare, usually happen when there is blasting, but they weren't aware of any need for blasting on this site. They said, in their professional opinion, they could see no reason why this development would impact neighbor's water level in their wells.

EXHIBIT E – SITE PLAN PRESENTED

CHAMBLEE LAKE CONCEPTUAL MASTER PLAN

SITE DATA TABLE

Existing Site Area	±135.88 acres
PIN	2715101559
Total Proposed Lots	±360 lots
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POWER EASEMENT
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SCM
SCM
SCM
SCM
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MAIN AMENITY
POCKET PARK
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2 LANE UNDIVIDED STREET
CHAMBLEE RD
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PASSIVE PARK
EXISTING WETLANDS
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2 LANE UNDIVIDED STREET
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PERRY RIDGE CT