TREEWISEMEN
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December 18, 2024

Cornerstone Church

New Riverside Campus

Subject: Tree inspection and analysis

Inspect the site for potential tree safety issues with consideration for redevelopment into a large Parking lot for future church.

Assigned scope of work:

Review plans submitted by landscape architect, meet onsite with Project manager(s) and town planning staff. Identify trees that could be problematic, have architectural defects, decay or are aging out and not suitable for future site changes. See below recommendations based on plan submitted by the LA.

Remove Live Oak trees at entry for access (#1 and 2) near HWY 46.

Remove all small, non-specimen trees lining the access easement from HWY 46 to the main campus / parking area. These trees are noted in plans for clearing / removal.

Retain trees labeled #6 and #7 but remove #5 and #8.

Retain trees labeled: #9- 14.

Remove #15 (20" DBH Water Oak and 20" DBH Live Oak).

Remove tree numbers listed below (Parking area).
72-74.2
36
22
39
24
19
25-30
35
44-54
58

67-68
59-60
62-6

Retain trees listed below (Parking area).

74.1-76
40
23
17-18
20-21
31-33
37
42
55-56
68-70

Use caution retaining these trees during construction (Parking area).

66
57
61
43
41
38

Location and identification of trees assessed:

Tree locations vary, but are all sizes, species and locations are captured in site plans submitted 9/24/24 by Witmer, Jones, Keefer.

Level of inspection:

Level 1 inspection.

Targets and consequences of failure:

Future parking for large assembly.

Site factors considered:

The forecasted site changes reflected in these plans would yield increased sun exposure (sun scalding), additional wind loading due to large, adjacent trees being removed and significant root zone disturbance in the CRZ (Critical Root Zone). The trees listed in this report should strongly be considered for removal because nearly all Laurel and Water Oaks in this this site plan have hypoxolon canker and structural defects that could result in premature failure. Weather patterns have become more volatile over the last decade and should be taken into consideration when planning this project. A tree mitigation schedule in line with the TOB UDO would be a better long term effort in preserving tree canopy.

Sincerely,

William Bedingfield

ISA Certified Arborist SO-10152A

CORNERSTONE CHURCH

NEW RIVERSIDE CAMPUS

Scale: N.T.S.

CONSULTANT INFO

TOPO AND BOUNDARY SURVEYS, EXISTING TREES AND SURVEY DATA WERE TAKEN FROM DIGITAL DATA PROVIDED BY:

ATLAS SURVEYING INC.
RIDGELAND, SC.
(843) 645.9277

ALL CIVIL ENGINEERING INFORMATION WAS TAKEN FROM DIGITAL DATA PROVIDED BY:

STURRE ENGINEERING
HILTON HEAD ISLAND, SC
(843) 929.9432

ISSUED: FEBRUARY 10, 2025

CONTACT

WITMER JONES KEEFER
23 PROMENADE ST., SUITE 201
BLUFFTON, SC. 29910
(843) 757.7411
WWW.WJKLTD.COM

SHEET INDEX

Witmer Jones Keefer Ltd.
landscape architecture
land planning
www.wjkltd.com
23 Promenade Street, Suite 201 | Bluffton, South Carolina | 29910 | ph 843.757.7411

THIS SHEET TO SCALE AT: 24"X36"

SITE DEVELOPMENT PLANS
FOR
CORNERSTONE CHURCH
NEW RIVERSIDE CAMPUS
BLUFFTON, SOUTH CAROLINA

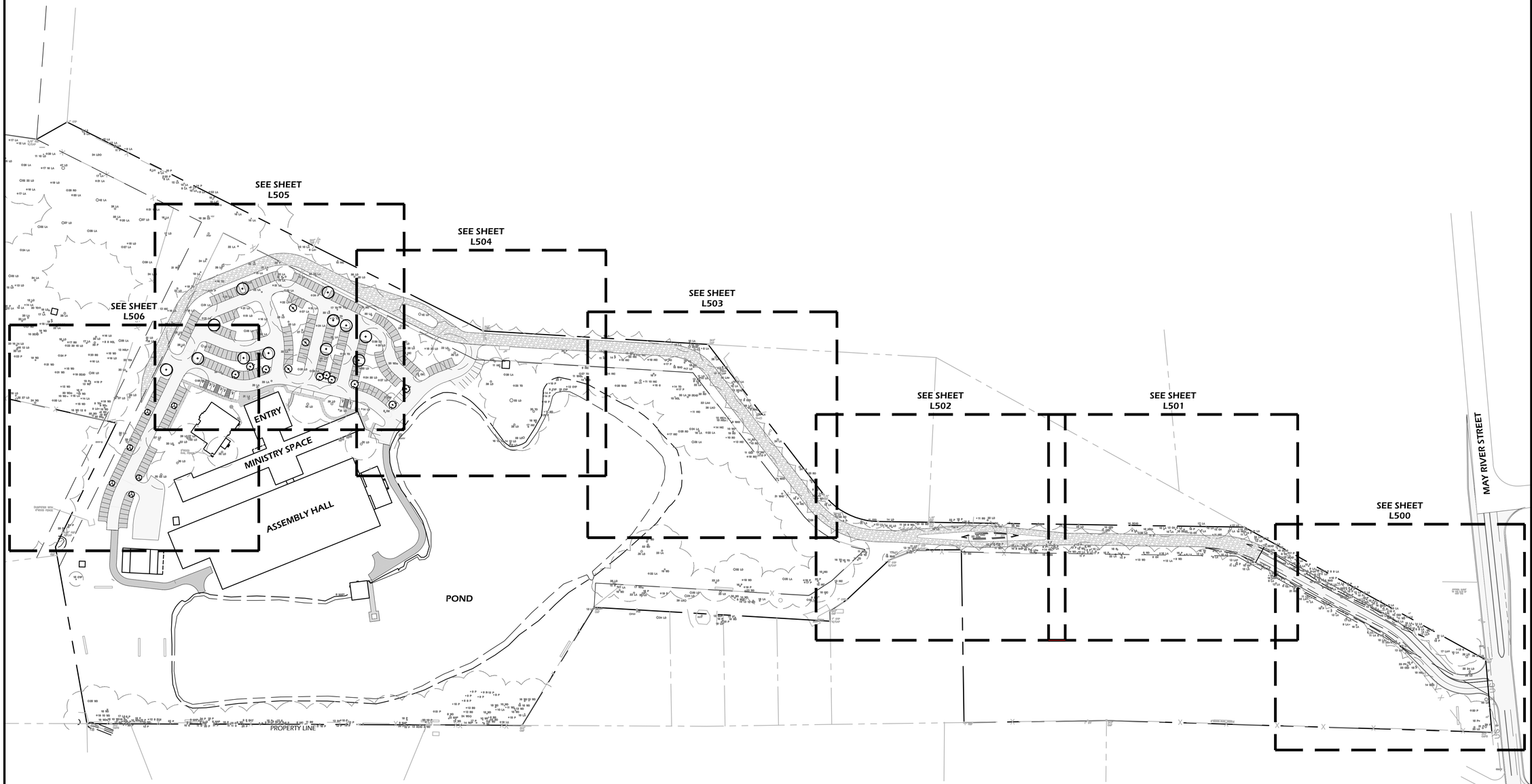
DATE:	FEB 10, 2025
PROJECT NO.:	XX-XXX-XX
DRAWN BY:	JM/ED
CHECKED BY:	DK

DRC SUBMITTAL PLAN, NOT FOR CONSTRUCTION

REVISIONS:

DRAWING TITLE
COVER SHEET

DRAWING NUMBER
CS



Wimer, Jones, Keefer Ltd.
landscape architecture
land planning
www.wjkld.com
33 Promenade Street, Suite 201 | Bluffton, South Carolina | 29910 | ph 843.757.7411

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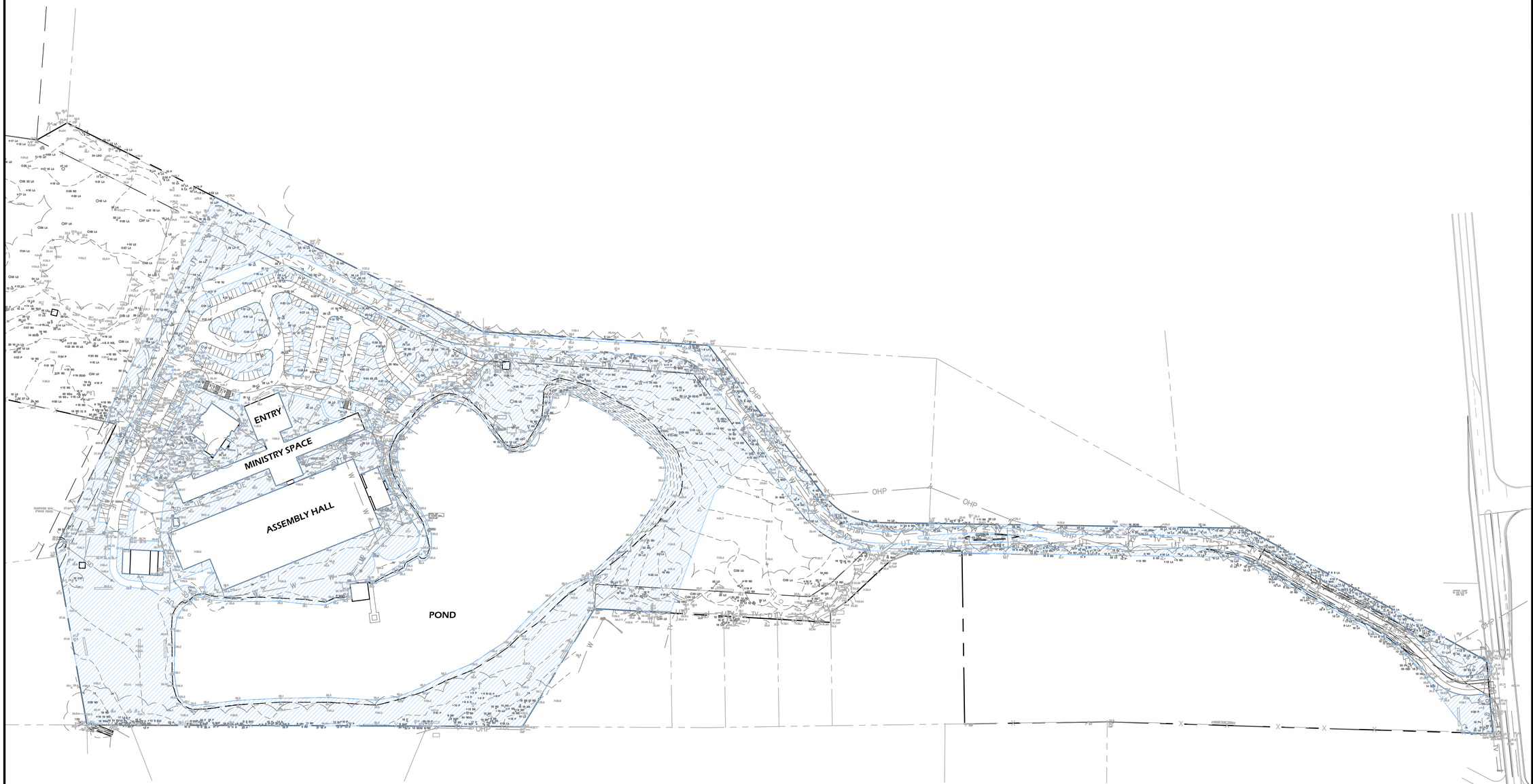
DRC SUBMITTAL PLAN, NOT FOR CONSTRUCTION

REVISIONS:

DRAWING TITLE
REFERENCE PLAN PROPOSED CONDITIONS

DRAWING NUMBER
L11

0 50 100 150 200 250 300 350 400
Scale 1 " = 100'



OPEN SPACE SUMMARY	
DESCRIPTION	AREA
TOTAL SITE AREA (S.F.)	**1,798,766.64 S.F.**
COMMON OPEN SPACE (S.F.)	**549,948.63 S.F.**
TOTAL OPEN SPACE (%)	**30.57%**

0 50 100 150 200 250 300 350 400

Scale 1 " = 100'

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DRC SUBMITTAL PLAN, NOT FOR CONSTRUCTION

REVISIONS:

DRAWING TITLE
OPEN SPACE EXHIBIT

DRAWING NUMBER
L12

Attachment 5

GENERAL NOTES:

1. ALL NOTES APPLY TO ALL DRAWINGS AND ALL TRADES.
2. REFER TO ENGINEERING PLANS FOR LAYOUT AND LOCATION OF UTILITIES AND ROADS
3. THIS IS A DESIGN DEVELOPMENTS SET USED TO DESCRIBE THE DESIGN INTENT ONLY. ALL CONSTRUCTION DETAILS, LAYOUT, GRADING, UTILITIES, PROPERTY LINES, ETC. MUST BE FIELD VERIFIED WITH ANY DISCREPANCIES REPORTED TO THE OWNERS OR OWNERS REPRESENTATIVE. ALL CONSTRUCTION MUST ADHERE TO OR EXCEED REGULATIONS AND CODES OF THE AMERICANS WITH DISABILITIES ACT, ALL NATIONAL, STATE, LOCAL AND OTHER GOVERNING AUTHORITIES. W.J.K. LTD. IS NOT RESPONSIBLE FOR ANY WRONGFUL CONSTRUCTION PRACTICES.
4. ALL SURVEY AND SITE INFORMATION WERE COMPILED FROM A VARIETY OF SOURCES AT VARIOUS TIMES. SITE INFORMATION MUST BE FIELD VERIFIED BEFORE CONSTRUCTION BEGINS. REPORT ANY DISCREPANCIES TO THE OWNER OR OWNER'S REPRESENTATIVE.
5. IT IS THE RESPONSIBILITY OF ALL CONTRACTORS AND TRADES TO COORDINATE THE INSTALLATION OF THEIR WORK WITH THE INSTALLATION OF WORK BY ALL OTHER CONTRACTORS AND TRADES.
6. THE REQUIREMENTS OF THE SPECIFICATIONS, DRAWINGS, GENERAL REQUIREMENTS, AND ALL ITEMS OF THE CONTRACT DOCUMENTS ARE EQUALLY BINDING FOR ALL CONTRACTORS AND TRADES.
7. EACH CONTRACTOR IS REQUIRED TO MAINTAIN FULL (COLOR) SETS OF THE CONTRACT DOCUMENTS FOR HIS EMPLOYEES USE ON THE PROJECT TO ASSURE THAT ALL WORK IS PROPERLY COORDINATED AND FOR REVIEWS BY COUNTY AND / OR MUNICIPALITY OFFICIALS FOR INSPECTIONS.
8. ALL CONTRACTORS AND ALL TRADES ARE RESPONSIBLE FOR OBTAINING THE CORRECT PERMITS AND INSPECTIONS PRIOR TO CONSTRUCTION AS REQUIRED BY LOCAL PLANNING, ZONING, BUILDING CODE AND OTHER TOWN AUTHORITIES.
9. W.J.K. LTD., THE OWNER AND / OR THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED OF ANY SITE CONDITIONS WHICH MAY NECESSITATE MODIFICATION TO THE PLAN. THE OWNER OR OWNER'S REPRESENTATIVE SHALL MAKE 'INFIELD MODIFICATIONS,' IF NECESSARY.
10. CONTRACTOR SHALL PROVIDE AND FURNISH ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY FOR ALL CONSTRUCTION, PROTECTION, MAINTENANCE AND RELATED ITEMS TO COMPLETE WORK INDICATED ON THE DRAWINGS.
11. BEFORE COMMENCING ANY WORK CONTRACTOR SHALL ASCERTAIN THE LOCATION OF ALL UTILITIES, SUB-SURFACE DRAINAGE, AND UNDERGROUND CONSTRUCTION SO THAT PROPER PRECAUTIONS MAY BE TAKEN NOT TO DISTURB ANY SUB-SURFACE IMPROVEMENTS. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS IN BRINGING EQUIPMENT ON TO AND OFF OF THE SITE, PROTECTING WALKS, PAVING, STEPS AND OTHER EXISTING CONSTRICTION ON THE SITE. CONTACTS SHALL BE MADE BY CONTRACTOR WITH PROPER AUTHORITIES BEFORE AND DURING THIS WORK SO AS TO COMPLY WITH ALL REGULATIONS AND ORDINANCES.
12. CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES AND CONFIRM / DETERMINE UTILITY ELEVATIONS PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE AND MAKE REPAIRS, AT THEIR OWN EXPENSE, THAT MAY OCCUR TO EXISTING UTILITIES IN ACCORDANCE WITH NATIONAL, STATE AND LOCAL CODES.
13. CONTRACTOR SHALL VERIFY ALL EXISTING TREE CONDITIONS AND ELEVATIONS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE OWNER OR OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES PRIOR TO THEIR REMOVAL.
14. CONTRACTOR SHALL PROTECT AND INSTALL TREE PROTECTION FENCE AROUND THE DRIP LINE OF ALL TREES, NATURAL AREAS AND EXISTING VEGETATION TO REMAIN. TREE PROTECTION LOCATION SHALL BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.
15. ALL CONSTRUCTION FOR ALL TRADES SHALL CONFORM TO OR EXCEED THE PRODUCT MANUFACTURER'S RECOMMENDATIONS, REGULATIONS OF BEAUFORT COUNTY AND THE AMERICANS WITH DISABILITIES ACT, AND / OR OTHER APPLICABLE NATIONAL, STATE, AND LOCAL CODES AND ANY OTHER GOVERNING AUTHORITIES.
16. CONTRACTOR ACCESS FOR CONSTRUCTION AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
17. CONTRACTOR SHALL PROTECT THE GENERAL PUBLIC FROM CONSTRUCTION AREAS DURING CONSTRUCTION.
18. THE OWNER MAY REQUIRE FLAG MEN TO BE AVAILABLE DURING THE CONSTRUCTION PROCESS.
19. ANY DEVIATIONS FROM THESE PLANS MUST BE SPECIFICALLY APPROVED BY W.J.K. LTD., AND THE OWNER OR OWNER'S REPRESENTATIVE.

DEMOLITION NOTES:

1. THE CONTRACTOR, BEFORE BEGINNING ANY DEMOLITION ACTIVITY, SHALL CONTACT THE LOCAL UTILITIES FOR INSTRUCTION ON SPECIAL PROCEDURES THAT MAY BE REQUIRED BY THE UTILITIES CONCERNING DEMOLITION.
2. ALL DEMOLISHED MATERIAL SHALL BE HAULED AWAY AND DISPOSED OF PROPERLY IN A LANDFILL AS APPLICABLE PER BEAUFORT COUNTY CODE(S).
3. THE CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS OF LOCAL, STATE AND FEDERAL REGULATORY AGENCIES WHICH MAY HAVE JURISDICTION OVER SUCH ACTIVITIES.
4. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DATA PROVIDED IN THESE DRAWINGS. THE CONTRACTOR SHALL PERFORM HIS OWN ESTIMATE OF MATERIAL FOR DEMOLITION AND REPORT ANY DISCREPANCIES TO THE OWNER OR THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.
5. ALL UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND FOR ESTIMATING PURPOSES ONLY. THE EXACT LOCATIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING DEMOLITION WORK. ALL UTILITIES SHALL BE LOCATED AND PROTECTED TO PREVENT DAMAGE. ANY DAMAGE WHICH MAY OCCUR DURING THE CONSTRUCTION PROCESS IS TO BE PROMPTLY REPORTED TO THE APPROPRIATE UTILITY AUTHORITY AND REPAIRS SHALL BE MADE IN ACCORDANCE WITH THEIR REQUIREMENTS. THE SAFE DEMOLITION AND REMOVAL OF UTILITIES, STRUCTURES AND EQUIPMENT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY, AT THE DIRECTION OF THE OWNER OR OWNER'S REPRESENTATIVE, THE UTILITIES HAVING JURISDICTION OVER ANY UTILITY EASEMENTS OF ANY KIND FOR APPROVAL OF WORK WITHIN THE EASEMENT.
7. REMOVAL OF ANY AND ALL MATERIALS INDICATED INCLUDES ALL MATERIALS ASSOCIATED WITH THAT ITEM INCLUDING SUBSURFACE MATERIAL, IF APPLICABLE, NOT NEEDED OR IN NEED OF REPAIR OR REPLACEMENT.
8. THE CONTRACTOR SHALL TAKE CARE WHEN WORKING AROUND EXISTING TREES SCHEDULED TO REMAIN. PROPER TREE PROTECTION IN ACCORDANCE WITH LOCAL CODES SHALL BE MADE PRIOR TO CONSTRUCTION BEGINNING AND THROUGHOUT THE CONSTRUCTION PROCESS.
9. SOME TREES AND SHRUBS SCHEDULED FOR RELOCATION AND REUSE ON THE PROPERTY MAY NOT BE SALVAGEABLE DUE TO UNDERGROUND UTILITIES.
10. BARRIERS AND / OR FLAG MEN MAY BE REQUIRED FOR SAFETY, VERIFY REQUIREMENTS WITH THE OWNER FOR SUCH NEEDS PRIOR TO BEGINNING THE WORK.
11. THE OWNER SHALL BE NOTIFIED AS TO THE TIMING OF THE WORK SO THAT PROPER SECURITY NOTIFICATION IS MADE.

GENERAL DISTURBANCE NOTES:

1. CONTRACTOR SHALL IMPLEMENT ALL SILT FENCE OR OTHER SEDIMENT CONTROL MEASURES AROUND ALL DISTURBED AREAS PRIOR TO ANY CONSTRUCTION ACTIVITIES.
2. TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED AFTER SILT FENCE AND PRIOR TO ALL OTHER CONSTRUCTION ACTIVITIES.
3. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED BY THE CONTRACTOR AT LEAST ONCE EVERY FOURTEEN (14) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.5 INCHES OR GREATER. IF SITE INSPECTIONS IDENTIFY B.M.P.S. THAT ARE DAMAGED OR ARE NOT OPERATING EFFECTIVELY, MAINTENANCE MUST BE PERFORMED AS SOON AS PRACTICAL AND BEFORE THE NEXT STORM EVENT IF PRACTICAL.
4. CONTRACTOR TO PROVIDE SILT FENCE AND / OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE ANY SEDIMENTS BEFORE BEING PUMPED BACK INTO ANY WATERS OF THE STATE.
5. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED BY THE CONTRACTOR DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND / OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
6. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO PAVED SURFACES FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL REMOVE MUD / SOIL DAILY FROM PAVED SURFACES, AS REQUIRED.
7. RESIDENTIAL SUBDIVISIONS REQUIRE EROSION CONTROL FEATURES FOR INFRASTRUCTURE AS WELL AS FOR INDIVIDUAL LOT CONSTRUCTION. INDIVIDUAL PROPERTY OWNERS SHALL FOLLOW THESE PLANS DURING CONSTRUCTION OR OBTAIN APPROVAL OF AN INDIVIDUAL PLAN IN ACCORDANCE WITH S.C. REG. 72-300 ET SEQ. AND SCR100000.
8. TEMPORARY DIVERSION BERMS AND / OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND / OR TO DIVERT SEDIMENT-LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.
9. ALL WATERS OF THE STATE (W.O.S.), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50-FOOT BUFFER CAN'T BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL W.O.S. A 10-FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL W.O.S.
10. LITTER, CONSTRUCTION DEBRIS, OILS, FUELS AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORMWATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORMWATER DISCHARGES.
11. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED EXCEPT AS STATED BELOW:
   - 11.1. WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS, STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICAL.
   - 11.2. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED AND EARTH-DISTUBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.

LAYOUT NOTES:

1. ALL CONSTRUCTION STAKING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. CONTRACTOR TO USE DIGITAL FILES PROVIDED BY WITMER-JONES-KEEFER, LTD. TO LAYOUT AND STAKE ALL SITE IMPROVEMENTS AND ELEMENTS. FINAL LAYOUT AND STAKING TO BE FIELD VERIFIED AND APPROVED BY LANDSCAPE ARCHITECT AND OWNER OR OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL FIELD LOCATE, STAKE AND USE COLOR CODED SPRAY PAINT FOR ALL ABOVE AND BELOW GROUND UTILITIES. CONTRACTOR TO CONFIRM / DETERMINE UTILITY ELEVATIONS PRIOR TO CONSTRUCTION. ANY EXISTING UTILITY CONFLICTS WITH SITE IMPROVEMENTS TO BE REPORTED TO OWNER, OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES AS STATED IN THE GENERAL NOTES.
4. ALL SITE IMPROVEMENTS REPRESENTED IN THIS SET OF PLANS SHALL BE STAKED AND REVIEWED WITH THE OWNER OR OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION. ANY DISCREPANCIES TO BE REPORTED TO THE OWNER, OWNER'S REPRESENTATIVE OR LANDSCAPE ARCHITECT.
5. ALL DIMENSIONS ARE TO EDGE OF PAVING AND CENTERLINE OF WALLS AND COLUMNS UNLESS OTHERWISE INDICATED.
6. ALL ANGLES ARE 90 UNLESS OTHERWISE INDICATED.
7. CONTRACTOR SHALL PROVIDE LIGHTING, IRRIGATION AND ANY OTHER CONDUIT NEEDED TO ALL LANDSCAPE AREAS.
8. ANY AND ALL FIELD ADJUSTMENTS SHALL RECEIVE APPROVAL FROM THE OWNER, OWNER'S REPRESENTATIVE OR LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.

GRADING NOTES:

1. CONTRACTOR SHALL VERIFY ALL ELEVATIONS PRIOR TO CONSTRUCTION AND NOTIFY OWNER'S REPRESENTATIVE OF DISCREPANCIES.
2. CROSS SLOPES ON ALL HARDSCAPE WALKWAYS / PATHWAYS ARE NOT TO EXCEED 2%.
3. ALL ACCESSIBLE WALKWAYS / PATHWAYS RUNNING SLOPE (GRADIENT) MAY NOT EXCEED 4.9%, UNLESS A RAMP IS INSTALLED. IF A RAMP IS INSTALLED THE RUNNING SLOPE (GRADIENT) SHALL NOT EXCEED 8.33%, AND HANDRAILS SHALL BE INSTALLED ON BOTH SIDES (MINIMUM 36" CLEARANCE BETWEEN HANDRAILS) WHEN RAMP RISE IS GREATER THAN 6".
4. IF DISCREPANCIES DEVELOP BETWEEN THE PROPOSED GRADES AS SHOWN ON THE PLAN AND THE EXISTING GROUND SURFACE, THE CONTRACTOR, WITH PRIOR APPROVAL FROM THE OWNER'S REPRESENTATIVE, SHALL MAKE GRADING ADJUSTMENTS NECESSARY TO MAINTAIN THE GENERAL INTENT OF THE DESIGN.
5. CONTRACTOR IS RESPONSIBLE FOR ALL PAVED AREAS DAMAGED DURING CONSTRUCTION.
6. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL ADJACENT PROPERTIES, WALLS, WALKS AND PLANTING BEDS AND TOWARDS EXISTING DRAIN INLETS, SWALES, STORMWATER LAGOONS OR ROADS.
7. ALL DISTURBED AREAS INCLUDING SHALLOW SWALES SHALL BE MULCHED OR PLANTED AS INDICATED ON PLANTING PLANS.
8. IF REQUIRED, POP UP EMITTER SHALL BE N.D.S. 6" POP UP DRAINAGE EMITTER BLACK IN COLOR.
9. LANDSCAPE DRAIN SHALL BE AS SPECIFIED ON PLANS.
10. LANDSCAPE DRAINS SHALL BE ADDED TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS IN LOW / FLAT AREAS THAT DID NOT SHOW UP ON THE TOPOGRAPHIC SURVEY. LANDSCAPE DRAIN SHALL BE APPROVED BY OWNER, OWNER'S REPRESENTATIVE OR LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

LIGHTING NOTES:

1. THE INTENT OF THE LIGHTING DESIGN IS TO PROVIDE LOW LEVEL UNOBTRUSIVE SITE LIGHTING OR ARCHITECTURAL ELEMENTS. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO CREATE THIS EFFECT BY CLOSE COORDINATION WITH THE LANDSCAPE ARCHITECT AND CAREFUL PLACEMENT OF ALL FIXTURES.
2. THE CONTRACTOR SHALL ENGINEER THE ELECTRICAL SYSTEM BASED ON THE LOCATION AND TYPE OF FIXTURES AS SHOWN ON THE PLAN. PROPERLY SIZED WIRING, TRANSFORMERS, BREAKERS, ACCESSORIES, ETC., SHALL BE PROVIDED BY THE CONTRACTOR AS NECESSARY TO GUARANTEE A COMPLETELY FUNCTIONAL LIGHTING, DISTRIBUTION AND CONTROL SYSTEM.
3. CONTRACTOR TO PROVIDE ELECTRICAL PLANS AND SHOP DRAWINGS FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT AND OWNER OR OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
4. ALL LIGHTING EQUIPMENT SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS, AND MUST COMPLY WITH ALL APPLICABLE STATE AND COUNTY CODES.
5. THE CONTRACTOR IS RESPONSIBLE FOR ACQUIRING ALL NECESSARY PERMITS AND INSPECTION / APPROVALS REQUIRED.
6. THE CONTRACTOR SHALL STAKE OUT ALL LIGHT FIXTURE AND TRANSFORMER LOCATIONS FOR APPROVAL BY THE LANDSCAPE ARCHITECT, OWNER, OR OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. EXACT LOCATIONS OF CONTROLLERS, ELECTRICAL PANELS, ETC. TO BE COORDINATED WITH AND APPROVED BY OWNER, OWNER'S REPRESENTATIVE OR LANDSCAPE ARCHITECT.
7. FINAL AIMING AND ADJUSTMENT SHALL BE MADE AT NIGHT WITH LANDSCAPE ARCHITECT PRESENT TO GIVE FINAL APPROVAL.
8. THE CONTRACTOR SHALL COORDINATE, STAKE AND FLAG ALL LOCATIONS WHERE ELECTRICAL CONDUIT OR P.V.C. SLEEVING MAY BE REQUIRED BENEATH WALKS OR OTHER PAVED AREAS PRIOR TO HARDSCAPE INSTALLATION.
9. ALL ELECTRICAL WIRING RUNNING UNDER PAVED AREAS SHALL BE PLACED IN ELECTRICAL CONDUIT OR PVC SLEEVES PROVIDED BY CONTRACTOR.
10. CONTRACTOR SHALL RUN ALL NECESSARY ELECTRICAL WIRING TO UTILITY PANEL AND TRANSFORMER.
11. CONTRACTOR SHALL PROVIDE A MINIMUM OF 36" OF BURIES EXCESS CABLE AT EACH FIXTURE TO ALLOW FOR FIXTURE ADJUSTMENT.
12. ALL LIGHTING TO BE PLACED ON AN APPROPRIATE TIMER. THE CONTRACTOR SHALL SELECT AN APPROPRIATE TIMER FOR ALL LIGHTS AND SET THE TIME APPROPRIATELY FOR PROPER NIGHT TIME ILLUMINATION, FOR APPROVAL BY OWNER OR OWNER'S REPRESENTATIVE.
13. CONTRACTOR SHALL PROVIDE GROUND FAULT CIRCUIT BREAKERS FOR ALL CIRCUITS AS REQUIRED BY NATIONAL, STATE AND LOCAL CODES.
14. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, LABOR, EXCAVATION AND BACKFILL NECESSARY TO COMPLETE THE WORK.
15. ALL FIXTURES PER MODELS SPECIFIED UNLESS CONTRACTOR GETS APPROVAL FROM LANDSCAPE ARCHITECT FOR A SUBSTITUTION.
16. SYSTEM INSTALLATION, INCLUDING PARTS AND LABOR, SHALL BE GUARANTEED AND REPAIRED AS NECESSARY BY THE CONTRACTOR FOR ONE YEAR.
17. CONTRACTOR TO PROVIDE "AS-BUILT" DRAWINGS IMMEDIATELY AFTER FINAL ACCEPTANCE, ALONG WITH ALL INSTRUCTION MANUALS FOR ALL EQUIPMENT INSTALLED.
18. IF POSSIBLE, FIELD MODIFICATIONS WILL BE DIRECTED BY THE LANDSCAPE ARCHITECT, OWNER OR OWNER'S REPRESENTATIVE.

CONSTRUCTION NOTES:

1. ALL CONTRACTORS AND ALL TRADES ARE RESPONSIBLE FOR OBTAINING THE CORRECT PERMITS AND INSPECTIONS PRIOR TO CONSTRUCTION AS REQUIRED BY LOCAL PLANNING, ZONING, BUILDING CODE AND OTHER TOWN AUTHORITIES.
2. CONTRACTOR SHALL PROVIDE SAMPLES OF ALL MATERIALS AND OBTAIN APPROVAL FROM OWNER, OWNER'S REPRESENTATIVE OR LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.
3. ON SITE TOPOGRAPHY MAY REQUIRE ADJUSTMENTS OF FINAL SPOT ELEVATIONS ON SITE FOR PROPOSED VERTICAL CONSTRUCTION ELEMENTS. THE CONTRACTOR SHALL NOTIFY THE OWNER OR OWNER'S REPRESENTATIVE PROMPTLY UPON THE DISCOVERY OF ANY SUCH REQUIRED ADJUSTMENTS.
4. THE CONTRACTOR SHALL PROVIDE FILL AS IS REQUIRED TO OBTAIN PROPER RELATIONSHIP OF FOOTING TO FINISH GRADE REQUIREMENTS - FEATHER FILL TO ADJACENT EXISTING GRADE TO ASSURE A COORDINATED AND DESIRED EFFECT.
5. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING CONDITIONS SCHEDULED TO REMAIN DURING CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES AND FOR ANY DAMAGE THAT MAY OCCUR TO EXISTING UTILITIES DURING CONSTRUCTION.
7. 'IN-FIELD MODIFICATIONS' MAY BE NECESSARY TO PRODUCE DESIRED EFFECT. MODIFICATIONS TO BE APPROVED BY LANDSCAPE ARCHITECT AND OWNER OR OWNER'S REPRESENTATIVE.
8. ALL WELDS TO BE CONTINUOUS.
9. FOR ALL WOOD MEMBERS, ALL CUTS SHALL BE EVEN AND JOINTS FLUSH. SAND FOUR SIDES AND FILL IMPERFECTIONS, COUNTERSINKS AND NAIL HOLES TO ASSURE EVEN FINISH.
10. CONTRACTOR SHALL VERIFY ALL WOOD MEMBERS FOR APPROPRIATE SIZE, SPACING, ATTACHMENTS AND STRUCTURAL STABILITY PRIOR TO CONSTRUCTION. CONTRACTOR TO REPORT ANY DISCREPANCIES TO OWNER, OWNER'S REPRESENTATIVE OR LANDSCAPE ARCHITECT.
11. ALL NOTCHES SHALL BE SHOP CUT TO ASSURE TIGHT JOINTS. EACH MEMBER SHALL BE DRIVEN HOME TO ASSURE TIGHT FIT. PILOT HOLES SHALL BE DRILLED FOR EACH CARRIAGE BOLT. PLUG, SEAL AND PRIME.
12. FINISH ALL SIDES AND CAULK ALL JOINTS WITH APPROPRIATE EXTERIOR CAULK PRIOR TO FINISHING.
13. ALL CONNECTORS, UNLESS OTHERWISE SPECIFIED, SHALL BE STAINLESS STEEL. BOLTS, THREADED RODS, WASHERS, NUTS AND ALL BUILDING HARDWARE SHALL BE STAINLESS STEEL AND SUITABLE FOR PRESSURE TREATED WOOD. ALL THROUGH BOLTS TO BE SMOOTH SHAFT WITH STAINLESS STEEL NUTS, BOLTS AND WASHERS. ALL NAILS AND FINISH NAILS SHALL BE ANNULAR STAINLESS STEEL.
14. ALL DECKING SHALL BE SECURED WITH STAINLESS STEEL SCREWS SIZED FOR DECK APPLICATION. MINIMUM 3" APART.

SOIL AMENDMENT NOTES:

1. TOPSOIL SHALL CONSIST OF THE NATURAL LOAM, SANDY LOAM, SILT LOAM, OR CLAY LOAM HUMUS BEARING SOILS, ADAPTED TO THE SUSTENANCE OF PLANT LIFE, WITH THE FOLLOWING TEXTURE:
   - 1.1. ORGANIC MATERIAL - TWO (2) TO TWENTY (20) PERCENT BY MASS
   - 1.2. SAND CONTENT - TWENTY (20) TO SIXTY (60) PERCENT BY MASS
   - 1.3. CLAY-SILT CONTENT – THIRTY FIVE (35) TO SEVENTY (70) PERCENT BY MASS.
   - 1.4. TOPSOIL PH SHALL BE BETWEEN FIVE (5) AND SEVEN (7).
2. TOPSOIL SHALL BE OF UNIFORM QUALITY AND FREE FROM FOREIGN MATERIAL SUCH HARD CLODS, SOD, STIFF CLAY, HARD PAN, STONES LARGER THAN ONE (1) INCH DIAMETER, LIME CEMENT, ASHES, SLAG, CONCRETE, TAR RESIDUES, TARRED PAPER, BOARDS, CHIPS, STICKS, OR OTHER UNDESIRABLE MATERIALS. IT SHALL ALSO BE REASONABLY FREE FROM WEEDS AND OBJECTIONABLE PLANT MATERIAL.
3. AFTER ALL DEMOLITION, CLEARING AND DISPOSAL IS COMPLETED, THE CONTRACTOR SHALL STRIP FROM THE TOP OF THE EXISTING GROUND ALL TOPSOIL IN ALL AREAS TO BE GRADED.
4. PRIOR TO STOCKPILING OF TOPSOIL, TOPSOIL SHALL BE SCREENED WITH A ONE HALF (1/2) INCH SIZE SIEVE. STOCKPILE TOPSOIL IN DESIGNATED OR APPROVED LOCATIONS WITH PROPER DRAINAGE AND WHERE IT WILL NOT INTERFERE WITH THE WORK. AFTER TOPSOIL HAS BEEN STOCKPILED, CONTRACTOR SHALL QUANTIFY THE AMOUNTS AT NO ADDITIONAL COST TO THE OWNER. QUANTITIES SHALL BE GIVEN TO THE ARCHITECT, OWNER AND SITE DESIGN PROFESSIONAL.
5. IF AMOUNT OF SCREENED TOPSOIL STOCKPILED FROM STRIPING OPERATIONS IS INSUFFICIENT TO PROVIDE THE NECESSARY AMOUNTS (4" MINIMUM DEPTH), IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN (FROM OFF-SITE SOURCE) THE NECESSARY AMOUNT OF SCREENED TOPSOIL TO COMPLETE THE PROJECT.
6. SCREENED TOPSOIL SHALL BE DISTRIBUTED WITH A MINIMUM DEPTH OF FOUR (4) INCHES TO ALL GRADED AREAS (NOT INCLUDING BUILDING, PAVED, SYNTHETIC TURF, PERVIOUS PAVEMENT, ETC.) AND / OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE. GROUND SHALL BE SCARIFIED BEFORE PLACING TOPSOIL. AREAS WHERE SCREENED TOPSOIL IS DISTRIBUTED SHALL BE STABILIZED WITH TEMPORARY AND/OR PERMANENT VEGETATION (SEASON DEPENDENT) OR TEMPORARY MULCH WITHIN FOURTEEN (14) CALENDAR DAYS OF DISTRIBUTION.

PLANTING NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR INSPECTION OF EXISTING CONDITIONS, INCLUDING UTILITIES, AND PROMPTLY REPORTING ANY DISCREPANCIES OR CONFLICTS WITH PLANTING AREAS. REPORT INFORMATION TO OWNER, OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.
2. CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE AND MAKE REPAIRS THAT MAY OCCUR TO EXISTING UTILITIES IN ACCORDANCE WITH NATIONAL, STATE AND LOCAL CODES.
3. LANDSCAPE PLANTING AND / OR MULCHED AREAS TO BE FINE GRADED, HAND RAKED SMOOTH AND FREE OF DEBRIS.
4. CONTRACTOR TO PERFORM SOIL TESTS AS NECESSARY TO ASSURE PLANT HEALTH AND GROWTH.
5. MULCH ALL PLANTING BEDS TO A MIN. 3" DEPTH WITH MULCH SPECIFIED IN PLANT SCHEDULE.
6. CONTRACTOR VERIFIES THAT ALL PLANT MATERIAL IS DETERMINED AVAILABLE AS SPECIFIED WHEN BID / PROPOSAL IS SUBMITTED.
7. PLANT SCHEDULE WAS PREPARED FOR ESTIMATING PURPOSES ONLY. CONTRACTOR SHALL MAKE OWN QUANTITY TAKEOFFS USING DRAWINGS TO DETERMINE QUANTITIES TO HIS SATISFACTION, REPORTING PROMPTLY ANY DISCREPANCIES WHICH MAY AFFECT BIDDING.
8. GALLON SIZES ARE FOR PRICING PURPOSES ONLY. PLANT MUST MEET HEIGHTS AND WIDTHS SPECIFIED IN PLANT SCHEDULE.
9. ROOT TYPE MAY BE FREELY SUBSTITUTED IN CASE OF BALLED AND BURLAPPED OR CONTAINER GROWN, OTHER SPECIFICATIONS REMAINING UNCHANGED, EXCEPT IN THE CASE OF CONTAINER GROWN SPECIMEN TREES AS INDICATED IN THE TREE PLANTING SCHEDULE.
10. ANY SIGNIFICANT ROOTS ENCOUNTERED 2" DIA. AND LARGER SHALL BE DUG OUT BY HAND AND CLEANLY CUT BACK IN THE FOOTING / FOUNDATION AREA TO PROMOTE ROOT RE-GROWTH AND HELP PREVENT ROOT DIEBACK.
11. ALL PLANT MATERIAL (EXCEPT SEASONAL COLOR) SHALL BE GUARANTEED AND REPLACED AS NECESSARY BY THE CONTRACTOR FOR ONE YEAR.
12. ALL SEASONAL COLOR SHALL BE GUARANTEED AND REPLACED AS NECESSARY BY THE CONTRACTOR FOR THREE MONTH TIME FRAMES.

TURF AND GRASSING NOTES:

1. GRASS SEED: PROVIDE FRESH, CLEAN, NEW-CROP SEED COMPLYING WITH TOLERANCE FOR PURITY AND GERMINATION ESTABLISHED BY OFFICIAL SEED ANALYSIS OF NORTH AMERICA. PROVIDE SEED MIXTURE COMPOSED OF GRASS SPECIES, PROPORTIONS AND MINIMUM PERCENTAGES OF PURITY, GERMINATION, AND MAXIMUM PERCENTAGE OF WEED SEED, AS SPECIFIED SEED MANUFACTURER.
2. SOD SHALL BE STRONGLY ROOTED AND FREE OF PERNICIOUS WEEDS. ALL NETTING SHALL BE REMOVED FROM SOD BEFORE IT IS LAID.
3. ALL AREAS IN WHICH EARTHWORK SHALL BE SUSPENDED FOR MORE THAN TWO (2) WEEKS SHALL BE GRASSED WITH TEMPORARY GRASS.
4. AFTER TOPSOIL HAS BEEN INSTALLED, AND BEFORE ANY SOD IS LAID, CORRECT ALL SOFT SPOTS AND IRREGULARITIES IN GRADE. THE SOD SHALL BE BE LAID BY BUTTING THE ENDS AND SIDES UP EVENLY AND STAGGERING THE ROLLS OF SOD. CONTRACTOR SHALL NOT OVERLAP SOD. AS SOON AS THE SOD IS LAID OR AS IT IS BEING LAID ROLL OVER WITH A LIGHT ROLLER, MAKING CERTAIN THAT ALL OF THE SOD IS IN CONTACT WITH THE SOIL. THE COMPLETED SODDED AREAS SHALL BE TRUE TO FINISH GRADE, EVEN AND FIRM AT ALL POINTS.
5. SEED SHALL BE AT A RATE OF 10 POUNDS PER ACRE.
6. THIRTY DAYS AFTER LAST SEEDING/SODDING OPERATION, APPLY 1 POUND OF TYPE A NITROGEN FERTILIZER PER ACRE OF LAWN AREAS AND IMMEDIATELY WATER.
7. UPON COMPLETION OF PLANTINGS ALL EXCESS SOIL STONES AND DEBRIS WHICH HAS NOT PREVIOUSLY BEEN CLEANED UP SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
8. ALL LAWN AREAS THAT DO NOT SHOW SATISFACTORY GROWTH WITHIN (18) DAYS AFTER PLANTING SHALL BE RE-PLANTED AND RE-FERTILISZED AS SPECIFIED UNTIL A SATISFACTORY LAWN IS ESTABLISHED. THE LAWN SHALL BE CONSIDERED ESTABLISHED WHEN ITS REASONABLY FREE FROM WEED, GREEN IN APPEARANCE AND THE SPECIFIED GRASS IS VIGOROUS AND GROWING WELL ON EACH SQ. FT. OF LAWN AREA.
9. LAWN SHALL BE PROTECTED AND MAINTAINED BY WATERING, MOWING, AND REPLANTING, OVERSEEING, AS NECESSARY FOR AS LONG AS IS NECESSARY TO ESTABLISH A UNIFORM STAND. SCATTERED BARE SPOTS, NONE OF WHICH IS LARGER THAN ONE SQ. FT., WILL BE ALLOWED UP TO MAXIMUM OF THREE PERCENT OF ANY LAWN AREA. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR ANY EROSIONAL DAMAGE TO THE LAWN AREA. FULL COVERAGE IS REQUIRED IN SIXTY DAYS.
10. MAINTENANCE OF GRASSED AREAS SHALL CONSIST OF MOWING, WATERING AND FERTILIZING. ALL GRASSED AREAS SHALL BE MAINTAINED AT A HEIGHT NOT TO EXCEED 6" ABOVE FINISHED GRADE.
11. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ALL GRASSED AREAS UNTIL ACCEPTANCE BY OWNER AT END OF PROJECT. LAWN MAINTENANCE SHALL OCCUR AT A MINIMUM OF ONCE PER SEVEN CALENDAR DAYS.
12. FINAL SEEDING AND SOD AREAS / SQUARE FOOTAGES TO BE PAINTED IN FIELD AND APPROVED AND ADJUSTED IN FIELD BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
13. SEEDING SHALL TAKE PLACE IMMEDIATELY AFTER FINE GRADING. MAINTAIN SEEDED LAWN UNTIL COMPLETION AND ACCEPTANCE OF ENTIRE PROJECT.
14. SEEDING BED SHALL HAVE TOPSOIL LOOSEN TO A DEPTH OF 4". REMOVE STONE OVER 1" IN ANY DIMENSION, ROOTS, RUBBISH, AND EXTRANEOUS MATTER.

IRRIGATION NOTES:

1. CONTRACTOR TO SUPPLY AUTOMATIC IRRIGATION SYSTEM, COMPLETE AND INSTALLED. SYSTEM TO INCLUDE ALL VALVES, PIPES, HEADS, FITTINGS, BACK FLOW CONTROLLER, AND IRRIGATION METER AND TO PROVIDE 100% COVERAGE FOR ALL NEW PLANTINGS. DRIP IRRIGATION TO BE USED FOR ALL PLANTINGS, EXCEPT LAWNS.
2. NO IRRIGATION COMPONENTS SHALL BE CLOSER THAN 12" TO ANY EDGE OF PAVEMENT OR CURB AND GUTTER. IRRIGATION SHALL NOT SPRAY BEYOND LANDSCAPED AREAS, OR INTO ANY UNDISTURBED BUFFERS. NO OVER SPRAY SHALL BE PERMITTED ONTO ADJACENT PROPERTIES OR PEDESTRIAN SIDEWALK AREAS.
3. LANDSCAPE CONTRACTOR TO FIELD VERIFY ALL COMPONENT LOCATIONS TO ENSURE APPROPRIATE COVERAGE.
4. LANDSCAPE CONTRACTOR SHALL LOCATE WATER SOURCE AND PROVIDE POWER TO CONTROLLER.
5. CONTROLLER LOCATION TO BE SPECIFIED BY OWNERS REPRESENTATIVE IN FIELD PRIOR TO CONSTRUCTION.
6. ALL DRIP TUBING SHALL BE COVERED WITH MIN. 3" OF MULCH.
7. ALL DRIP AND SPRAY ZONES SHALL BE SEPARATE.
8. CONTRACTOR SHALL SUBMIT FINAL IRRIGATION PLANS TO OWNER'S REPRESENTATIVE AND ALL REVIEWING BODIES / AGENCIES FOR FINAL APPROVAL PRIOR TO INSTALLATION.

****CAUTION****

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THIS SHEET TO SCALE AT: 24"X36"

SITE DEVELOPMENT PLANS
FOR
CORNERSTONE CHURCH
NEW RIVERSIDE CAMPUS
BLUFFTON, SOUTH CAROLINA

DATE:	FEB 10, 2025
PROJECT NO.:	XX-XXX-XX
DRAWN BY:	JM/ED
CHECKED BY:	DK

DRC SUBMITTAL PLAN, NOT FOR CONSTRUCTION

REVISIONS:

DRAWING TITLE
PROJECT NOTES

DRAWING NUMBER
L30

SITE DEMOLITION LEGEND

CALL-OUT	SYMB.	DESCRIPTION
	X	TREE TO BE REMOVED

NOTE: DEMOLITION HATCHES ARE GRAPHIC IN NATURE AND ARE NOT INTENDED TO BE TO SCALE.

PLANTING REFERENCE NOTES:

1. EXISTING TREE TO REMAIN, DO NOT DISTURB, PROTECT IN PLACE.
2. EXISTING TREE TO BE REMOVED INCLUDING ROOTS AND STUMP, LEGALLY DISPOSE OF OFF SITE.
3. SEED DISTURBED AREAS DUE TO CONSTRUCTION.

MATCHLINE L51
MATCHLINE L50

PROPERTY LINE

IMPROVEMENTS TO ACCESS ROAD (REFER TO ENGINEER'S PLANS)

60' INGRESS/EGRESS EASEMENT

APPROX. 2,000' TO THE R/W OF HWY 170

MAY RIVER ROAD

TYP. 1
TYP. 2
TYP. 3

0 10 20 30 40 50 60 70 80
Scale 1 " = 20'

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SITE DEVELOPMENT PLANS
FOR
CORNERSTONE CHURCH
NEW RIVERSIDE CAMPUS
BLUFFTON, SOUTH CAROLINA

DATE:	FEB 10, 2025
PROJECT NO.:	XX-XXX-XX
DRAWN BY:	JM/ED
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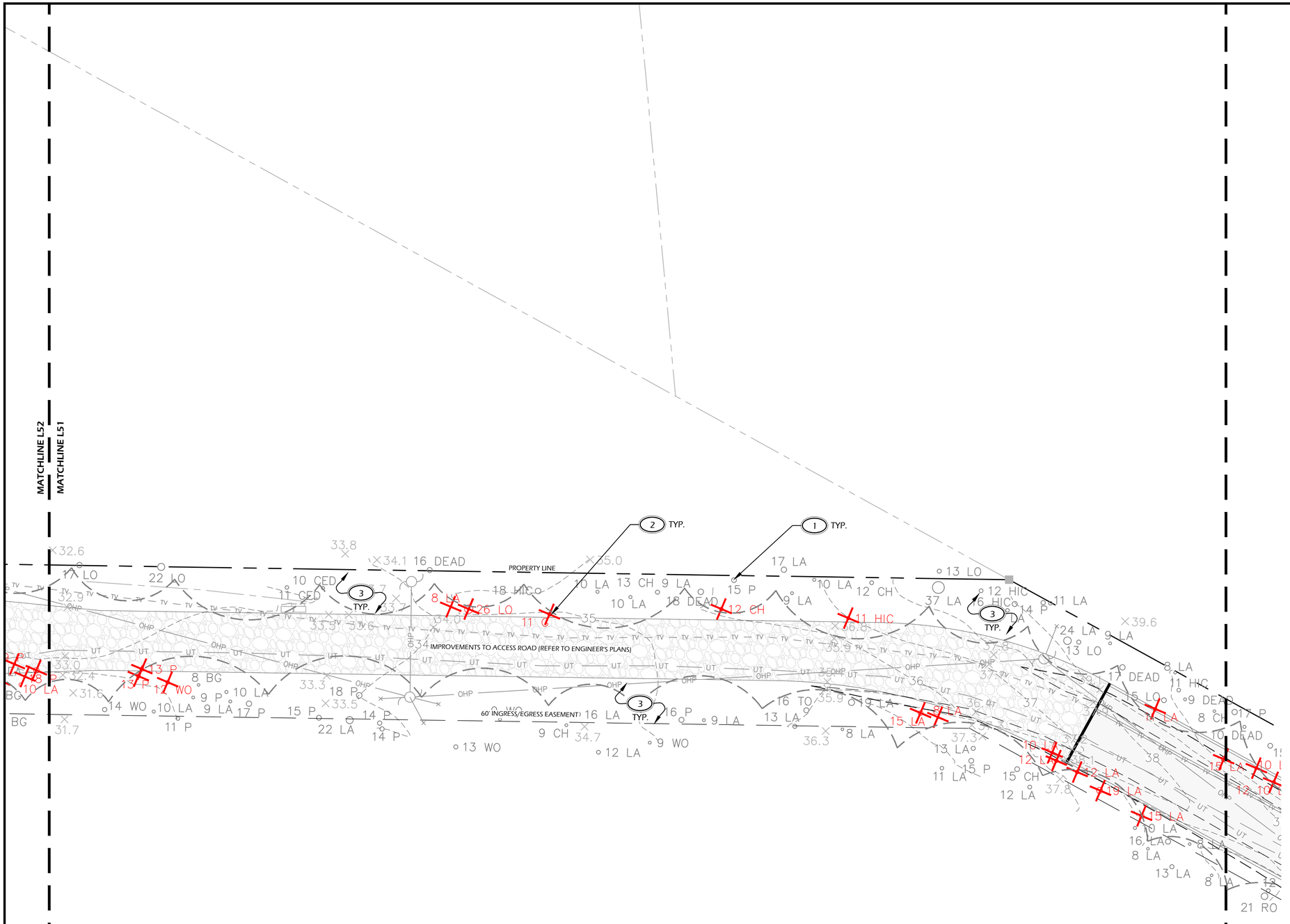
DRC SUBMITTAL PLAN, NOT FOR CONSTRUCTION

REVISIONS:

DRAWING TITLE
PLANTING & DEMOLITION PLAN - 01

DRAWING NUMBER
L500



SITE DEMOLITION LEGEND

CALL-OUT	SYMB.	DESCRIPTION
	X	TREE TO BE REMOVED

NOTE: DEMOLITION HATCHES ARE GRAPHIC IN NATURE AND ARE NOT INTENDED TO BE TO SCALE.

PLANTING REFERENCE NOTES:

1. EXISTING TREE TO REMAIN, DO NOT DISTURB, PROTECT IN PLACE.
2. EXISTING TREE TO BE REMOVED INCLUDING ROOTS AND STUMP, LEGALLY DISPOSE OF OFF SITE.
3. SEED DISTURBED AREAS DUE TO CONSTRUCTION.

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SITE DEVELOPMENT PLANS
FOR
CORNERSTONE CHURCH
NEW RIVERSIDE CAMPUS
BLUFFTON, SOUTH CAROLINA

DATE:	FEB 10, 2025
PROJECT NO.:	XX-XXX-XX
DRAWN BY:	JM/ED
CHECKED BY:	DK

DRC SUBMITTAL PLAN, NOT FOR CONSTRUCTION

REVISIONS:

DRAWING TITLE
PLANTING & DEMOLITION PLAN - 02

DRAWING NUMBER
L501

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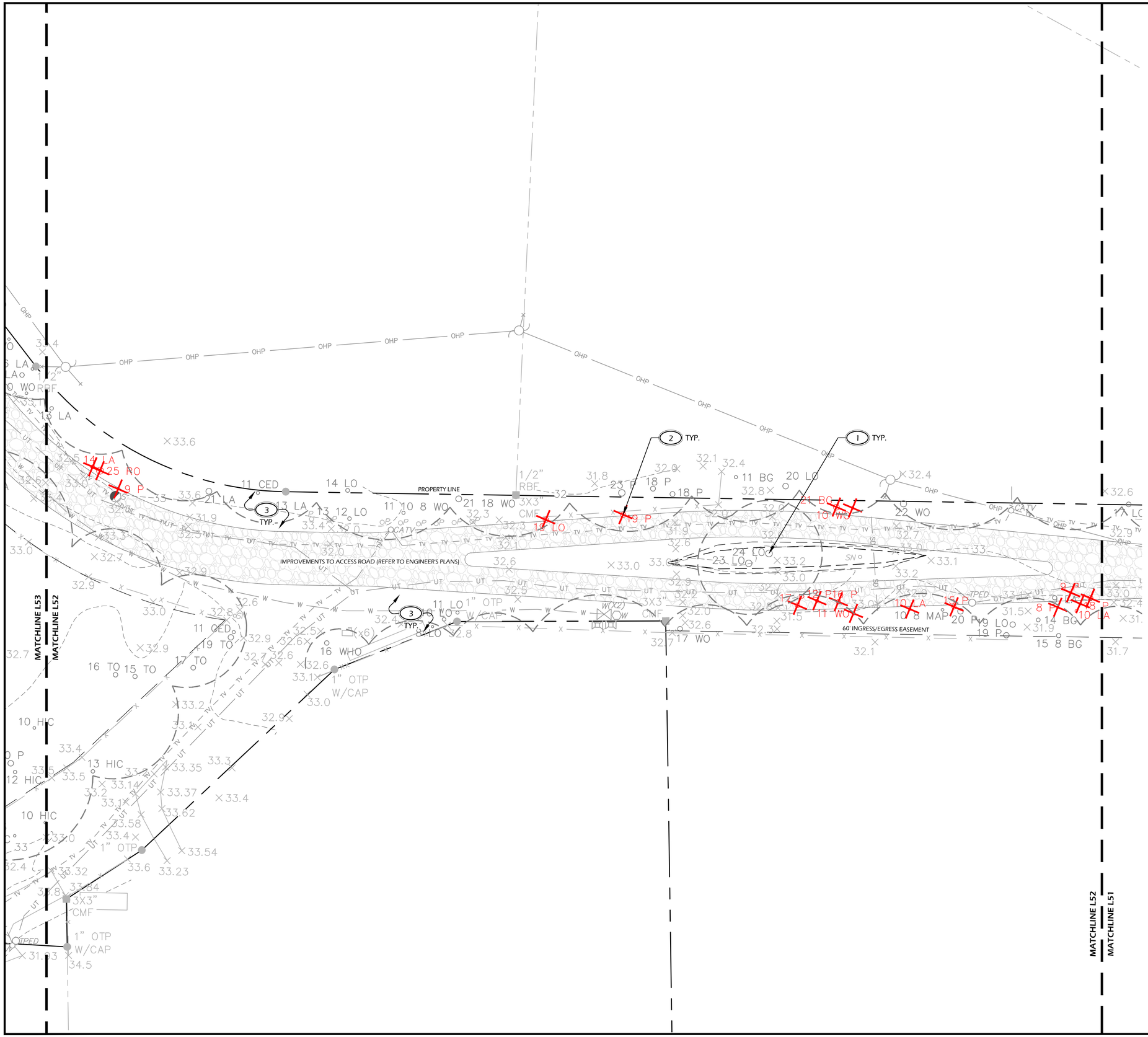

SITE DEMOLITION LEGEND

CALL-OUT	SYMB.	DESCRIPTION
	X	TREE TO BE REMOVED

NOTE: DEMOLITION HATCHES ARE GRAPHIC IN NATURE AND ARE NOT INTENDED TO BE TO SCALE.

PLANTING REFERENCE NOTES:

1. EXISTING TREE TO REMAIN, DO NOT DISTURB, PROTECT IN PLACE.
2. EXISTING TREE TO BE REMOVED INCLUDING ROOTS AND STUMP, LEGALLY DISPOSE OF OFF SITE.
3. SEED DISTURBED AREAS DUE TO CONSTRUCTION.

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SITE DEVELOPMENT PLANS
FOR

CORNERSTONE CHURCH

NEW RIVERSIDE CAMPUS
BLUFFTON, SOUTH CAROLINA

DATE:	FEB 10, 2025
PROJECT NO.:	XX-XXX-XX
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REVISIONS:

DRAWING TITLE
PLANTING & DEMOLITION PLAN - 03

DRAWING NUMBER
L502

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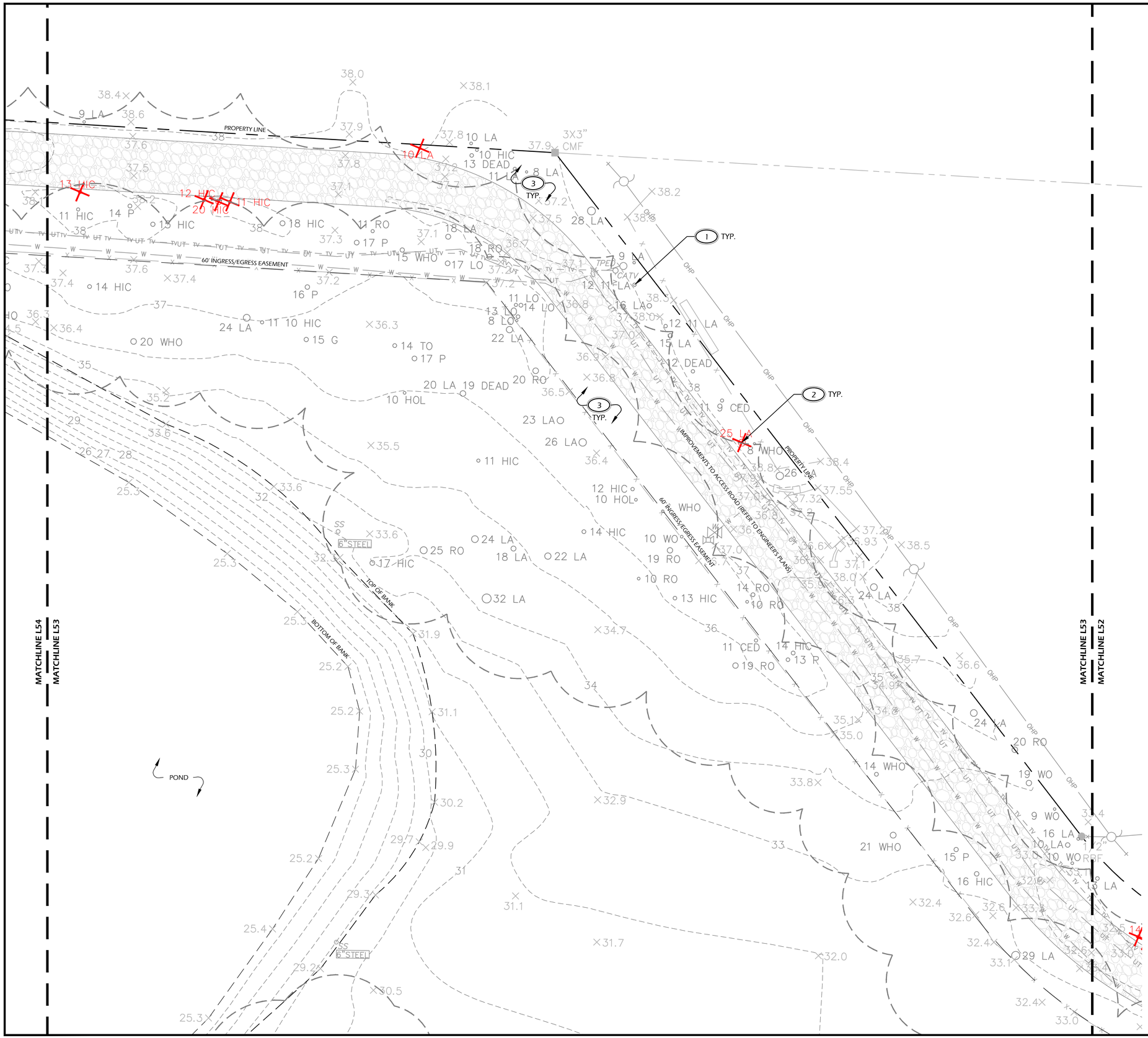

SITE DEMOLITION LEGEND

CALL-OUT	SYMB.	DESCRIPTION
	X	TREE TO BE REMOVED

NOTE: DEMOLITION HATCHES ARE GRAPHIC IN NATURE AND ARE NOT INTENDED TO BE TO SCALE.

PLANTING REFERENCE NOTES:

1. EXISTING TREE TO REMAIN, DO NOT DISTURB, PROTECT IN PLACE.
2. EXISTING TREE TO BE REMOVED INCLUDING ROOTS AND STUMP, LEGALLY DISPOSE OF OFF SITE.
3. SEED DISTURBED AREAS DUE TO CONSTRUCTION.

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SITE DEVELOPMENT PLANS
FOR
CORNERSTONE CHURCH
NEW RIVERSIDE CAMPUS
BLUFFTON, SOUTH CAROLINA

DATE:	FEB 10, 2025
PROJECT NO.:	XX-XXX-XX
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REVISIONS:

DRAWING TITLE
PLANTING & DEMOLITION PLAN - 04

DRAWING NUMBER
L503

SITE DEMOLITION LEGEND

CALL-OUT	SYMB.	DESCRIPTION
	X	TREE TO BE REMOVED

NOTE: DEMOLITION HATCHES ARE GRAPHIC IN NATURE AND ARE NOT INTENDED TO BE TO SCALE.

PLANTING REFERENCE NOTES:

1. EXISTING TREE TO REMAIN, DO NOT DISTURB, PROTECT IN PLACE.
2. EXISTING TREE TO BE REMOVED INCLUDING ROOTS AND STUMP, LEGALLY DISPOSE OF OFF SITE.
3. SEED DISTURBED AREAS DUE TO CONSTRUCTION.

PLANTING DETAILS

CALL-OUT	DESCRIPTION	DETAIL
14.1	TREE PLANTING	**1/L510**
14.2	PALM TREE PLANTING	**2/L510**
14.3	SHRUB PLANTING	**3/L510**
14.4	GROUND COVER PLANTING	**4/L510**

PLANT KEY LEGEND

Abbrev	Botanical Name	Common Name
TREES		
QUEV	Quercus virginiana	Live Oak
UNDERSTORY TREES		
LAGN	Lagerstroemia indica x fauriei 'Natchez'	Natchez Crape Myrtle
MAGL	Magnolia grandiflora 'Little Gem'	Little Gem Magnolia
MAGS	Magnolia x soulangeana	Saucer Magnolia

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SITE DEVELOPMENT PLANS
FOR

CORNERSTONE CHURCH

NEW RIVERSIDE CAMPUS
BLUFFTON, SOUTH CAROLINA

DATE:	FEB 10, 2025
PROJECT NO.:	XX-XXX-XX
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PLANTING & DEMOLITION PLAN - 05

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L504

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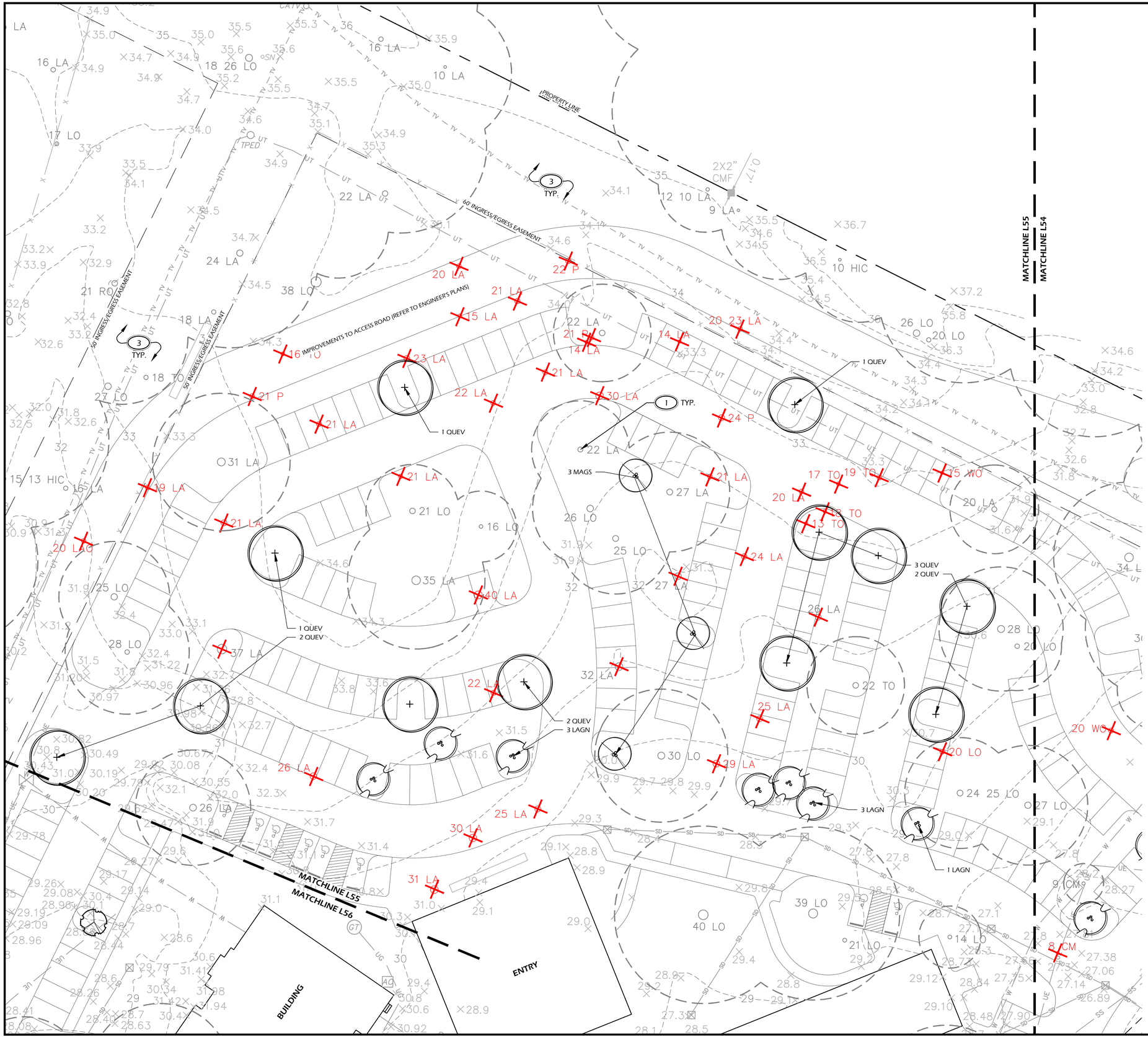

SITE DEMOLITION LEGEND

CALL-OUT	SYMB.	DESCRIPTION
	X	TREE TO BE REMOVED

NOTE: DEMOLITION HATCHES ARE GRAPHIC IN NATURE AND ARE NOT INTENDED TO BE TO SCALE.

PLANTING REFERENCE NOTES:

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2. EXISTING TREE TO BE REMOVED INCLUDING ROOTS AND STUMP, LEGALLY DISPOSE OF OFF SITE.
3. SEED DISTURBED AREAS DUE TO CONSTRUCTION.

PLANTING DETAILS

CALL-OUT	DESCRIPTION	DETAIL
14.1	TREE PLANTING	1/L510
14.2	PALM TREE PLANTING	2/L510
14.3	SHRUB PLANTING	3/L510
14.4	GROUND COVER PLANTING	4/L510

PLANT KEY LEGEND

Abbrev	Botanical Name	Common Name
TREES		
QUEV	Quercus virginiana	Live Oak
UNDERSTORY TREES		
LAGN	Lagerstroemia indica x fauriei 'Natchez'	Natchez Crape Myrtle
MAGL	Magnolia grandiflora 'Little Gem'	Little Gem Magnolia
MAGS	Magnolia x soulangeana	Saucer Magnolia

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BLUFFTON, SOUTH CAROLINA

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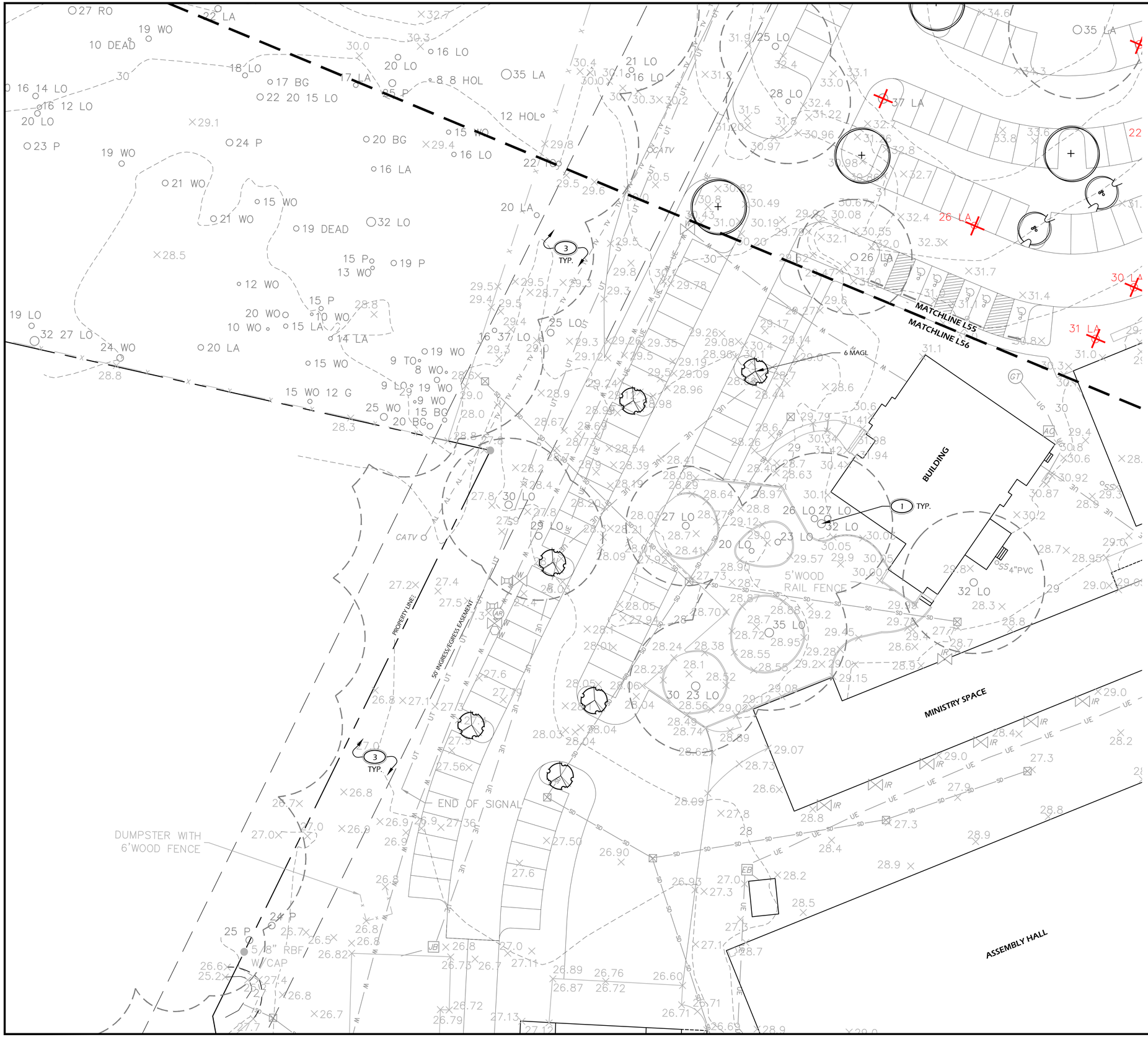
PLANTING & DEMOLITION PLAN - 06

DRAWING NUMBER
L505

Scale 1 " = 20'



SITE DEMOLITION LEGEND

CALL-OUT	SYMB.	DESCRIPTION
	X	TREE TO BE REMOVED

NOTE: DEMOLITION HATCHES ARE GRAPHIC IN NATURE AND ARE NOT INTENDED TO BE TO SCALE.

PLANTING REFERENCE NOTES:

1. EXISTING TREE TO REMAIN, DO NOT DISTURB, PROTECT IN PLACE.
2. EXISTING TREE TO BE REMOVED INCLUDING ROOTS AND STUMP, LEGALLY DISPOSE OF OFF SITE.
3. SEED DISTURBED AREAS DUE TO CONSTRUCTION.

PLANTING DETAILS

CALL-OUT	DESCRIPTION	DETAIL
14.1	TREE PLANTING	1/L510
14.2	PALM TREE PLANTING	2/L510
14.3	SHRUB PLANTING	3/L510
14.4	GROUND COVER PLANTING	4/L510

PLANT KEY LEGEND

Abbrev	Botanical Name	Common Name
TREES		
QUEV	Quercus virginiana	Live Oak
UNDERSTORY TREES		
LAGN	Lagerstroemia indica x fauriei 'Natchez'	Natchez Crape Myrtle
MAGL	Magnolia grandiflora 'Little Gem'	Little Gem Magnolia
MAGS	Magnolia x soulangeana	Saucer Magnolia

0 10 20 30 40 50 60 70 80
Scale 1 " = 20'

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SITE DEVELOPMENT PLANS
FOR
CORNERSTONE CHURCH
NEW RIVERSIDE CAMPUS
BLUFFTON, SOUTH CAROLINA

DATE:	FEB 10, 2025
PROJECT NO.:	XX-XXX-XX
DRAWN BY:	JM/ED
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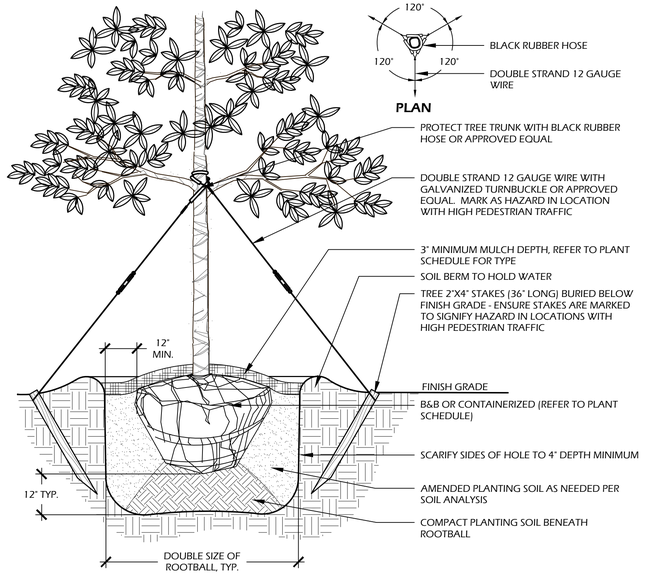
REVISIONS:

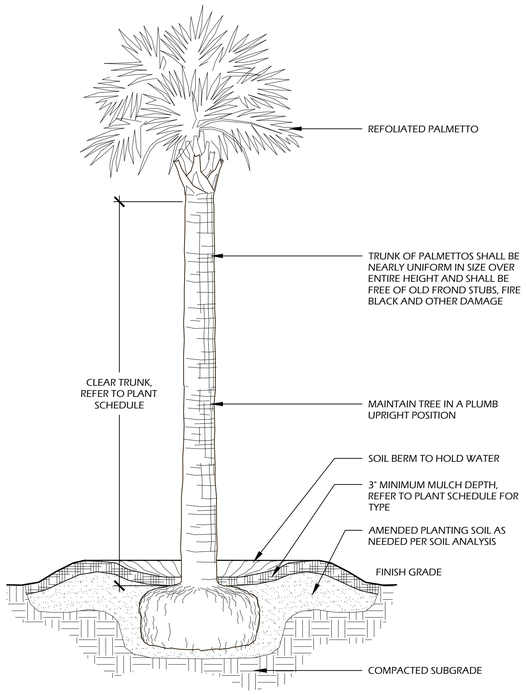
DRAWING TITLE
PLANTING & DEMOLITION PLAN - 07

DRAWING NUMBER
L506



NOTES:
1. TREE STAKING OPTIONAL, HOWEVER, LANDSCAPE CONTRACTOR RESPONSIBLE FOR MAINTAINING TREES IN AN UPRIGHT (90 DEGREE/ PERPENDICULAR) POSITION FOR 1 YEAR AFTER PLANTING IS COMPLETE OR UNTIL TREE ROOT SYSTEM IS FULLY ESTABLISHED AND STURDY. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER'S REPRESENTATIVE.
2. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.
3. IN SEMI-IMPERVIOUS SOIL CONDITIONS, ROOTBALL ELEVATION SHALL BE 2" ABOVE FINISH GRADE. COORDINATE WITH OWNER'S REPRESENTATIVE PRIOR TO SETTING ROOTBALL ELEVATIONS.

1 // L510 TREE PLANTING
SCALE: N.T.S.

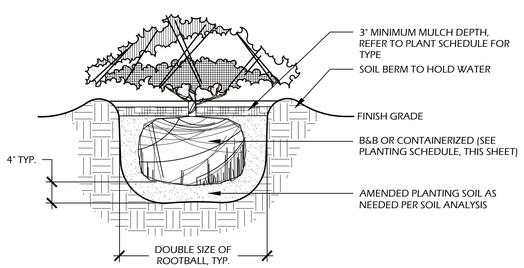


NOTES:
1. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER OR OWNER'S REPRESENTATIVE,
2. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.
3. SABAL PALMETTOS SHALL BE REFOLIATED, PROTECT CABBAGE HEAD FROM DAMAGE.

2 // L510 PALM TREE PLANTING
SCALE: N.T.S.

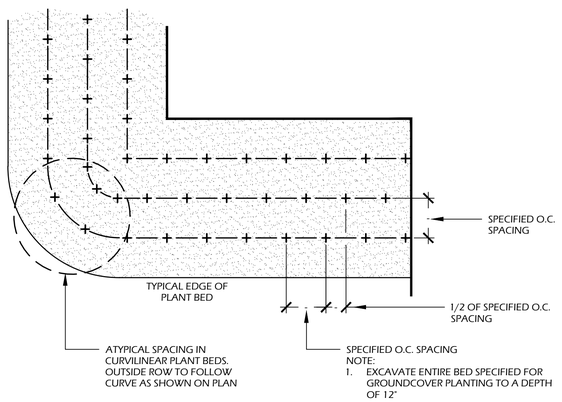
PLANT SCHEDULE:

Quantity	Abbrev	Botanical Name	Common Name	Height	Spread	Container	Cal./Spacing	Notes
TREES								
13	QUEV	Quercus virginiana	Live Oak	14'-16'	6'-8'	Cont.	2.5"	Full
UNDERSTORY TREES								
8	LAGN	Lagerstroemia indica x fauriei 'Natchez'	Natchez Crape Myrtle	10'-12'	5'-6'	45 gal.	-	Full
6	MAGL	Magnolia grandiflora 'Little Gem'	Little Gem Magnolia	8'-10'	4'-5'	30 gal.	-	Full
3	MAGS	Magnolia x soulangeana	Saucer Magnolia	8'-10'	4'-5'	30 gal.	-	Full

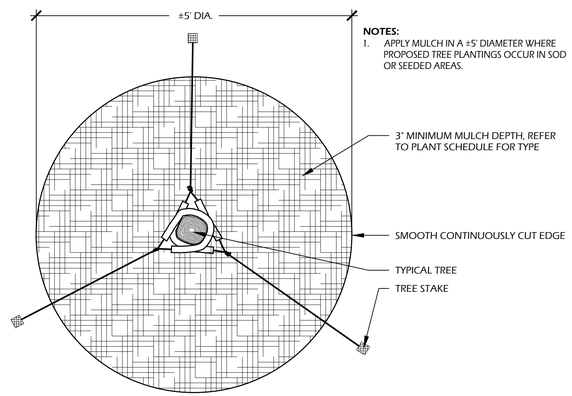


NOTES:
1. WHEN GROUNDCOVERS AND SHRUBS ARE USED IS MASSES, ENTIRE BED TO BE EXCAVATED TO RECEIVE PLANTING SOIL AND PLANT MATERIAL.
2. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.
3. IN SEMI-IMPERVIOUS SOIL CONDITIONS, ROOTBALL ELEVATION SHALL BE ±2" ABOVE FINISH GRADE. COORDINATE WITH OWNER'S REPRESENTATIVE PRIOR TO SETTING ROOTBALL ELEVATIONS.

3 // L510 SHRUB PLANTING
SCALE: N.T.S.



4 // L510 GROUND COVER PLANTING
SCALE: N.T.S.



5 // L510 TREE STAKING
SCALE: N.T.S.

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THIS SHEET TO SCALE AT: 24"X36"

SITE DEVELOPMENT PLANS
FOR
CORNERSTONE CHURCH
NEW RIVERSIDE CAMPUS
BLUFFTON, SOUTH CAROLINA

DATE:	FEB 10, 2025
PROJECT NO.:	XX-XXX-XX
DRAWN BY:	JM/ED
CHECKED BY:	DK

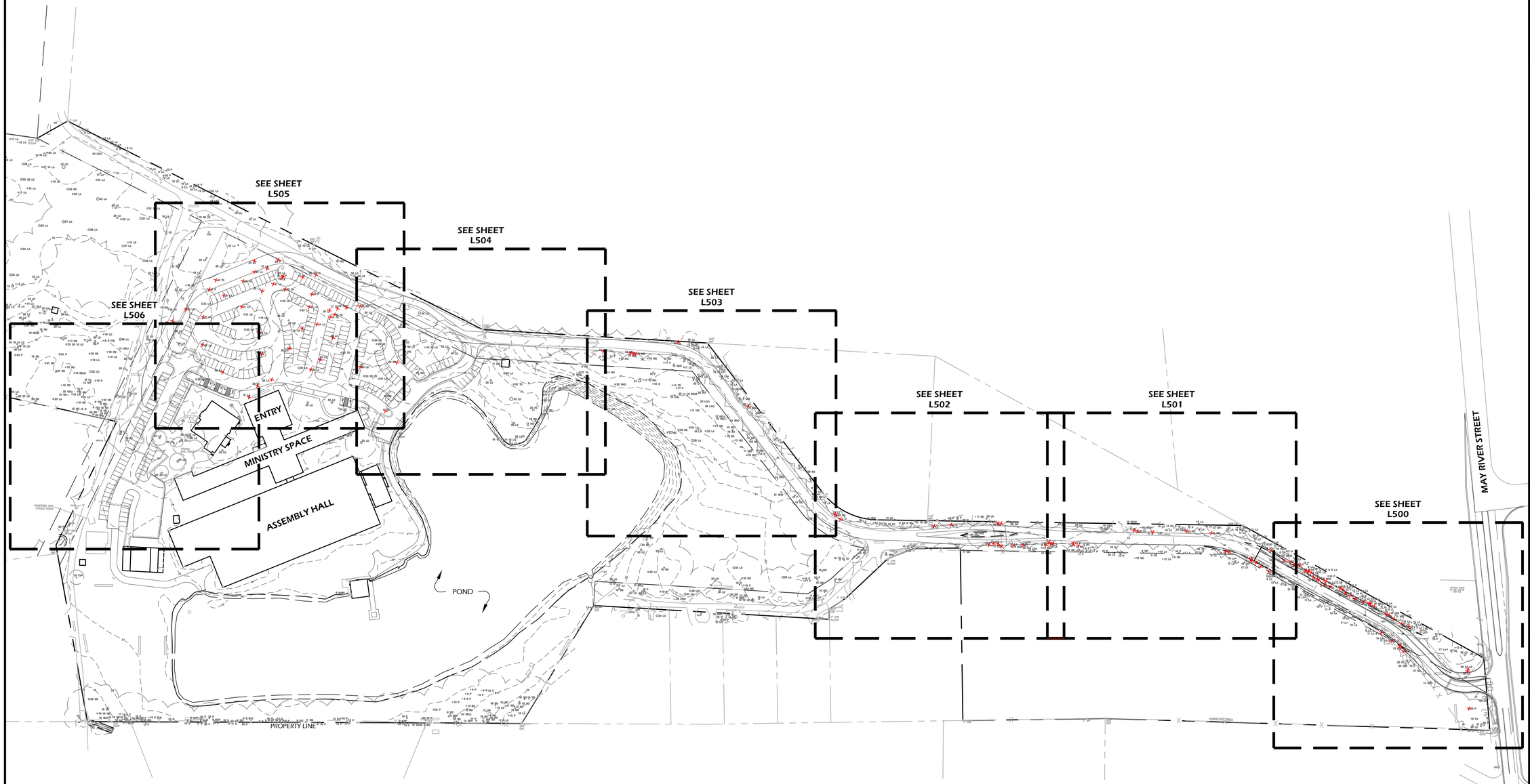
DRC SUBMITTAL PLAN, NOT FOR CONSTRUCTION

REVISIONS:

DRAWING TITLE
PLANT SCHEDULE AND DETAILS

DRAWING NUMBER
L510

Attachment 5



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THIS SHEET TO SCALE AT: 24"X36"

SITE DEVELOPMENT PLANS
FOR

CORNERSTONE CHURCH

NEW RIVERSIDE CAMPUS
BLUFFTON, SOUTH CAROLINA

DATE:	SEP 26, 2024
PROJECT NO.:	XX-XXX-XX
DRAWN BY:	JM/ED
CHECKED BY:	DK

DRC SUBMITTAL PLAN, NOT FOR CONSTRUCTION

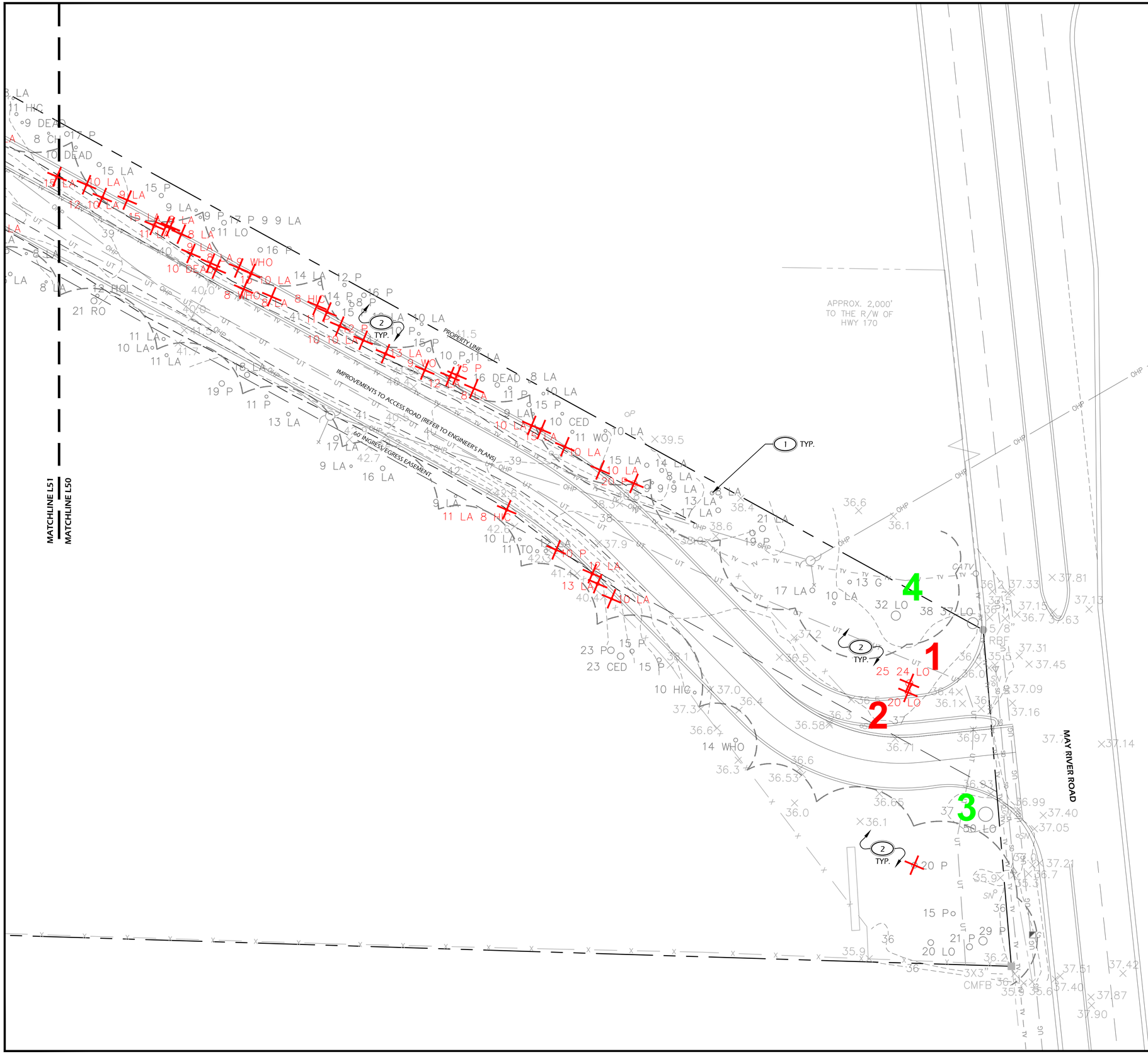
REVISIONS:

DRAWING TITLE
REFERENCE PLAN TREE DEMO

DRAWING NUMBER
L-D

N W E S

0 50 100 150 200 250 300 350 400
Scale 1 " = 100'



PLANTING REFERENCE NOTES:

1. EXISTING TREES TO REMAIN.
2. SEED DISTURBED AREAS DUE TO CONSTRUCTION.

SITE DEMOLITION LEGEND		
CALL-OUT	SYMB.	DESCRIPTION
	X	TREE TO BE REMOVED

NOTE: DEMOLITION HATCHES ARE GRAPHIC IN NATURE AND ARE NOT INTENDED TO BE TO SCALE.

DEMOLITION REFERENCE NOTES:

1. EXISTING TREE TO REMAIN, DO NOT DISTURB, PROTECT IN PLACE.
2. EXISTING TREE TO BE REMOVED INCLUDING ROOTS AND STUMP, LEGALLY DISPOSE OF OFF SITE.

ARBORIST RECOMMENDATION LEGEND:

- REMOVE
- REMOVE IF IMPAIRED BY SITE IMPACTS + SAFETY CONCERNS
- SAVE / KEEP

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THIS SHEET TO SCALE AT: 24"X36"

SITE DEVELOPMENT PLANS
FOR

CORNERSTONE CHURCH

NEW RIVERSIDE CAMPUS
BLUFFTON, SOUTH CAROLINA

DATE:	SEP 26, 2024
PROJECT NO.:	XX-XXX-XX
DRAWN BY:	JM/ED
CHECKED BY:	DK

DRC SUBMITTAL PLAN, NOT FOR CONSTRUCTION

REVISIONS:

DRAWING TITLE
PLANTING & DEMOLITION PLAN - 01

DRAWING NUMBER
L500

MATCHLINE L52
MATCHLINE L51

PROPERTY LINE

60' INGRESS/EGRESS EASEMENT

IMPROVEMENTS TO ACCESS ROAD (REFER TO ENGINEER'S PLANS)

1 TYP.

2 TYP.

2 TYP.

2 TYP.

MATCHLINE L51
MATCHLINE L50

PLANTING REFERENCE NOTES:

1. EXISTING TREES TO REMAIN.
2. SEED DISTURBED AREAS DUE TO CONSTRUCTION.

SITE DEMOLITION LEGEND		
CALL-OUT	SYMB.	DESCRIPTION
	X	TREE TO BE REMOVED

NOTE: DEMOLITION HATCHES ARE GRAPHIC IN NATURE AND ARE NOT INTENDED TO BE TO SCALE.

DEMOLITION REFERENCE NOTES:

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2. EXISTING TREE TO BE REMOVED INCLUDING ROOTS AND STUMP, LEGALLY DISPOSE OF OFF SITE.

ARBORIST RECOMMENDATION LEGEND:

- REMOVE
- REMOVE IF IMPAIRED BY SITE IMPACTS + SAFETY CONCERNS
- SAVE / KEEP

N

0 10 20 30 40 50 60 70 80

Scale 1" = 20'

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SITE DEVELOPMENT PLANS
FOR
CORNERSTONE CHURCH
NEW RIVERSIDE CAMPUS
BLUFFTON, SOUTH CAROLINA

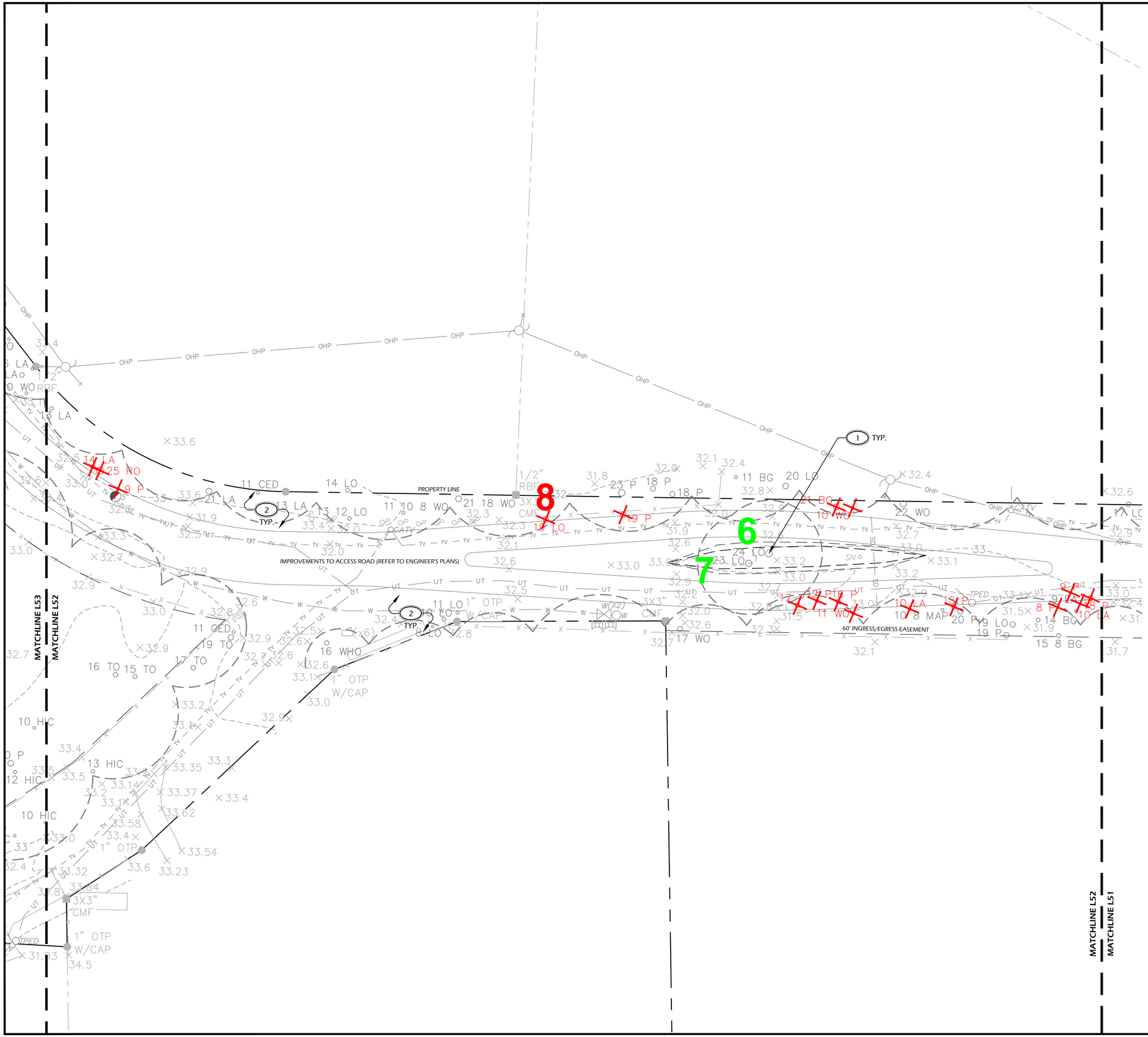
DATE:	SEP 26, 2024
PROJECT NO.:	XX-XXX-XX
DRAWN BY:	JM/ED
CHECKED BY:	DK

DRC SUBMITTAL PLAN, NOT FOR CONSTRUCTION

REVISIONS:

DRAWING TITLE
PLANTING & DEMOLITION PLAN - 02

DRAWING NUMBER
L501



PLANTING REFERENCE NOTES:

1. EXISTING TREES TO REMAIN.
2. SEED DISTURBED AREAS DUE TO CONSTRUCTION.

SITE DEMOLITION LEGEND		
CALL-OUT	SYMB.	DESCRIPTION
	X	TREE TO BE REMOVED

NOTE: DEMOLITION HATCHES ARE GRAPHIC IN NATURE AND ARE NOT INTENDED TO BE TO SCALE.

DEMOLITION REFERENCE NOTES:

1. EXISTING TREE TO REMAIN, DO NOT DISTURB, PROTECT IN PLACE.
2. EXISTING TREE TO BE REMOVED INCLUDING ROOTS AND STUMP, LEGALLY DISPOSE OF OFF SITE.

ARBORIST RECOMMENDATION LEGEND:

- REMOVE
- REMOVE IF IMPAIRED BY SITE IMPACTS + SAFETY CONCERNS
- SAVE / KEEP

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THIS SHEET TO SCALE AT: 24"X36"

SITE DEVELOPMENT PLANS
FOR

CORNERSTONE CHURCH

NEW RIVERSIDE CAMPUS
BLUFFTON, SOUTH CAROLINA

DATE:	SEP 26, 2024
PROJECT NO.:	XX-XXX-XX
DRAWN BY:	JM/ED
CHECKED BY:	DK

DRC SUBMITTAL PLAN, NOT FOR CONSTRUCTION

REVISIONS:

DRAWING TITLE
PLANTING & DEMOLITION PLAN - 03

DRAWING NUMBER
L502

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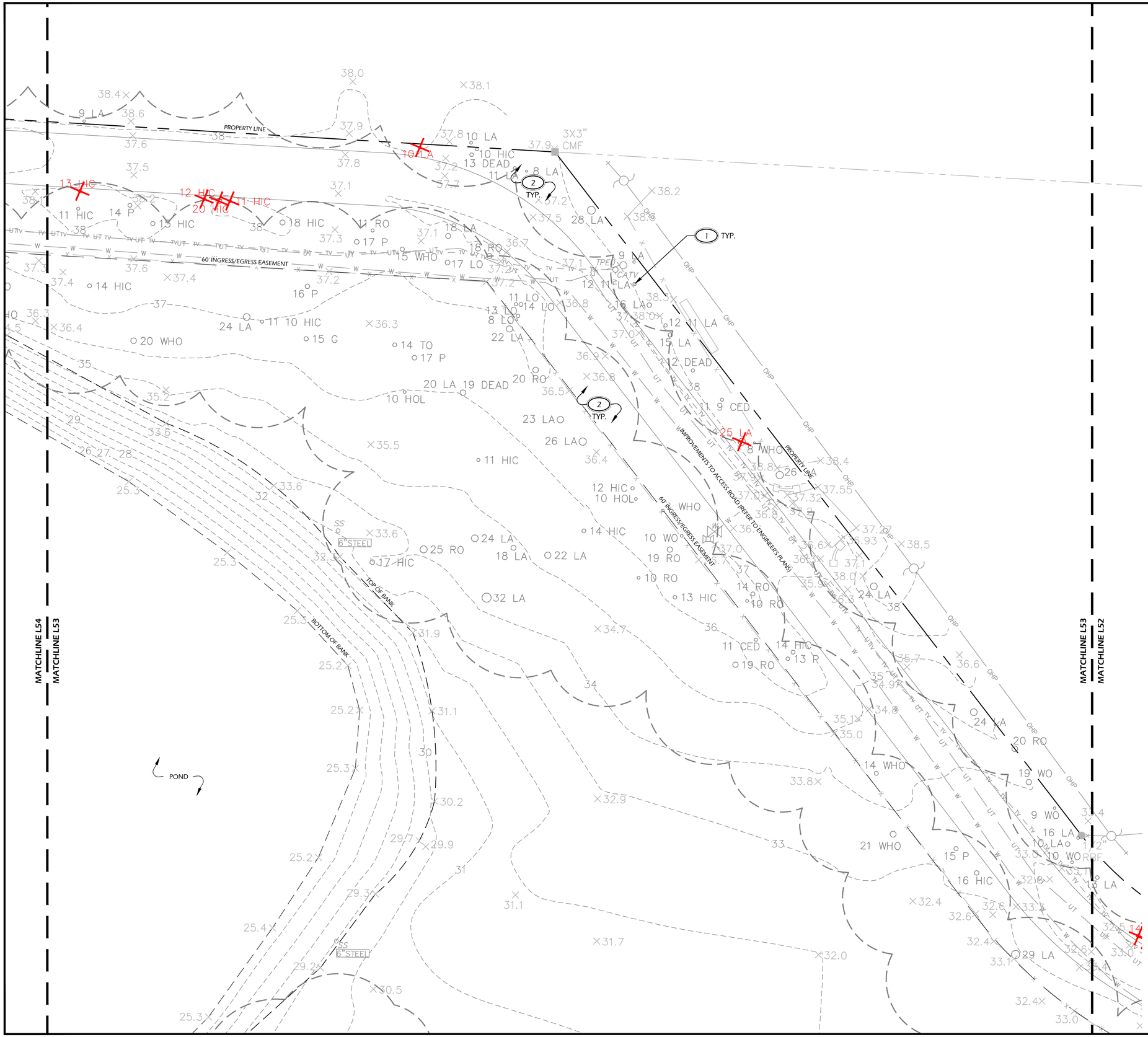
Scale 1 " = 20'



PLANTING REFERENCE NOTES:

1. EXISTING TREES TO REMAIN.
2. SEED DISTURBED AREAS DUE TO CONSTRUCTION.

SITE DEMOLITION LEGEND		
CALL-OUT	SYMB.	DESCRIPTION
	X	TREE TO BE REMOVED

NOTE: DEMOLITION HATCHES ARE GRAPHIC IN NATURE AND ARE NOT INTENDED TO BE TO SCALE.

DEMOLITION REFERENCE NOTES:

1. EXISTING TREE TO REMAIN, DO NOT DISTURB, PROTECT IN PLACE.
2. EXISTING TREE TO BE REMOVED INCLUDING ROOTS AND STUMP, LEGALLY DISPOSE OF OFF SITE.

ARBORIST RECOMMENDATION LEGEND:

REMOVE

REMOVE IF IMPAIRED BY SITE IMPACTS + SAFETY CONCERNS

SAVE / KEEP

N NE E

0 10 20 30 40 50 60 70 80

Scale 1 " = 20'

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SITE DEVELOPMENT PLANS
FOR

CORNERSTONE CHURCH

NEW RIVERSIDE CAMPUS
BLUFFTON, SOUTH CAROLINA

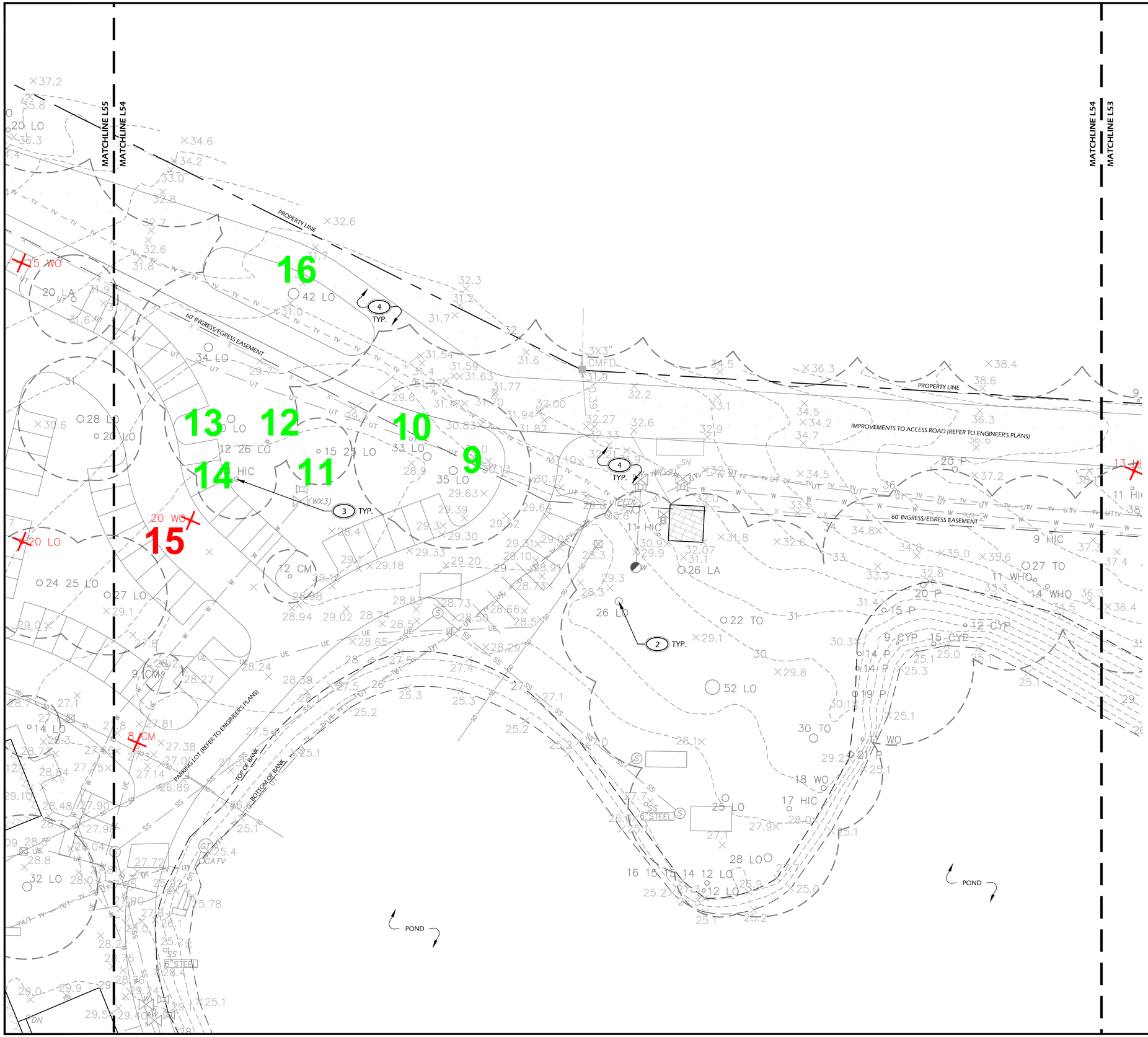
DATE:	SEP 26, 2024
PROJECT NO.:	XX-XXX-XX
DRAWN BY:	JM/ED
CHECKED BY:	DK

DRC SUBMITTAL PLAN, NOT FOR CONSTRUCTION

REVISIONS:

DRAWING TITLE
PLANTING & DEMOLITION PLAN - 04

DRAWING NUMBER
L503



PLANTING REFERENCE NOTES:

1. EXISTING TREES TO REMAIN.
2. SEED DISTURBED AREAS DUE TO CONSTRUCTION.

SITE DEMOLITION LEGEND		
CALL-OUT	SYMB.	DESCRIPTION
	X	TREE TO BE REMOVED

NOTE: DEMOLITION HATCHES ARE GRAPHIC IN NATURE AND ARE NOT INTENDED TO BE TO SCALE.

DEMOLITION REFERENCE NOTES:

1. EXISTING TREE TO REMAIN, DO NOT DISTURB, PROTECT IN PLACE.
2. EXISTING TREE TO BE REMOVED INCLUDING ROOTS AND STUMP, LEGALLY DISPOSE OF OFF SITE.

ARBORIST RECOMMENDATION LEGEND:

REMOVE

REMOVE IF IMPAIRED BY SITE IMPACTS + SAFETY CONCERNS

SAVE / KEEP

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THIS SHEET TO SCALE AT: 24"X36"

SITE DEVELOPMENT PLANS
FOR

CORNERSTONE CHURCH

NEW RIVERSIDE CAMPUS
BLUFFTON, SOUTH CAROLINA

DATE:	SEP 26, 2024
PROJECT NO.:	XX-XXX-XX
DRAWN BY:	JM/ED
CHECKED BY:	DK

DRC SUBMITTAL PLAN, NOT FOR CONSTRUCTION

REVISIONS:

DRAWING TITLE
PLANTING & DEMOLITION PLAN - 05

DRAWING NUMBER
L504

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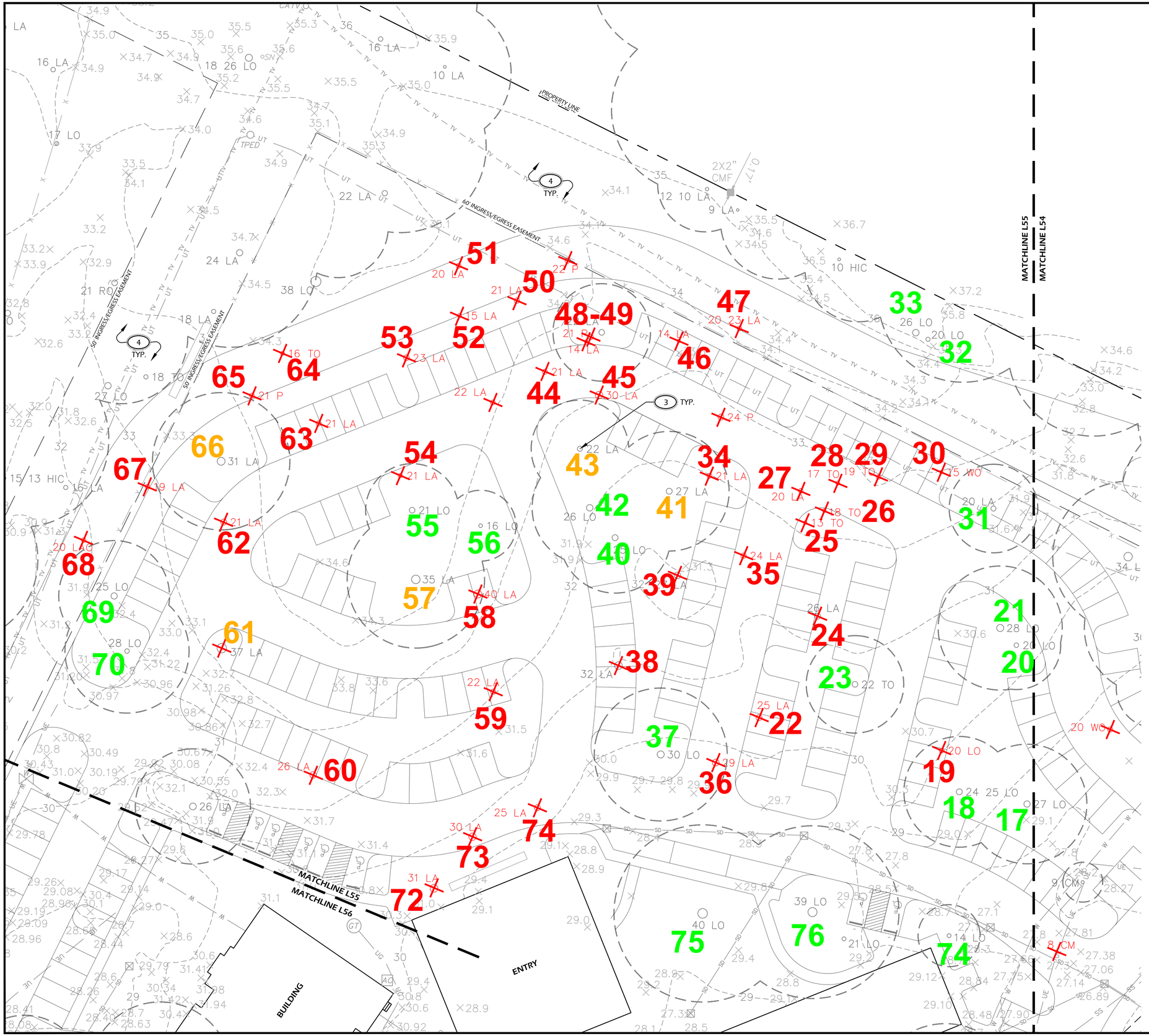
Scale 1" = 20'



PLANTING REFERENCE NOTES:

1. EXISTING TREES TO REMAIN.
2. SEED DISTURBED AREAS DUE TO CONSTRUCTION.

SITE DEMOLITION LEGEND

CALL-OUT	SYMB.	DESCRIPTION
	X	TREE TO BE REMOVED

NOTE: DEMOLITION HATCHES ARE GRAPHIC IN NATURE AND ARE NOT INTENDED TO BE TO SCALE.

DEMOLITION REFERENCE NOTES:

1. EXISTING TREE TO REMAIN, DO NOT DISTURB, PROTECT IN PLACE.
2. EXISTING TREE TO BE REMOVED INCLUDING ROOTS AND STUMP, LEGALLY DISPOSE OF OFF SITE.

ARBORIST RECOMMENDATION LEGEND:

REMOVE

REMOVE IF IMPAIRED BY SITE IMPACTS + SAFETY CONCERNS

SAVE / KEEP

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THIS SHEET TO SCALE AT: 24"X36"

SITE DEVELOPMENT PLANS
FOR
CORNERSTONE CHURCH
NEW RIVERSIDE CAMPUS
BLUFFTON, SOUTH CAROLINA

DATE:	SEP 26, 2024
PROJECT NO.:	XX-XXX-XX
DRAWN BY:	JM/ED
CHECKED BY:	DK

DRC SUBMITTAL PLAN, NOT FOR CONSTRUCTION

REVISIONS:

DRAWING TITLE
PLANTING & DEMOLITION PLAN - 06

DRAWING NUMBER
L505

0 10 20 30 40 50 60 70 80
Scale 1" = 20'

PLANTING REFERENCE NOTES:

1. EXISTING TREES TO REMAIN.
2. SEED DISTURBED AREAS DUE TO CONSTRUCTION.

SITE DEMOLITION LEGEND		
CALL-OUT	SYMB.	DESCRIPTION
	X	TREE TO BE REMOVED

NOTE: DEMOLITION HATCHES ARE GRAPHIC IN NATURE AND ARE NOT INTENDED TO BE TO SCALE.

DEMOLITION REFERENCE NOTES:

1. EXISTING TREE TO REMAIN, DO NOT DISTURB, PROTECT IN PLACE.
2. EXISTING TREE TO BE REMOVED INCLUDING ROOTS AND STUMP, LEGALLY DISPOSE OF OFF SITE.

ARBORIST RECOMMENDATION LEGEND:

- REMOVE
- REMOVE IF IMPAIRED BY SITE IMPACTS + SAFETY CONCERNS
- SAVE / KEEP

Scale 1 " = 20'

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THIS SHEET TO SCALE AT: 24"X36"

SITE DEVELOPMENT PLANS
FOR

CORNERSTONE CHURCH

NEW RIVERSIDE CAMPUS
BLUFFTON, SOUTH CAROLINA

DATE:	SEP 26, 2024
PROJECT NO.:	XX-XXX-XX
DRAWN BY:	JM/ED
CHECKED BY:	DK

DRC SUBMITTAL PLAN, NOT FOR CONSTRUCTION

REVISIONS:

DRAWING TITLE
PLANTING & DEMOLITION PLAN - 07

DRAWING NUMBER
L506

Attachment 5

TRAFFIC IMPACT STUDY

for the

Cornerstone Church

Located in
Town of Bluffton, South Carolina

Prepared for
Cornerstone Church

Prepared by
Ramey Kemp Associates

Moving forward.
RKA
RAMEY KEMP ASSOCIATES

October 2023
RKA Project #23100

Attachment 5

TRAFFIC IMPACT STUDY

for the

Cornerstone Church

Located in
Town of Bluffton, South Carolina

Prepared for
Cornerstone Church
11 Grassey Lane
Bluffton, SC 29910

Prepared by
Ramey Kemp Associates
1411 Gervais Street, Suite 150
Columbia, South Carolina 29201

Moving forward.
RKA
RAMEY KEMP ASSOCIATES

October 2023
RKA Project #23100

SOUTH CAROLINA
INFRASTRUCTURE CONSULTING SERVICES INC
DBA: RAMEY KEMP ASSOCIATES
NO. 6878
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
LICENSED PROFESSIONAL ENGINEER
No. 38742
GRADY P. VAUGHAN
10/24/23

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List of Figures

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EXECUTIVE SUMMARY

A traffic impact study was conducted for the proposed Cornerstone Church development in accordance with SCDOT and Town of Bluffton guidelines. The development is proposed to be located on Meadow Drive south of SC 46 in the Town of Bluffton, South Carolina. The development is planned to consist of up to 800 seats and a Monday through Thursday day care with 120 students enrolled. Access to the site will be provided via one existing full access on Meadow Drive and via Grassey Lane.

The proposed accesses are expected to operate adequately with the existing one ingress and one egress lane. The site accesses should be designed to provide proper sight distances and should meet Town of Bluffton design criteria.

Based on the anticipated build out volumes, a left-turn lane and right-turn lane are warranted and recommended along SC 46 at Meadow Drive. The mainline of the existing intersection of SC 46 & Meadow Drive is expected to operate adequately with the proposed project in the 2025 Build conditions. The Meadow Drive approach is expected to experience delays, however this is typical of minor approaches of two-way stop-controlled intersections. The Meadow Drive approach to SC 46 is recommended to provide two egress lanes and one ingress lane. The Meadow Drive approach to SC 46 should to be designed to provide proper sight distances and should meet SCDOT design criteria.

.

1. INTRODUCTION

The purpose of this report is to document a traffic impact study conducted for the proposed Cornerstone Church development in the Town of Bluffton, South Carolina in accordance with SCDOT and Town of Bluffton guidelines. This report summarizes the procedures and findings of the traffic impact study. Scoping is attached in Appendix A.

1.1. Project Background

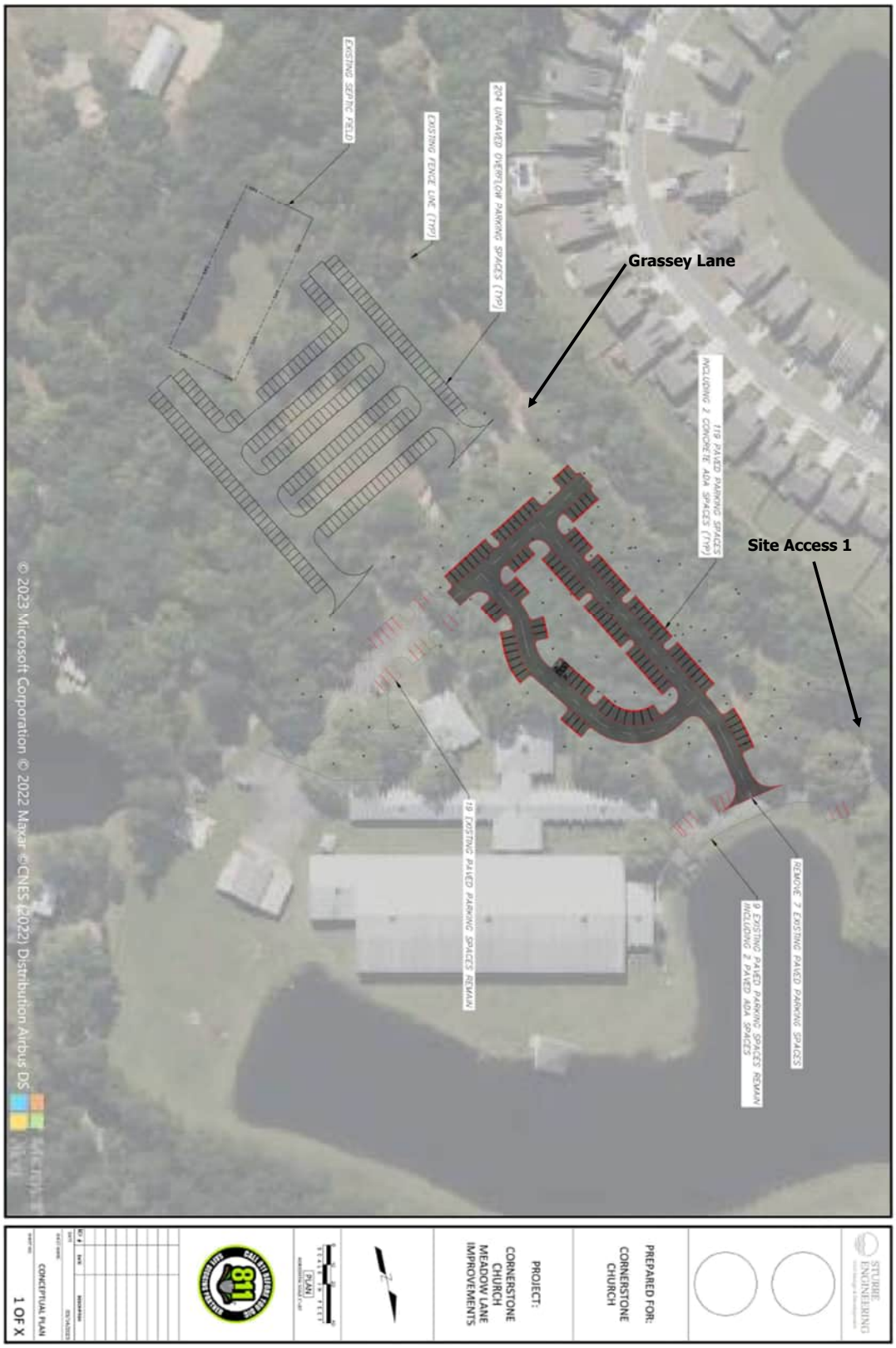
The development will be located on the east side of Meadow Drive south of SC 46. The development is planned to consist of up to 800 seats and a Monday through Thursday day care with 120 students enrolled. Access to the site will be provided via one existing full access on Meadow Drive and via Grassey Lane.

The traffic impact study considered the weekday AM peak period (between 7:00 AM and 9:00 AM) and the weekday PM peak period (between 4:00 PM and 6:00 PM), and the Sunday peak hour (between 8:30 AM and 12:30 PM) as the study time frames. The following intersections were studied:

- May River Road (S-46) & Meadow Drive

Future-year analyses assume 2025 conditions as the Build scenario. Figure 1 shows the location of the project site, and Figure 2 illustrates the conceptual site plan.


SC 46
STOP
Meadow Drive
STOP
Site Access 1
STOP
Grassey Lane
Project Location


Grassey Lane
Site Access 1
EXISTING SEPTIC FIELD
EXISTING FENCE LINE (TYP)
204 UNPAVED OVERFLOW PARKING SPACES (TYP)
119 PAVED PARKING SPACES INCLUDING 2 CONCRETE ADA SPACES (TYP)
19 EXISTING PAVED PARKING SPACES REMAIN
REMOVE 7 EXISTING PAVED PARKING SPACES
9 EXISTING PAVED PARKING SPACES REMAIN INCLUDING 2 PAVED ADA SPACES
© 2023 Microsoft Corporation © 2022 Maxar ©CNES (2022) Distribution Airbus DS
STUBBE ENGINEERING
PREPARED FOR: CORNERSTONE CHURCH
PROJECT: CORNERSTONE CHURCH MEADOW LANE IMPROVEMENTS
811
CONCEPTUAL PLAN
1 OF X

1.2. Existing Roadway Conditions

A review of the existing roadway conditions in the study area was conducted and is summarized in Table 1. Figure 3 illustrates the existing lane geometry.

Table 1 – Street Inventory

Facility Name	Route #	Typical Cross Section	Posted Speed Limit	Maintained By	2022 AADT
May River Road	S-46	2-lane undivided	35 MPH	SCDOT	14,000[1]
Meadow Drive	-	2-lane undivided	15 MPH	Local	-

[1] SCDOT Count Station #07-0155

1.3. Existing Traffic Count

Vehicle turning movement counts were collected by in May 2023 for the Sunday peak period (8:30 AM to 12:30 PM) and PM peak period (4:00 PM to 6:00 PM) at the intersection of:

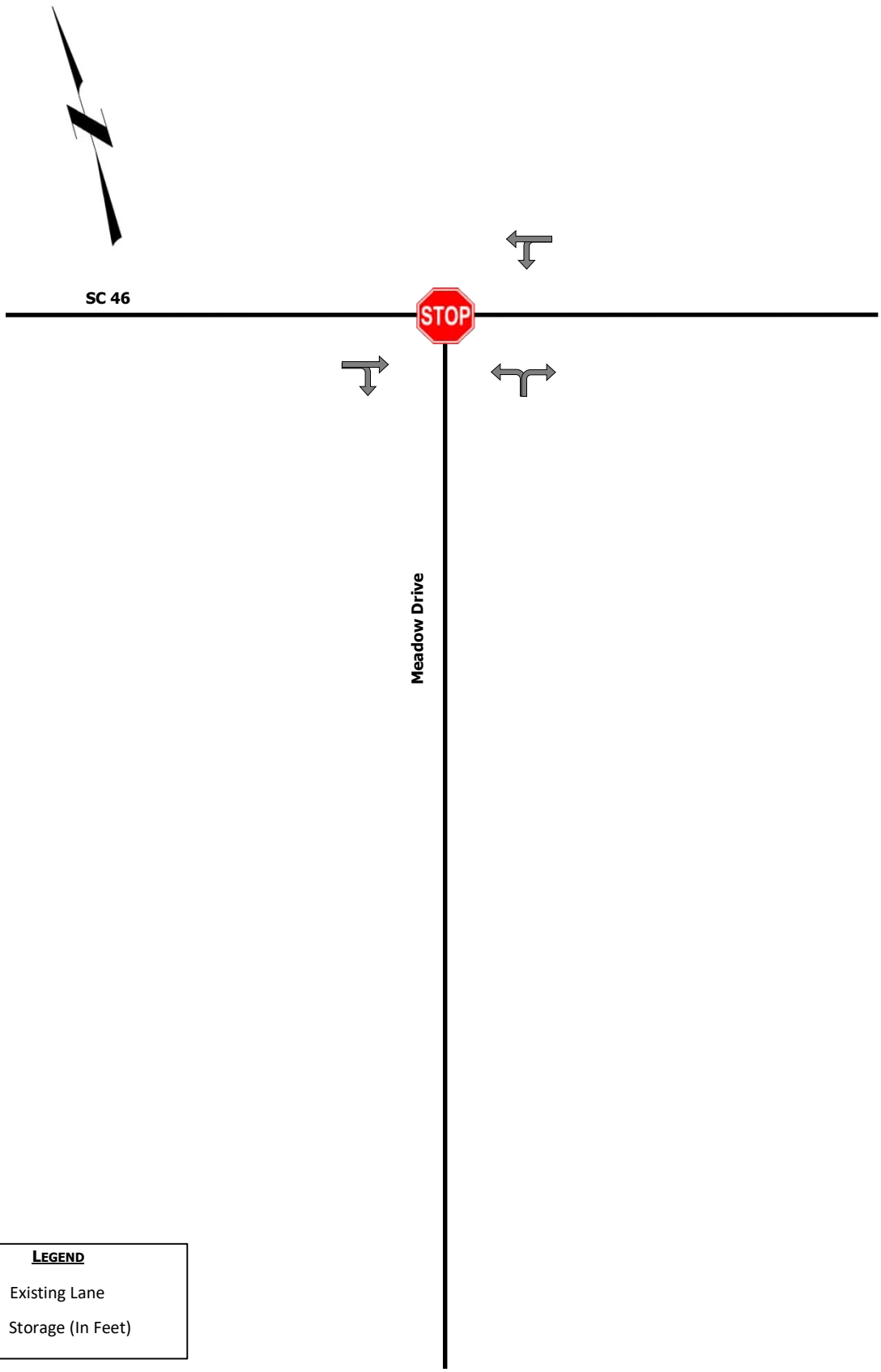
- SC 46 & Meadow Drive

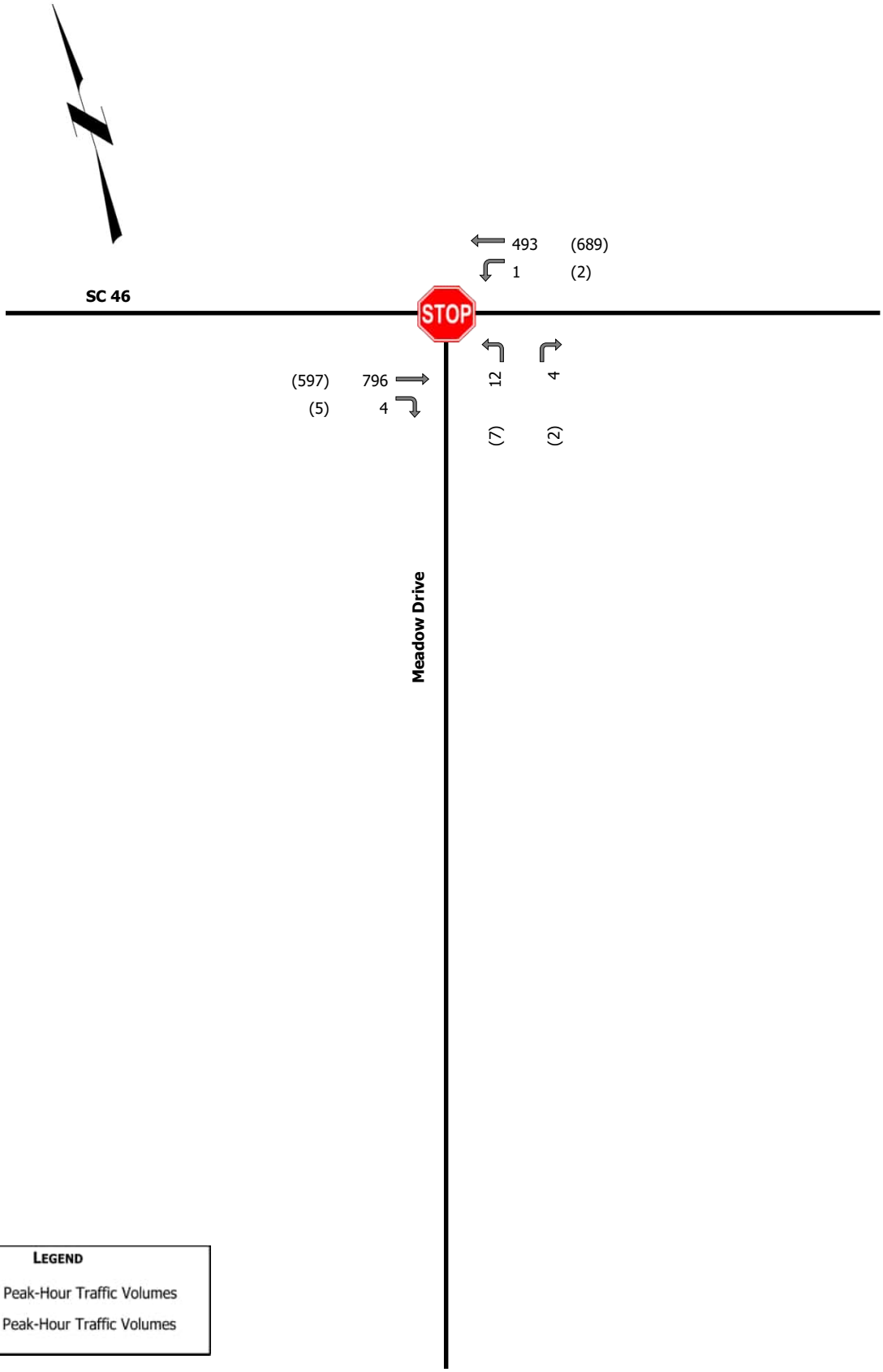
The AM peak volumes were developed utilizing a prior 2022 count along SC 46 and grown to 2023 by applying a 2.0% growth rate. Volumes along the Meadow Drive approach for the AM peak period were estimated based on trip generation for 25 homes.

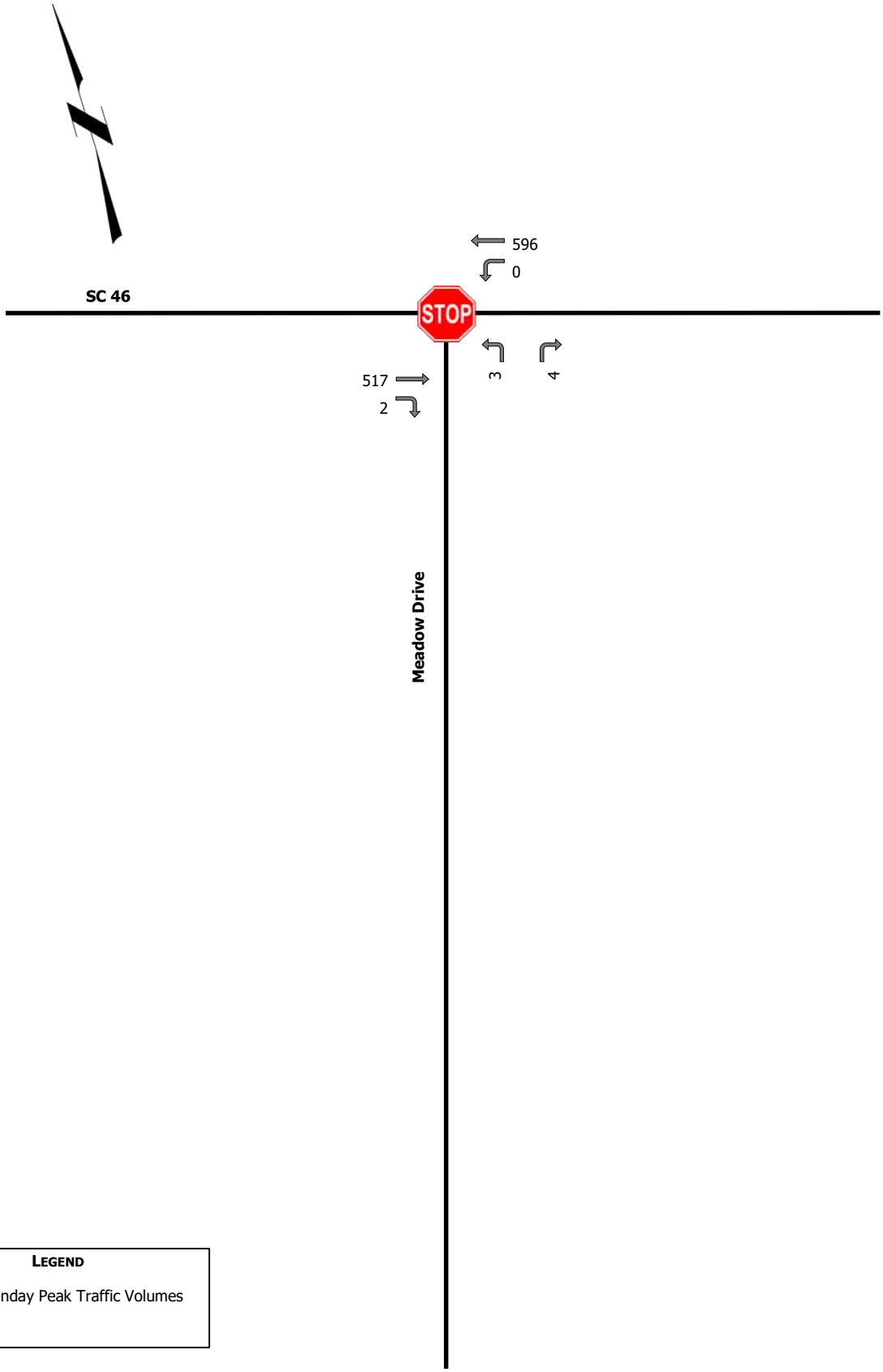
The counts were conducted while the local school district was in session. The raw traffic volumes are provided in Appendix B. The 2023 AM and PM traffic volumes are illustrated in Figure 4. The existing 2023 Sunday peak volumes are illustrated in Figure 5.

1.4. Driveway Location

Access points are proposed to be at an existing full access driveway located along Meadow Drive approximately 2,460 feet south of the intersection with SC 46 and also via Grassy Lane. Since existing accesses are proposed to be utilized, there are no recommendations.


SC 46
STOP
Meadow Drive
LEGEND
Existing Lane
X' Storage (In Feet)


493 (689)
1 (2)
SC 46
STOP
(597) 796
(5) 4
12 4
(7) (2)
Meadow Drive
LEGEND
000 - AM Peak-Hour Traffic Volumes
(000) - PM Peak-Hour Traffic Volumes


596
0
SC 46
STOP
3
4
517
2
Meadow Drive
LEGEND
000 - Sunday Peak Traffic Volumes

2. PROJECT TRAFFIC

2.1. Proposed Land Uses

The Cornerstone Church development is proposed to have 800 seats and a day care with 120 students enrolled. The project site location is currently a horse farm.

2.2. Trip Generation Estimates

The trip generation potential was estimated using information contained in ITE's *Trip Generation Manual*, 11th Edition (2021) for land use code (LUC) 560 – Church and LUC 565 – Day Care Center. The trip generation estimates for of the weekday daily, the Sunday peak hour of generator, the weekday AM peak-hour of the adjacent street, and the weekday PM peak-hour of the adjacent street time periods are shown in Table 2. ITE trip generation sheets are provided in Appendix C.

Table 2 – Trip Generation Estimates

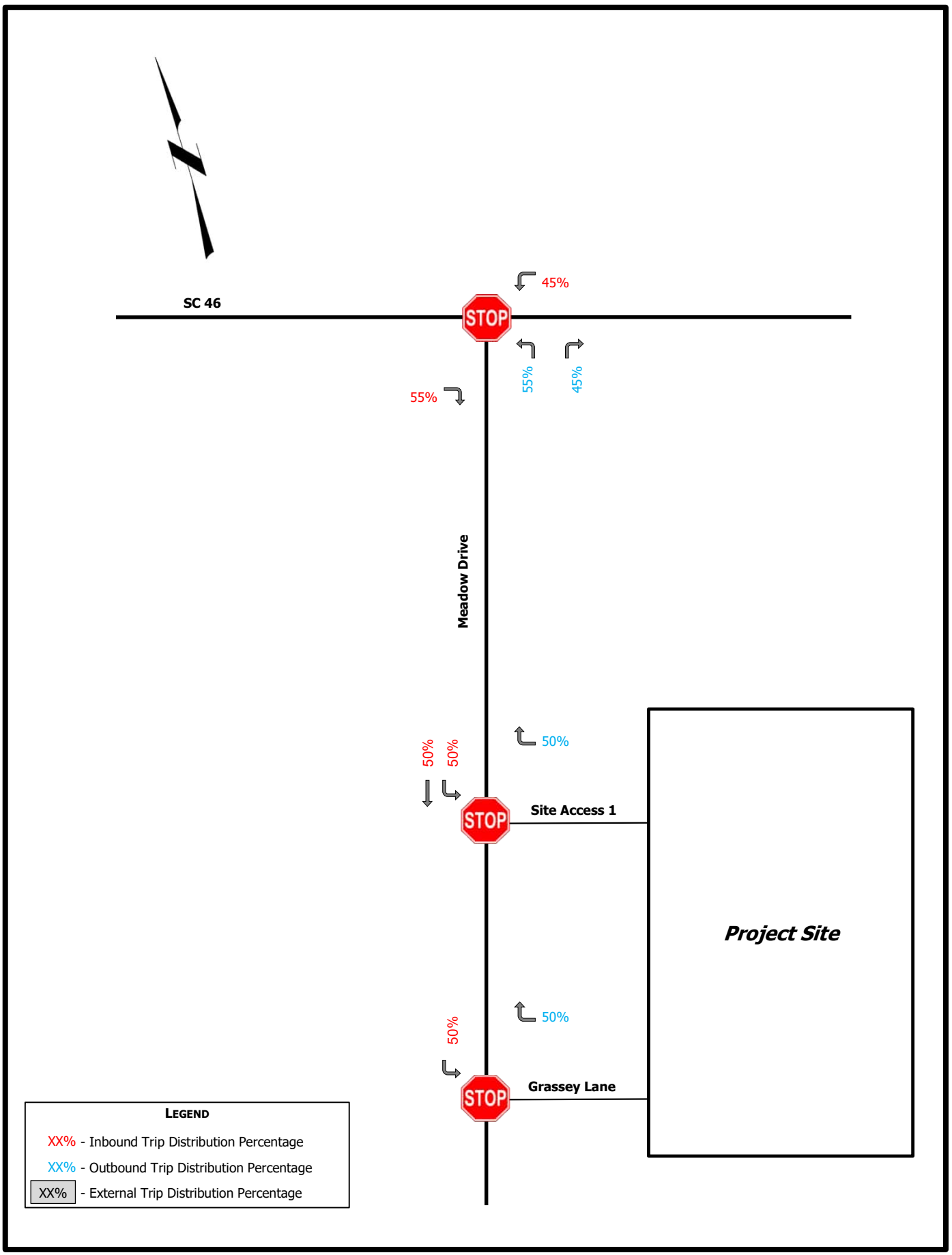
Land Use	ITE LUC	Size	Daily Traffic	Sunday			AM Peak			PM Peak		
				Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Church	560	800 seats	727	197	205	402	34	22	56	36	44	80
Day Care Center	565	120 students	474	7	6	13	46	42	88	40	46	86
New, External Traffic				**204**	**211**	**415**	**80**	**64**	**144**	**76**	**90**	**166**
LUC 560 Daily Trips: T = 5.40(X)+ 50.83 (50% In; 50% Out) Sunday Peak Hour of Generator: T = 7.87(X) + 93.13 (48% In; 52% Out) AM Peak-Hour: T = 0.37(X) – 1.84 (62% In; 38% Out) PM Peak-Hour: T = 0.36(X) + 4.70 (44% In; 56% Out)												
LUC 565 Daily Trips: T = 3.56 (X)+ 47.23 (50% In; 50% Out) Sunday Peak Hour of Generator: T = 0.11(X) (54% In; 46% Out) AM Peak-Hour: T = 0.66(X) + 8.42 (53% In; 47% Out) PM Peak-Hour: Ln(T) = 0.87Ln(X) + 0.29 (47% In; 53% Out)												

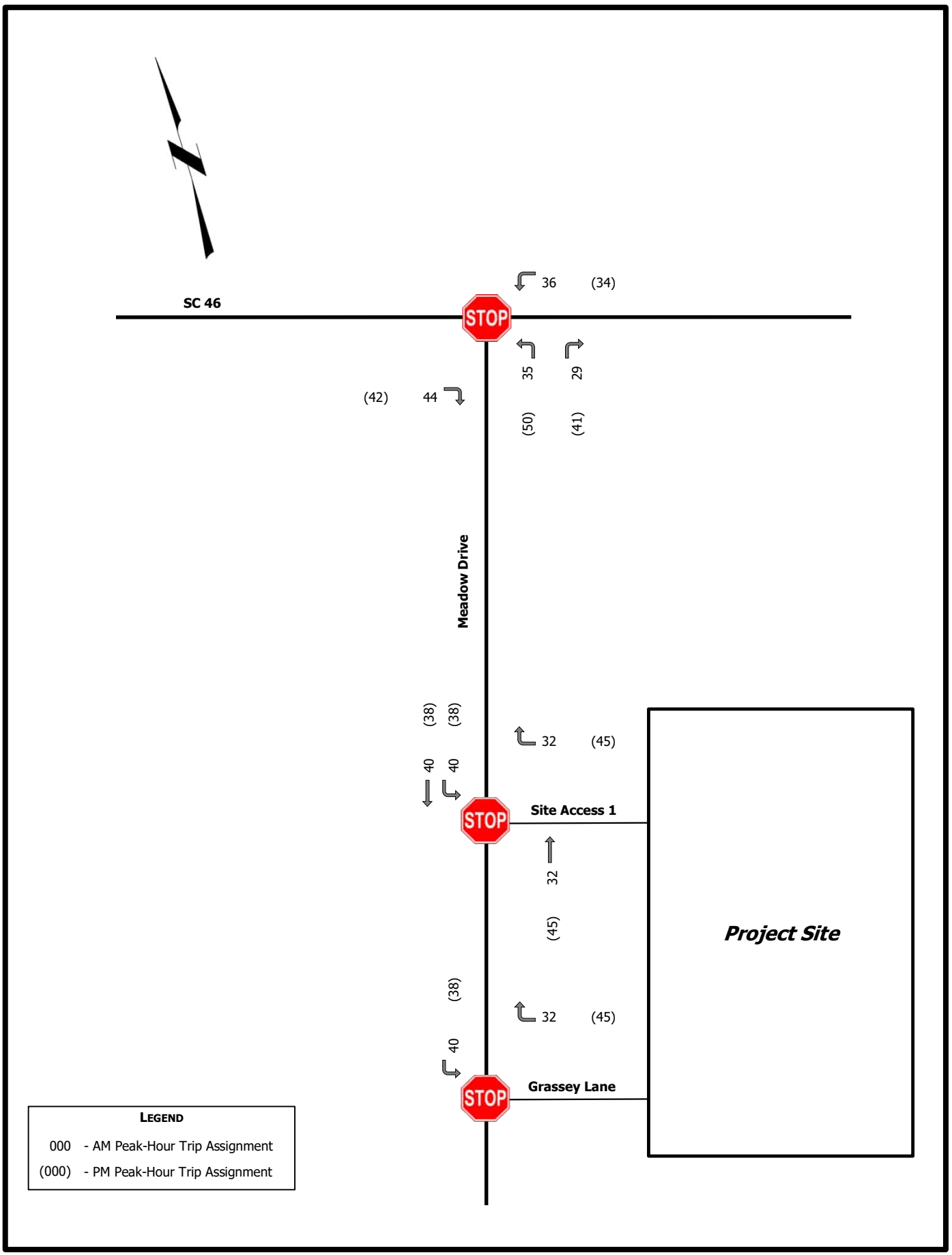
2.3. Trip Distribution & Assignment

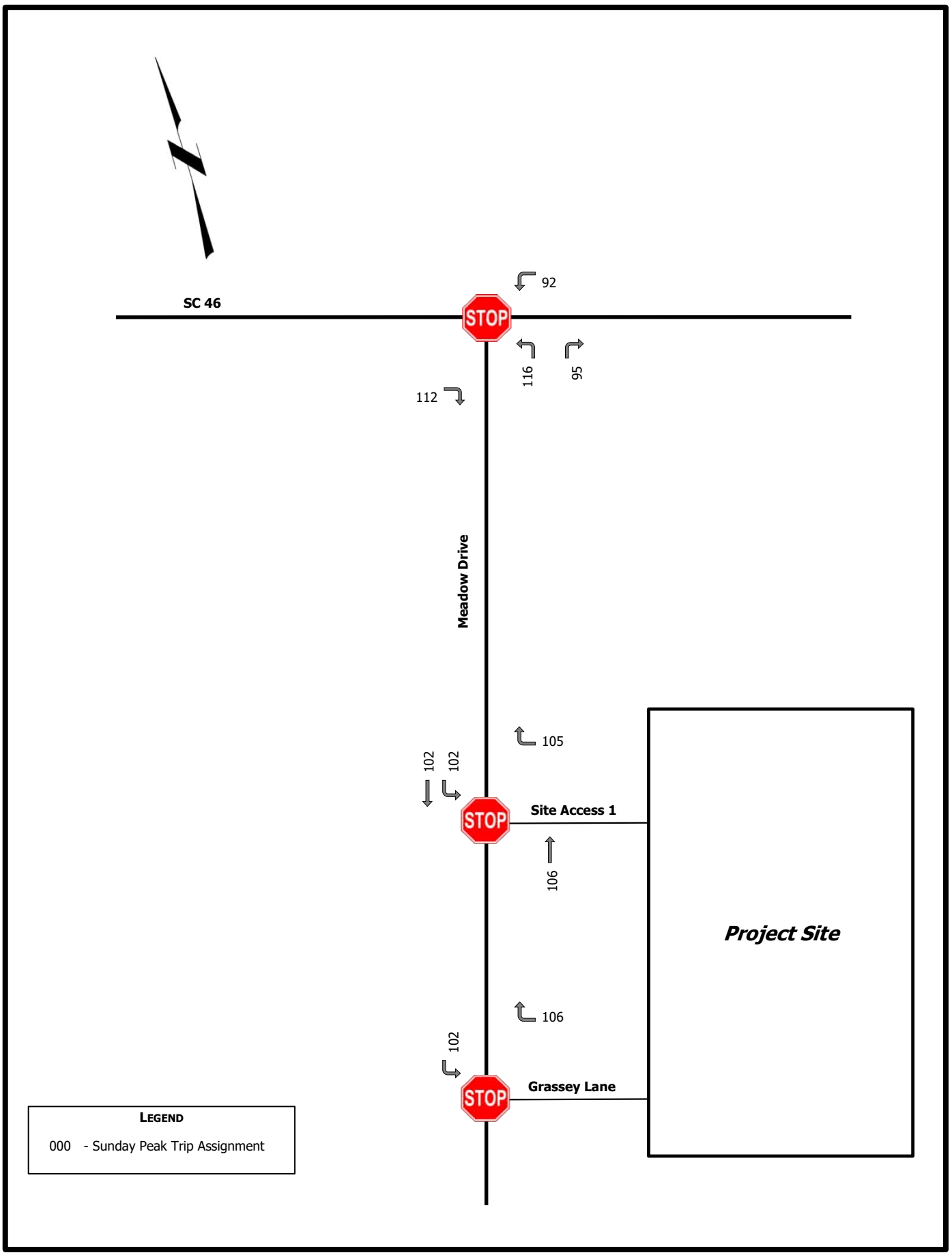
New external traffic expected to be generated was distributed and assigned to the roadway network based on the surrounding land uses and current patterns. The general distribution of new external project trips was assumed to be:

- 55% to/from the west via SC 46
- 45% to/from the east via SC 46

The directional distribution assumptions are shown in Figure 6. The assignment of the new project traffic during the AM and PM peaks are shown in Figure 7. The Sunday assignment of the new project traffic is illustrated in Figure 8


SC 46
45%
STOP
55%
45%
55%
Meadow Drive
50%
50%
50%
STOP
Site Access 1
Project Site
50%
50%
STOP
Grassey Lane
LEGEND
XX% - Inbound Trip Distribution Percentage
XX% - Outbound Trip Distribution Percentage
XX% - External Trip Distribution Percentage


SC 46
STOP
36
(34)
35
29
(42)
44
(50)
(41)
Meadow Drive
(38)
(38)
32
(45)
40
40
STOP
Site Access 1
32
(45)
Project Site
(38)
32
(45)
40
STOP
Grassey Lane
LEGEND
000 - AM Peak-Hour Trip Assignment
(000) - PM Peak-Hour Trip Assignment


SC 46
92
STOP
116
95
112
Meadow Drive
105
102
102
STOP
Site Access 1
106
Project Site
106
102
STOP
Grassey Lane
LEGEND
000 - Sunday Peak Trip Assignment

3. TRAFFIC VOLUME DEVELOPMENT

3.1. Future No-Build Traffic Volumes

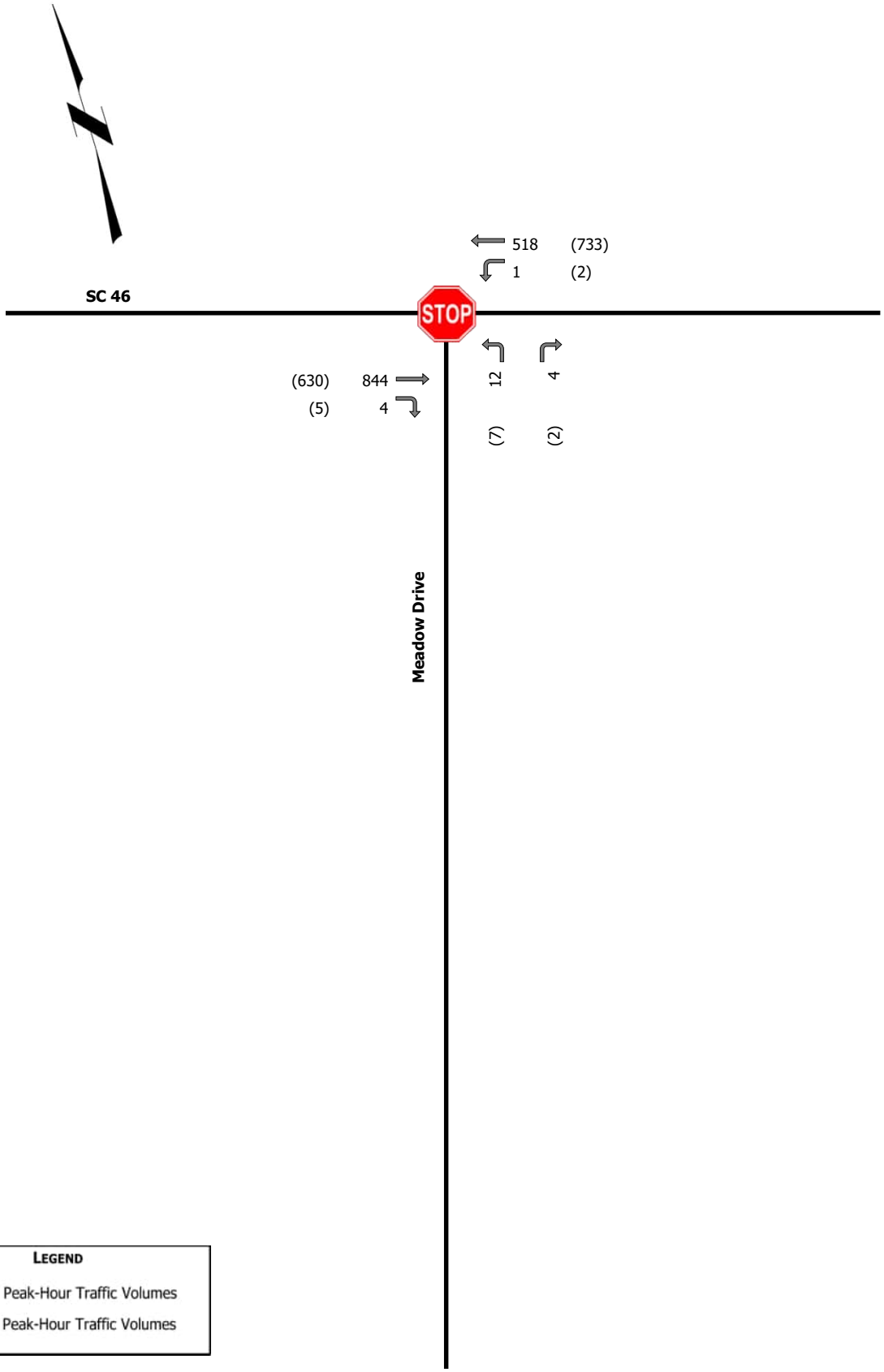
To develop the No-Build volumes, an annual background growth rate of 2.0% was applied to the 2023 traffic volumes. The annual growth rate was based on SCDOT count station data, existing traffic patterns, and expected growth in the area.

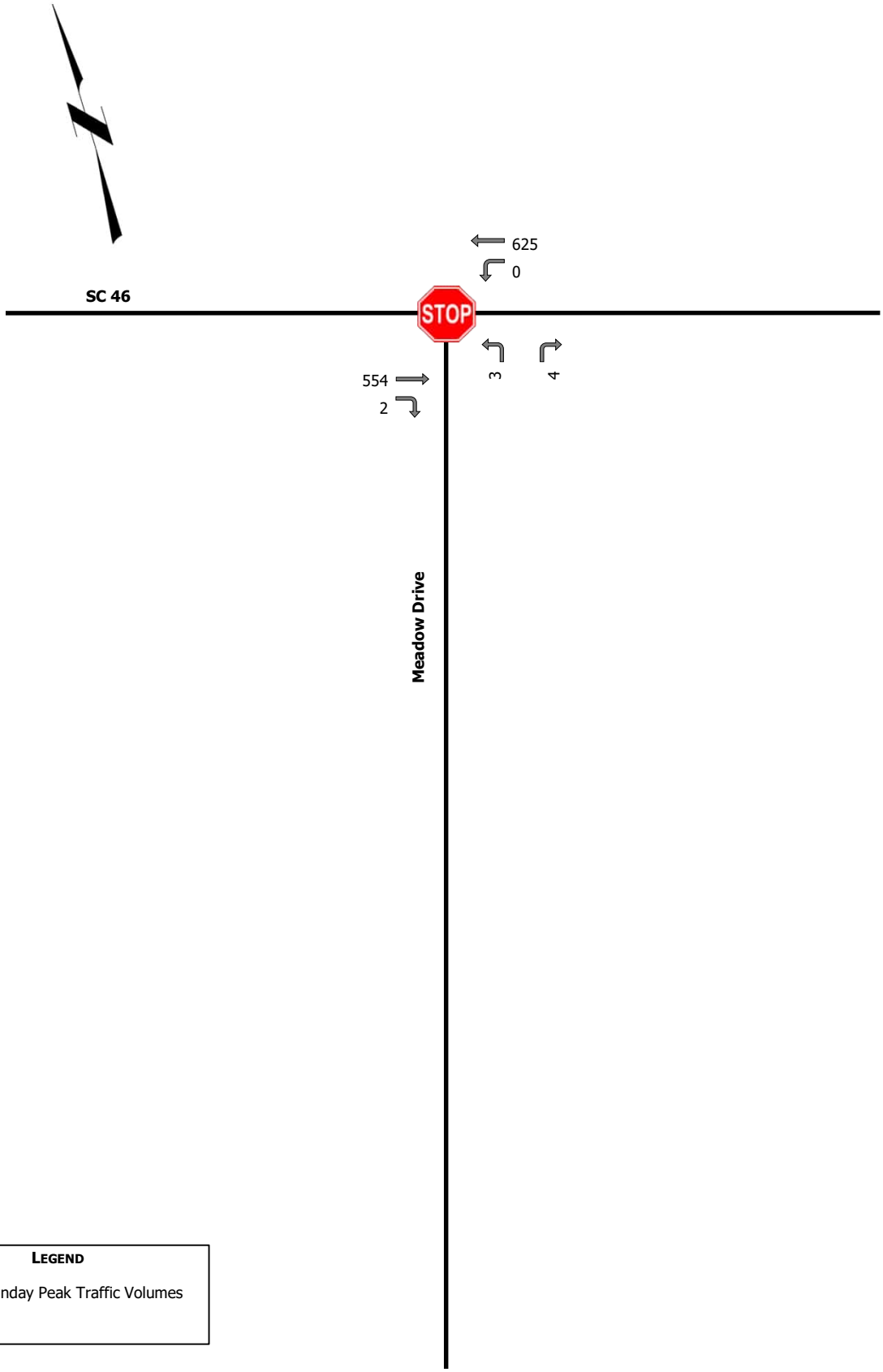
An adjacent development, *The May River Townhomes TIS*, was considered as vested traffic which considered 79 townhomes. The traffic volumes from the proposed development were included in the future volumes along SC 46.

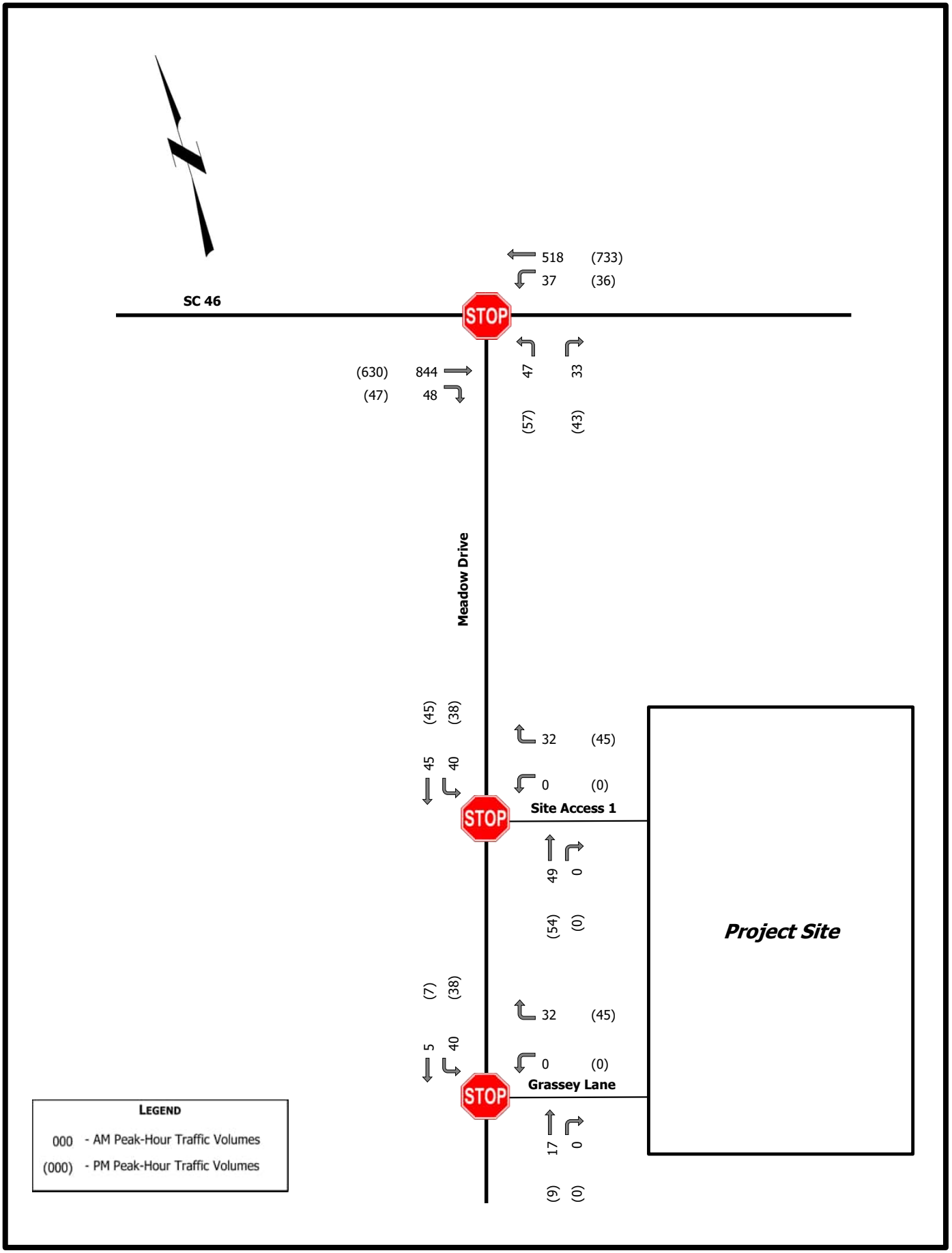
The 2025 AM and PM No-Build volumes are illustrated in Figure 9. The 2025 Sunday No-Build volumes are illustrated in Figure 10.

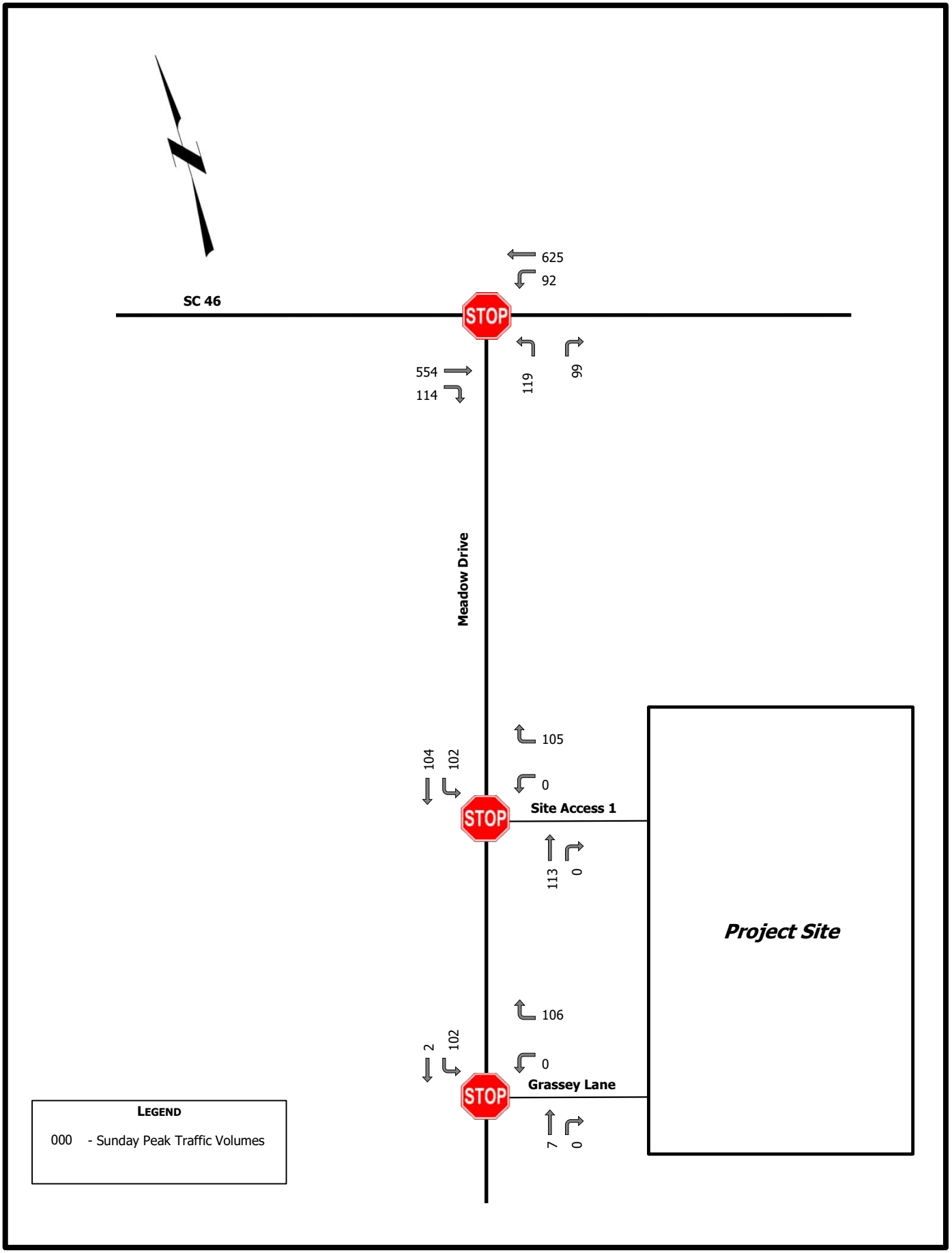
3.2. Build-Out Traffic Volumes

The site generated traffic volumes were added to the 2025 No-Build traffic volumes to determine the future Build volumes. The 2025 AM and PM Build volumes and 2025 Sunday Build volumes are illustrated respectively in Figure 11 and Figure 12. Volume development worksheets are included in Appendix C.


518 (733)
1 (2)
SC 46
STOP
(630) 844
(5) 4
12
4
(7)
(2)
Meadow Drive
LEGEND
000 - AM Peak-Hour Traffic Volumes
(000) - PM Peak-Hour Traffic Volumes


625
0
SC 46
STOP
3
4
554
2
Meadow Drive
LEGEND
000 - Sunday Peak Traffic Volumes


SC 46
518 (733)
37 (36)
STOP
(630) 844
(47) 48
47 33
(57) (43)
Meadow Drive
(45) (38)
45 40
32 (45)
0 (0)
STOP
Site Access 1
49 0
(54) (0)
Project Site
(7) (38)
5 40
32 (45)
0 (0)
STOP
Grassey Lane
17 0
(9) (0)
LEGEND
000 - AM Peak-Hour Traffic Volumes
(000) - PM Peak-Hour Traffic Volumes


SC 46
625
92
STOP
554
114
119
99
Meadow Drive
105
104
102
0
STOP
Site Access 1
113
0
Project Site
106
2
102
0
STOP
Grassey Lane
7
0
LEGEND
000 - Sunday Peak Traffic Volumes

4. TRAFFIC IMPACT ANALYSIS

4.1. Turn Lane Analysis

Auxiliary turn-lane analyses were conducted for the SC 46 & Meadow Drive intersection using the 2025 Build volumes. Turn lane analyses were considered based on the SCDOT Roadway Design Manual (RDM) Section 9.5.1.

Based on the anticipated build out volumes, a left-turn lane and a right-turn lane are warranted and recommended along SC 46 at Meadow Drive. Turn lane analyses are provided in Appendix D.

4.2. Intersection LOS Analysis

Intersection analyses were conducted for the study intersections considering 2023 Existing conditions, 2025 No-Build conditions, and 2025 Build conditions. This analysis was conducted using the Transportation Research Board's *Highway Capacity Manual 6th Edition (HCM 6th Edition)* methodologies of the *Synchro*, Version 11 software.

Intersection level of service (LOS) grades range from LOS A to LOS F, which are directly related to the level of control delay at the intersection and characterize the operational conditions of the intersection traffic flow. LOS A operations typically represent ideal, free-flow conditions where vehicles experience little to no delays, and LOS F operations typically represent poor, forced-flow (bumper-to-bumper) conditions with high vehicular delays and are generally considered undesirable. Table 3 summarizes the *HCM 6th Edition* control delay thresholds associated with each LOS grade for unsignalized intersections.

As part of the intersection analysis, SCDOT's default *Synchro* parameters were utilized. A constant PHF of 0.92 was applied for future year analysis. Existing heavy vehicle percentages were utilized for all analysis scenarios, with a minimum percentage of 2% considered.

Table 3 – *HCM 6th Edition* LOS Criteria for Unsignalized Intersections

Unsignalized Intersections	
LOS	**Control Delay per Vehicle (seconds)**
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Using the *Synchro* software, intersection analyses were conducted for the weekday AM peak-hour, weekday PM peak-hour, and Sunday peak time periods. The recommended turn lanes were considered in the build conditions. The results of the intersection AM and PM analyses results are summarized in Table 4. The Sunday peak intersection analyses results are summarized in Table 5.

Table 4 – Intersection Analysis Results

Intersection	Approach	LOS/Delay (seconds)					
		2023 Existing Conditions		2025 No-Build Conditions		2025 Build Conditions	
		AM	PM	AM	PM	AM	PM
SC 46 & Meadow Drive	WB[1]	A/9.7	A/8.9	A/9.9	A/9.0	B/10.4	A/9.3
	NB[2]	D/26.7	D/25.8	D/29.4	D/28.4	E/41.5	E/43.7
Meadow Drive & Site Access #1	WB[2]	-	-	-	-	A/8.7	A/8.8
	SB[1]	-	-	-	-	A/7.4	A/7.4
Meadow Drive & Grassey Lane	WB[2]	-	-	-	-	A/8.5	A/8.5
	SB[1]	-	-	-	-	A/7.3	A/7.3

[1]LOS for major street left turn movement; [2]LOS for minor street approach

Table 5 – Sunday Intersection Analysis Results

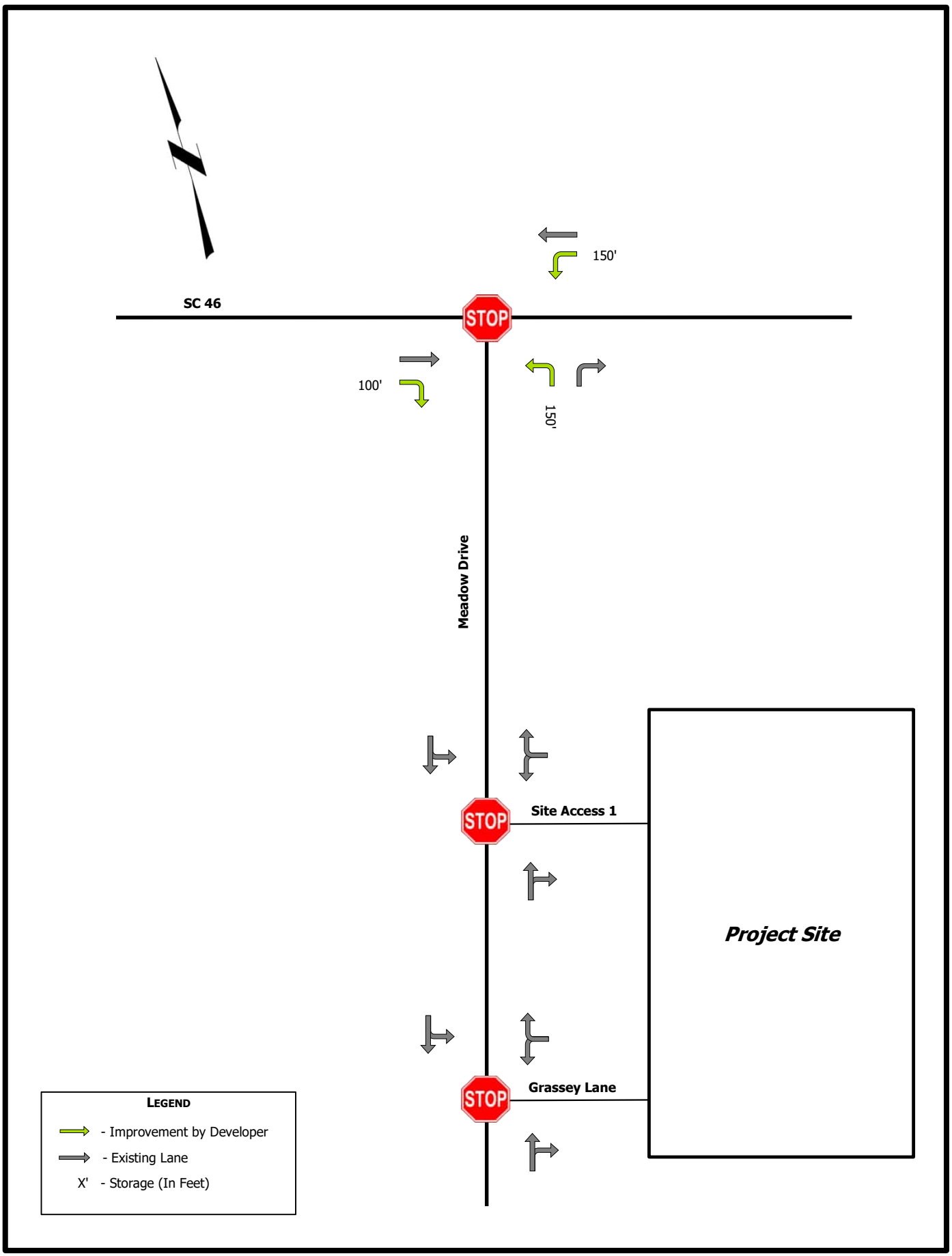
Intersection	Approach	LOS/Delay (seconds)		
		2023 Existing Conditions	2025 No-Build Conditions	2025 Build Conditions
		Sunday Peak		
SC 46 & Meadow Drive	WB[1]	A/0.0	A/0.0	A/9.6
	NB[2]	C/16.7	C/17.7	F/97.9
Meadow Drive & Site Access #1	WB[2]	-	-	A/9.4
	SB[1]	-	-	A/7.7
Meadow Drive & Grassey Lane	WB[2]	-	-	A/8.8
	SB[1]	-	-	A/7.4

[1]LOS for major street left turn movement; [2]LOS for minor street approach

The mainline of the existing intersection of SC 46 & Meadow Drive is expected to operate adequately with the proposed project in the 2025 Build conditions. The Meadow Drive approach is expected to experience delays, however this is typical of minor approaches of two-way stop-controlled intersections. The Meadow Drive approach to SC 46 is recommended to provide two egress lanes and one ingress lane. The Meadow Drive approach should be designed to provide proper sight distances and should meet SCDOT design criteria.

The proposed accesses are expected to operate adequately with one ingress and one egress lane. The site accesses should be designed to provide proper sight distances and should meet Town of Bluffton design criteria.

Figure 13 shows the proposed lane configuration for the Build conditions. The capacity analysis worksheets are provided in Appendix E.


150'
SC 46
STOP
100'
150'
Meadow Drive
STOP
Site Access 1
Project Site
STOP
Grassey Lane
LEGEND
- Improvement by Developer
- Existing Lane
X' - Storage (In Feet)

5. SUMMARY OF FINDINGS AND RECOMMENDATIONS

A traffic impact study was conducted for the proposed Cornerstone Church development in accordance with SCDOT and Town of Bluffton guidelines. The development is proposed to be located on Meadow Drive south of SC 46 in the Town of Bluffton, South Carolina. The development is planned to consist of up to 800 seats and a Monday through Thursday day care with 120 students enrolled. Access to the site will be provided via one existing full access on Meadow Drive and via Grassey Lane.

The proposed accesses are expected to operate adequately with the existing one ingress and one egress lane. The site accesses should be designed to provide proper sight distances and should meet Town of Bluffton design criteria.

Based on the anticipated build out volumes, a left-turn lane and right-turn lane are warranted and recommended along SC 46 at Meadow Drive. The mainline of the existing intersection of SC 46 & Meadow Drive is expected to operate adequately with the proposed project in the 2025 Build conditions. The Meadow Drive approach is expected to experience delays, however this is typical of minor approaches of two-way stop-controlled intersections. The Meadow Drive approach to SC 46 is recommended to provide two egress lanes and one ingress lane. The Meadow Drive approach to SC 46 should to be designed to provide proper sight distances and should meet SCDOT design criteria.

APPENDIX A

Scoping

Katelyn Love

From: Katelyn Love
Sent: Monday, August 14, 2023 4:31 PM
To: Johnson, Joshua A.
Cc: Jeff Ingham
Subject: RE: Cornerstone Church TIS

Thank you, Josh. I reached out to Dillon today. He confirmed with the developer we could use their counts. We will proceed with the AM estimates on Meadow Drive.

Have a good evening,
Katelyn

Katelyn Love, PE, PTOE
Traffic Project Manager
C 803 385 7494

From: Johnson, Joshua A. <JohnsonJA@scdot.org>
Sent: Monday, August 14, 2023 11:40 AM
To: Katelyn Love <klove@rameykemp.com>
Cc: Jeff Ingham <jingham@rameykemp.com>
Subject: RE: Cornerstone Church TIS

Katelyn, I can't authorize you to use counts from someone else's TIA. You'll have to coordinate this with them directly. However, if they permit you to use the counts then I agree to allow an existing traffic estimate for Meadow Drive.

Josh Johnson, PE, PTOE
District Traffic Engineer | SCDOT District 6

From: Katelyn Love <klove@rameykemp.com>
Sent: Friday, July 21, 2023 12:04 PM
To: Johnson, Joshua A. <JohnsonJA@scdot.org>
Cc: Jeff Ingham <jingham@rameykemp.com>
Subject: RE: Cornerstone Church TIS

There are 80 children each day with a total enrollment of 120. I don't think the client was aware of the May River TH development but thank you for looking into the projects.

Since we will need a weekday AM analysis and Meadow Drive serves ~25 single family homes would it be acceptable to use the May River TH mainline counts on SC 46 and use trip generation to estimate the ins/outs for Meadow Drive? I compared the PM counts as well as the PM trip gen to our counts and I think this could be a viable approach without waiting until the end of August for a count.

Let me know your thoughts.

Thank you,
Katelyn

Katelyn Love, PE, PTOE
Traffic Project Manager
C 803 385 7494

From: Johnson, Joshua A. <JohnsonJA@scdot.org>
Sent: Wednesday, July 19, 2023 10:32 AM
To: Katelyn Love <klove@rameykemp.com>
Cc: Jeff Ingham <jingham@rameykemp.com>
Subject: RE: Cornerstone Church TIS

What is the size of the daycare? If 70 students or less, I am not concerned. If larger, please include but you will need to get the AM traffic counts. If there is objection, you can submit a trip generation and distribution for my review and determination of necessary mitigation. I will need to see where the access is planned to SC 46 to include dimensions to nearby intersections/drives.

I have searched my records and found the "May River Townhomes" TIA from Kimley Horn which I did not technically review but I approved the mitigation because that was what I was recommending anyway. I have attached it here. This may be what you are referring to. There are no SCDOT projects in the area that I am aware of.

Thanks,
Josh Johnson, PE, PTOE
District Traffic Engineer | SCDOT District 6

From: Katelyn Love <klove@rameykemp.com>
Sent: Wednesday, July 12, 2023 8:28 AM
To: Johnson, Joshua A. <JohnsonJA@scdot.org>
Cc: Jeff Ingham <jingham@rameykemp.com>
Subject: Cornerstone Church TIS

Josh,

The client for Cornerstone Church has asked for a Monday – Thursday day care be included now. We initially collected Sunday counts and Wednesday PM counts for the church analysis. Do we need to consider a weekday AM peak now with the day care? If so, to keep the project progressing would using the 2021 hourly site data from Station 07-0157 be acceptable?

The client mentioned SCDOT had a current project on SC 46 that included this study area. I do not see a project near Meadow Drive, but one that appears to terminate at SC 170. Is there another project I haven't found?

Thanks,
Katelyn

Katelyn Love, PE, PTOE
Traffic Project Manager
C 803 385 7494

RAMEY KEMP ASSOCIATES
TOGETHER WE ARE LIMITLESS

APPENDIX B

Traffic Count Data

Attachment 5

SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

We can't say we're the Best, but you Can!

File Name : SC 46 @ Meadow Dr Wednesday
Site Code :
Start Date : 04/19/2023
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - Buses

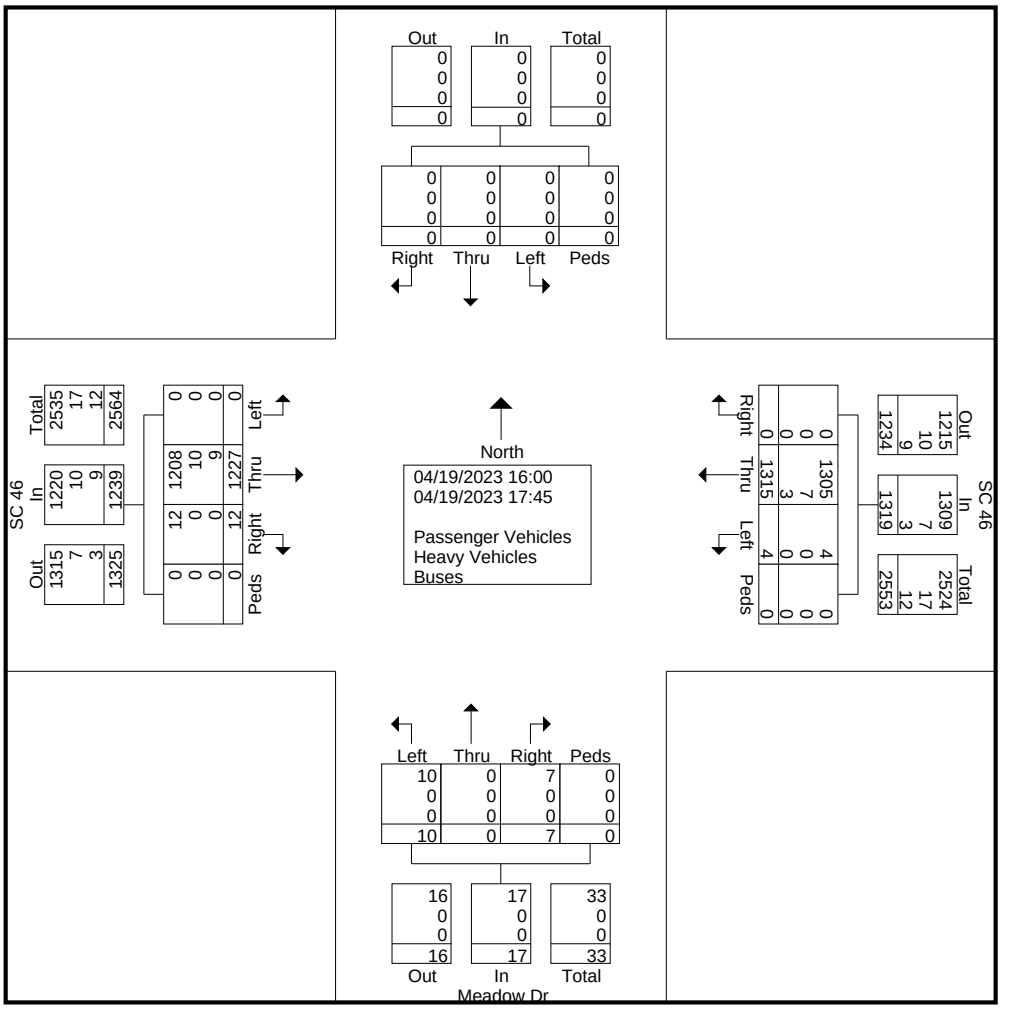
	Southbound				SC 46 Westbound				Meadow Dr Northbound				SC 46 Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
16:00	0	0	0	0	1	188	0	0	2	0	1	0	0	162	3	0	357
16:15	0	0	0	0	0	181	0	0	2	0	1	0	0	137	0	0	321
16:30	0	0	0	0	1	155	0	0	1	0	0	0	0	161	1	0	319
16:45	0	0	0	0	0	165	0	0	2	0	0	0	0	137	1	0	305
Total	0	0	0	0	2	689	0	0	7	0	2	0	0	597	5	0	1302
17:00	0	0	0	0	0	146	0	0	1	0	2	0	0	188	1	0	338
17:15	0	0	0	0	1	166	0	0	2	0	2	0	0	141	2	0	314
17:30	0	0	0	0	0	139	0	0	0	0	0	0	0	152	2	0	293
17:45	0	0	0	0	1	175	0	0	0	0	1	0	0	149	2	0	328
Total	0	0	0	0	2	626	0	0	3	0	5	0	0	630	7	0	1273
Grand Total	0	0	0	0	4	1315	0	0	10	0	7	0	0	1227	12	0	2575
Apprch %	0	0	0	0	0.3	99.7	0	0	58.8	0	41.2	0	0	99	1	0	
Total %	0	0	0	0	0.2	51.1	0	0	0.4	0	0.3	0	0	47.7	0.5	0	
Passenger Vehicles	0	0	0	0	4	1305	0	0	10	0	7	0	0	1208	12	0	2546
% Passenger Vehicles	0	0	0	0	100	99.2	0	0	100	0	100	0	0	98.5	100	0	98.9
Heavy Vehicles	0	0	0	0	0	7	0	0	0	0	0	0	0	10	0	0	17
% Heavy Vehicles	0	0	0	0	0	0.5	0	0	0	0	0	0	0	0.8	0	0	0.7
Buses	0	0	0	0	0	3	0	0	0	0	0	0	0	9	0	0	12
% Buses	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0.7	0	0	0.5

SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

We can't say we're the Best, but you Can!

File Name : SC 46 @ Meadow Dr Wednesday
Site Code :
Start Date : 04/19/2023
Page No : 2



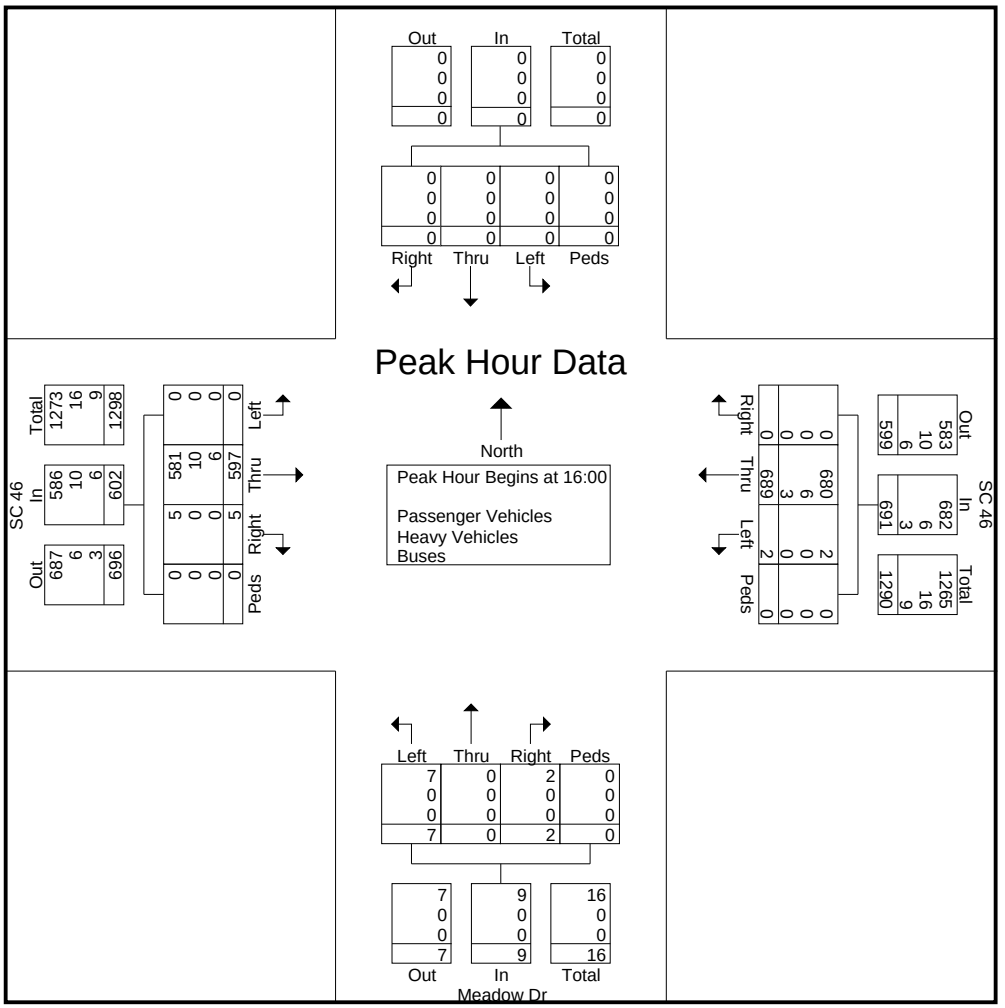
SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

We can't say we're the Best, but you Can!

File Name : SC 46 @ Meadow Dr Wednesday
Site Code :
Start Date : 04/19/2023
Page No : 3

	Southbound					SC 46 Westbound					Meadow Dr Northbound					SC 46 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	**1**	**188**	0	0	**189**	**2**	0	**1**	0	**3**	0	**162**	**3**	0	**165**	**357**
16:15	0	0	0	0	0	0	181	0	0	181	2	0	1	0	3	0	137	0	0	137	321
16:30	0	0	0	0	0	1	155	0	0	156	1	0	0	0	1	0	161	1	0	162	319
16:45	0	0	0	0	0	0	165	0	0	165	2	0	0	0	2	0	137	1	0	138	305
Total Volume	0	0	0	0	0	2	689	0	0	691	7	0	2	0	9	0	597	5	0	602	1302
% App. Total	0	0	0	0		0.3	99.7	0	0		77.8	0	22.2	0		0	99.2	0.8	0		
PHF	.000	.000	.000	.000	.000	.500	.916	.000	.000	.914	.875	.000	.500	.000	.750	.000	.921	.417	.000	.912	.912
Passenger Vehicles	0	0	0	0	0	2	680	0	0	682	7	0	2	0	9	0	581	5	0	586	1277
% Passenger Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	10	0	0	10	16
% Heavy Vehicles	0	0	0	0	0	0	0.9	0	0	0.9	0	0	0	0	0	0	1.7	0	0	1.7	1.2
Buses	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	6	0	0	6	9
% Buses	0	0	0	0	0	0	0.4	0	0	0.4	0	0	0	0	0	0	1.0	0	0	1.0	0.7



SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

We can't say we're the Best, but you Can!

File Name : SC 46 @ Meadow Dr Sunday
Site Code :
Start Date : 04/23/2023
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - Buses

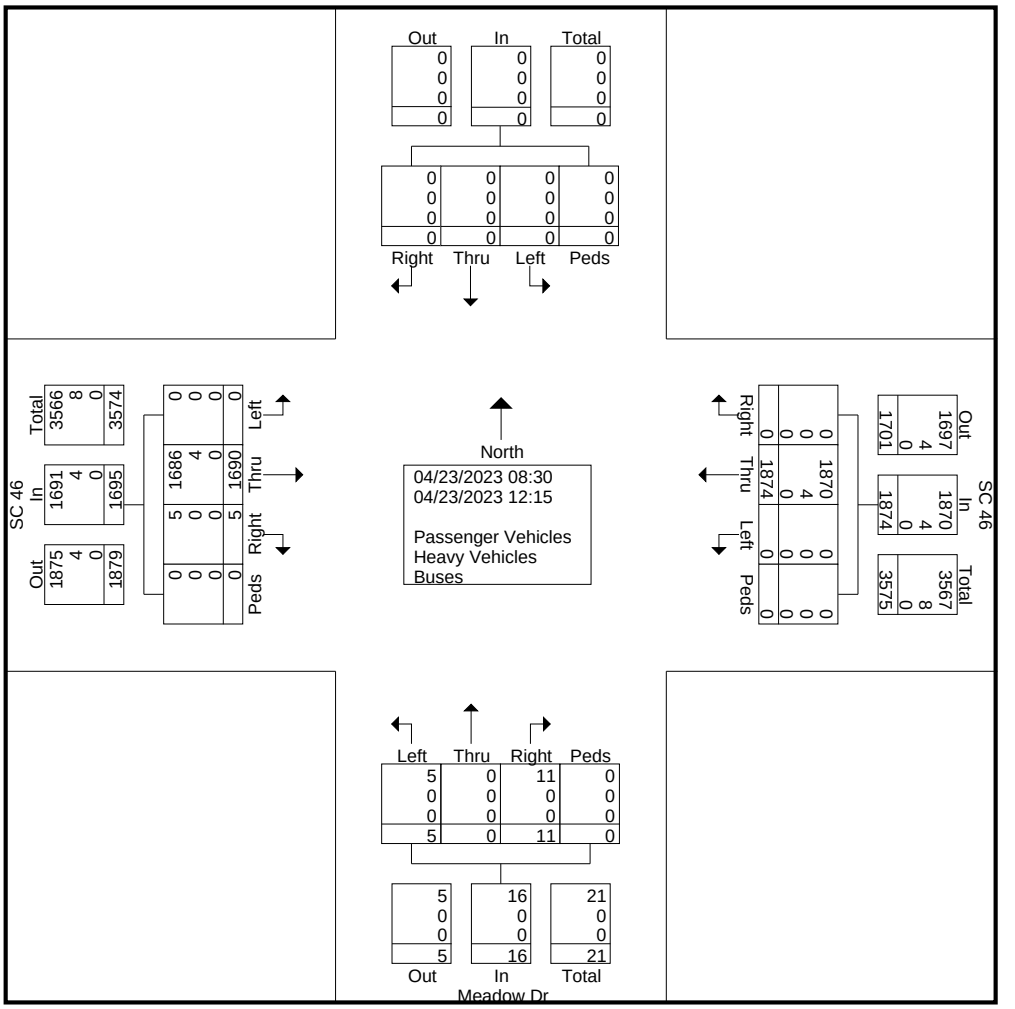
	Southbound				SC 46 Westbound				Meadow Dr Northbound				SC 46 Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
08:30	0	0	0	0	0	53	0	0	1	0	1	0	0	83	0	0	138
08:45	0	0	0	0	0	57	0	0	0	0	0	0	0	84	0	0	141
Total	0	0	0	0	0	110	0	0	1	0	1	0	0	167	0	0	279
09:00	0	0	0	0	0	74	0	0	0	0	0	0	0	62	1	0	137
09:15	0	0	0	0	0	91	0	0	0	0	0	0	0	105	0	0	196
09:30	0	0	0	0	0	108	0	0	0	0	1	0	0	103	0	0	212
09:45	0	0	0	0	0	99	0	0	0	0	0	0	0	94	0	0	193
Total	0	0	0	0	0	372	0	0	0	0	1	0	0	364	1	0	738
10:00	0	0	0	0	0	109	0	0	1	0	0	0	0	108	0	0	218
10:15	0	0	0	0	0	131	0	0	0	0	1	0	0	116	1	0	249
10:30	0	0	0	0	0	135	0	0	0	0	0	0	0	95	0	0	230
10:45	0	0	0	0	0	140	0	0	0	0	0	0	0	95	1	0	236
Total	0	0	0	0	0	515	0	0	1	0	1	0	0	414	2	0	933
11:00	0	0	0	0	0	146	0	0	0	0	4	0	0	97	0	0	247
11:15	0	0	0	0	0	135	0	0	0	0	0	0	0	131	0	0	266
11:30	0	0	0	0	0	160	0	0	1	0	0	0	0	117	1	0	279
11:45	0	0	0	0	0	139	0	0	2	0	1	0	0	128	1	0	271
Total	0	0	0	0	0	580	0	0	3	0	5	0	0	473	2	0	1063
12:00	0	0	0	0	0	143	0	0	0	0	1	0	0	127	0	0	271
12:15	0	0	0	0	0	154	0	0	0	0	2	0	0	145	0	0	301
Grand Total	0	0	0	0	0	1874	0	0	5	0	11	0	0	1690	5	0	3585
Apprch %	0	0	0	0	0	100	0	0	31.2	0	68.8	0	0	99.7	0.3	0	
Total %	0	0	0	0	0	52.3	0	0	0.1	0	0.3	0	0	47.1	0.1	0	
Passenger Vehicles	0	0	0	0	0	1870	0	0	5	0	11	0	0	1686	5	0	3577
% Passenger Vehicles	0	0	0	0	0	99.8	0	0	100	0	100	0	0	99.8	100	0	99.8
Heavy Vehicles	0	0	0	0	0	4	0	0	0	0	0	0	0	4	0	0	8
% Heavy Vehicles	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0.2	0	0	0.2
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

We can't say we're the Best, but you Can!

File Name : SC 46 @ Meadow Dr Sunday
Site Code :
Start Date : 04/23/2023
Page No : 2



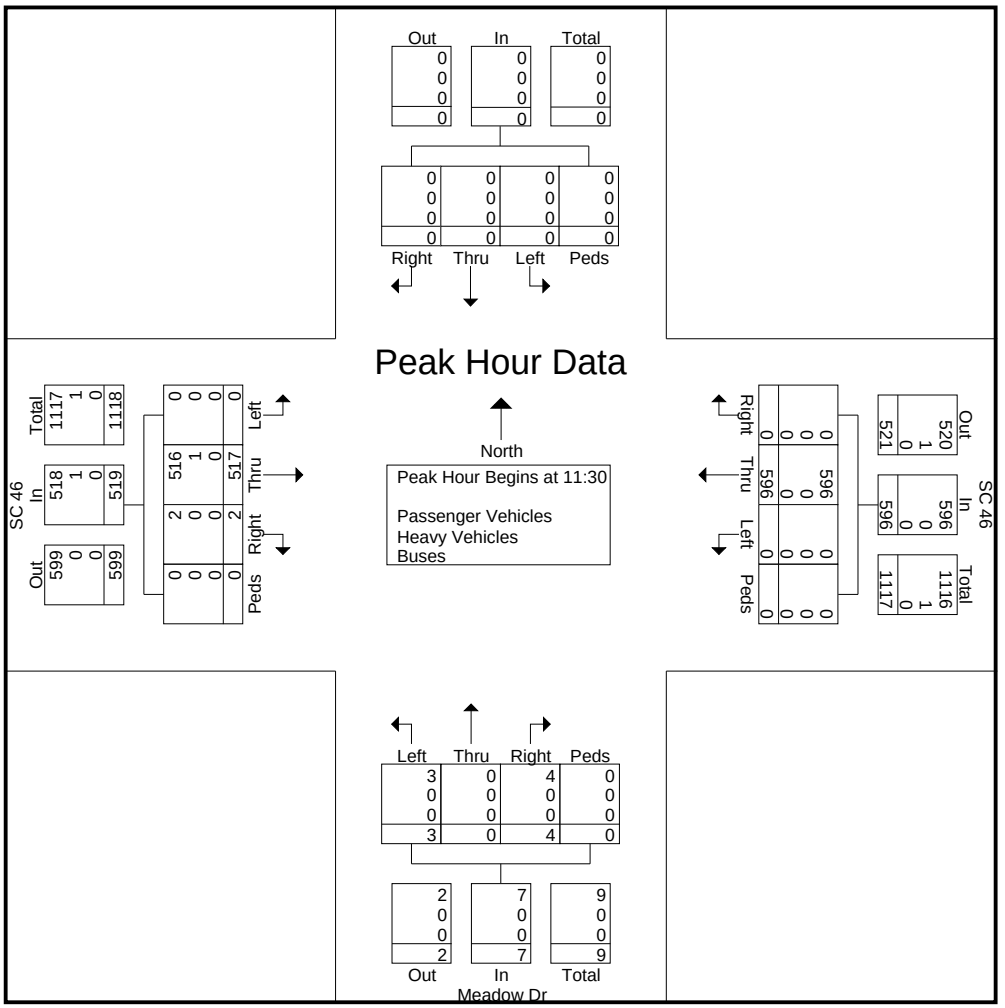
SHORT COUNTS, LLC

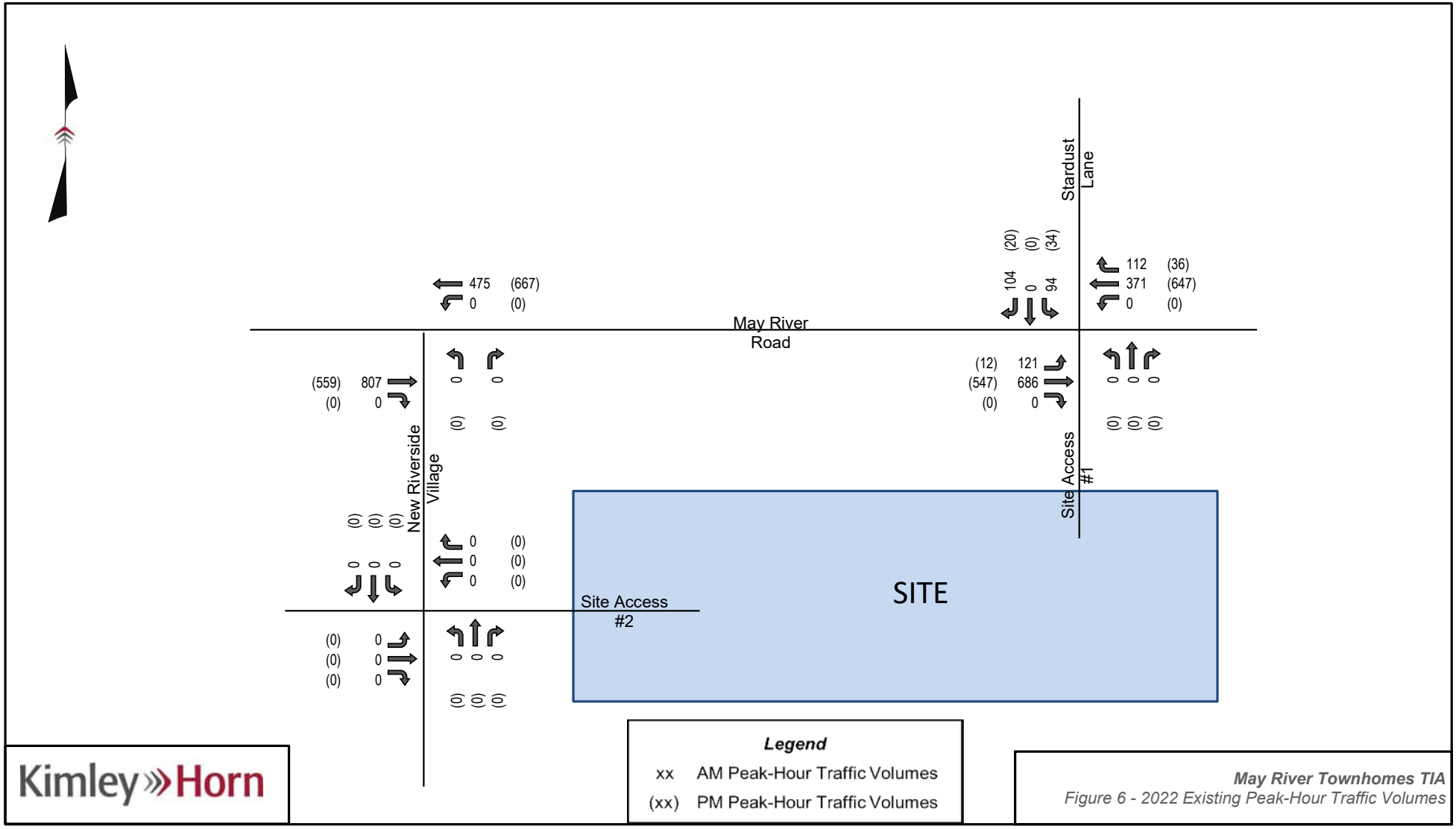
735 Maryland St
Columbia, SC 29201

We can't say we're the Best, but you Can!

File Name : SC 46 @ Meadow Dr Sunday
Site Code :
Start Date : 04/23/2023
Page No : 3

	Southbound					SC 46 Westbound					Meadow Dr Northbound					SC 46 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 08:30 to 12:15 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:30																					
11:30	0	0	0	0	0	0	**160**	0	0	**160**	1	0	0	0	1	0	117	**1**	0	118	279
11:45	0	0	0	0	0	0	139	0	0	139	**2**	0	1	0	**3**	0	128	1	0	129	271
12:00	0	0	0	0	0	0	143	0	0	143	0	0	1	0	1	0	127	0	0	127	271
12:15	0	0	0	0	0	0	154	0	0	154	0	0	**2**	0	2	0	**145**	0	0	**145**	**301**
Total Volume	0	0	0	0	0	0	596	0	0	596	3	0	4	0	7	0	517	2	0	519	1122
% App. Total	0	0	0	0		0	100	0	0		42.9	0	57.1	0		0	99.6	0.4	0		
PHF	.000	.000	.000	.000	.000	.000	.931	.000	.000	.931	.375	.000	.500	.000	.583	.000	.891	.500	.000	.895	.932
Passenger Vehicles	0	0	0	0	0	0	596	0	0	596	3	0	4	0	7	0	516	2	0	518	1121
% Passenger Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0.2	0.1
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0





Kimley»Horn

May River Townhomes TIA

Figure 6 - 2022 Existing Peak-Hour Traffic Volumes

APPENDIX C

Traffic Volume Development Worksheets &
ITE Trip Generation Sheets

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

SC 46 & Meadow Drive

TRAFFIC CONTROL: Unsignalized

DATE COUNTED: Wednesday, April 19, 2023

AM PEAK HOUR (7:00-8:00 AM)	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2022 Traffic Volumes	**12**		**4**				**1**	**483**			**780**	**4**
Years To Current Year (2023)	1	1	1	1	1	1	1	1	1	1	1	1
Yearly Growth Rate	2.0%		2.0%				2.0%	2.0%			2.0%	2.0%
Background Traffic Growth	0		0				0	10			16	0
2023 TRAFFIC VOLUMES	**12**		**4**				**1**	**493**			**796**	**4**
Years To Buildout (2025)	2		2				2	2			2	2
Yearly Growth Rate	2.0%		2.0%				2.0%	2.0%			2.0%	2.0%
Background Traffic Growth	0		0				0	20			32	0
Vested New Trips								5			16	
Vested Traffic Volumes								5			16	
2025 NO-BUILD TRAFFIC VOLUMES	**12**		**4**				**1**	**518**			**844**	**4**
Inbound Trip Distribution Percentage							45%					55%
Outbound Trip Distribution Percentage	55%		45%									
Inbound New Project Traffic							36					44
Outbound New Project Traffic	35		29									
Total New Project Traffic	35		29				36					44
2025 BUILD TRAFFIC VOLUMES	**47**		**33**				**37**	**518**			**844**	**48**

PM PEAK HOUR (4:00-5:00 PM)	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2023 TRAFFIC VOLUMES	**7**		**2**				**2**	**689**			**597**	**5**
Years To Current Year (2023)	0		0				0	0			0	0
Yearly Growth Rate	2.0%		2.0%				2.0%	2.0%			2.0%	2.0%
Background Traffic Growth	0		0				0	0			0	0
2023 TRAFFIC VOLUMES	**7**		**2**				**2**	**689**			**597**	**5**
Years To Buildout (2025)	2		2				2	2			2	2
Yearly Growth Rate	2.0%		2.0%				2.0%	2.0%			2.0%	2.0%
Background Traffic Growth	0		0				0	28			24	0
Vested New Trips								16			9	
Vested Traffic Volumes								16			9	
2025 NO-BUILD TRAFFIC VOLUMES	**7**		**2**				**2**	**733**			**630**	**5**
Inbound Trip Distribution Percentage							45%					55%
Outbound Trip Distribution Percentage	55%		45%									
Inbound New Project Traffic							34					42
Outbound New Project Traffic	50		41									
Total New Project Traffic	50		41				34					42
2025 BUILD TRAFFIC VOLUMES	**57**		**43**				**36**	**733**			**630**	**47**

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

Meadow Drive & Site Access 1

TRAFFIC CONTROL: Unsignalized

DATE COUNTED: N/A

SUNDAY PEAK HOUR	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2021 Traffic Volumes		**16**	**0**	**0**	**5**		**0**		**0**			
Years To Current Year (2023)		0	0	0	0		0		0			
Yearly Growth Rate		2.0%	2.0%	2.0%	2.0%		2.0%		2.0%			
Background Traffic Growth		0	0	0	0		0		0			
2023 TRAFFIC VOLUMES		**16**	**0**	**0**	**5**		**0**		**0**			
Years To Buildout (2025)		2	2	2	2		2		2			
Yearly Growth Rate		2.0%	2.0%	2.0%	2.0%		2.0%		2.0%			
Background Traffic Growth		1	0	0	0		0		0			
Vested New Trips												
Vested Traffic Volumes												
2025 NO-BUILD TRAFFIC VOLUMES		**17**	**0**	**0**	**5**		**0**		**0**			
Inbound Trip Distribution Percentage				**50%**	**50%**							
Outbound Trip Distribution Percentage		**50%**							50%			
Inbound New Project Traffic				40	40							
Outbound New Project Traffic		32							32			
Total New Project Traffic		32		40	40				32			
2025 BUILD TRAFFIC VOLUMES		**49**	**0**	**40**	**45**		**0**		**32**			

PM PEAK HOUR	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2023 TRAFFIC VOLUMES		**9**	**0**	**0**	**7**		**0**		**0**			
Years To Current Year (2023)		0	0	0	0		0		0			
Yearly Growth Rate		2.0%	2.0%	2.0%	2.0%		2.0%		2.0%			
Background Traffic Growth		0	0	0	0		0		0			
2023 TRAFFIC VOLUMES		**9**	**0**	**0**	**7**		**0**		**0**			
Years To Buildout (2025)		2	2	2	2		2		2			
Yearly Growth Rate		2.0%	2.0%	2.0%	2.0%		2.0%		2.0%			
Background Traffic Growth		0	0	0	0		0		0			
2025 NO-BUILD TRAFFIC VOLUMES		**9**	**0**	**0**	**7**		**0**		**0**			
Inbound Trip Distribution Percentage				**50%**	**50%**							
Outbound Trip Distribution Percentage		**50%**							50%			
Inbound New Project Traffic				38	38							
Outbound New Project Traffic		45							45			
Total New Project Traffic		45		38	38				45			
2025 BUILD TRAFFIC VOLUMES		**54**	**0**	**38**	**45**		**0**		**45**			

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

Meadow Drive & Grassey Lane

TRAFFIC CONTROL: Unsignalized

DATE COUNTED: N/A

SUNDAY PEAK HOUR	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2021 Traffic Volumes		**16**	**0**	**0**	**5**		**0**		**0**			
Years To Current Year (2023)		0	0	0	0		0		0			
Yearly Growth Rate		2.0%	2.0%	2.0%	2.0%		2.0%		2.0%			
Background Traffic Growth		0	0	0	0		0		0			
2023 TRAFFIC VOLUMES		**16**	**0**	**0**	**5**		**0**		**0**			
Years To Buildout (2025)		2	2	2	2		2		2			
Yearly Growth Rate		2.0%	2.0%	2.0%	2.0%		2.0%		2.0%			
Background Traffic Growth		1	0	0	0		0		0			
Vested New Trips												
Vested Traffic Volumes												
2025 NO-BUILD TRAFFIC VOLUMES		**17**	**0**	**0**	**5**		**0**		**0**			
Inbound Trip Distribution Percentage				**50%**								
Outbound Trip Distribution Percentage									50%			
Inbound New Project Traffic				40								
Outbound New Project Traffic									32			
Total New Project Traffic				40					32			
2025 BUILD TRAFFIC VOLUMES		**17**	**0**	**40**	**5**		**0**		**32**			

PM PEAK HOUR	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2023 TRAFFIC VOLUMES		**9**	**0**	**0**	**7**		**0**		**0**			
Years To Current Year (2023)		0	0	0	0		0		0			
Yearly Growth Rate		2.0%	2.0%	2.0%	2.0%		2.0%		2.0%			
Background Traffic Growth		0	0	0	0		0		0			
2023 TRAFFIC VOLUMES		**9**	**0**	**0**	**7**		**0**		**0**			
Years To Buildout (2025)		2	2	2	2		2		2			
Yearly Growth Rate		2.0%	2.0%	2.0%	2.0%		2.0%		2.0%			
Background Traffic Growth		0	0	0	0		0		0			
2025 NO-BUILD TRAFFIC VOLUMES		**9**	**0**	**0**	**7**		**0**		**0**			
Inbound Trip Distribution Percentage				**50%**								
Outbound Trip Distribution Percentage									50%			
Inbound New Project Traffic				38								
Outbound New Project Traffic									45			
Total New Project Traffic				38					45			
2025 BUILD TRAFFIC VOLUMES		**9**	**0**	**38**	**7**		**0**		**45**			

Attachment 5

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

SC 46 & Meadow Drive

TRAFFIC CONTROL: Unsignalized

DATE COUNTED: Sunday, April 23, 2023

SUNDAY PEAK HOUR (11:30 AM-12:30 PM)	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2023 Traffic Volumes	**3**		**4**				**0**	**596**			**517**	**2**
Years To Current Year (2023)	0	0	0	0	0	0	0	0	0	0	0	0
Yearly Growth Rate	2.0%		2.0%				2.0%	2.0%			2.0%	2.0%
Background Traffic Growth	0		0				0	0			0	0
2023 TRAFFIC VOLUMES	**3**		**4**				**0**	**596**			**517**	**2**
Years To Buildout (2025)	2		2				2	2			2	2
Yearly Growth Rate	2.0%		2.0%				2.0%	2.0%			2.0%	2.0%
Background Traffic Growth	0		0				0	24			21	0
Vested New Trips								5			16	
Vested Traffic Volumes								5			16	
2025 NO-BUILD TRAFFIC VOLUMES	**3**		**4**				**0**	**625**			**554**	**2**
Inbound Trip Distribution Percentage							**45%**					**55%**
Outbound Trip Distribution Percentage	**55%**		**45%**									
Inbound New Project Traffic							92					112
Outbound New Project Traffic	116		95									
Total New Project Traffic	116		95				92					112
2025 BUILD TRAFFIC VOLUMES	**119**		**99**				**92**	**625**			**554**	**114**

Attachment 5

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

Meadow Drive & Site Access 1

TRAFFIC CONTROL: Unsignalized

DATE COUNTED: N/A

SUNDAY PEAK HOUR	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2023 Traffic Volumes		**7**	**0**	**0**	**2**		**0**		**0**			
Years To Current Year (2023)	0	0	0	0	0	0	0	0	0	0	0	0
Yearly Growth Rate		2.0%	2.0%	2.0%	2.0%		2.0%		2.0%			
Background Traffic Growth		0	0	0	0		0		0			
2023 TRAFFIC VOLUMES		**7**	**0**	**0**	**2**		**0**		**0**			
Years To Buildout (2025)		2	2	2	2		2		2			
Yearly Growth Rate		2.0%	2.0%	2.0%	2.0%		2.0%		2.0%			
Background Traffic Growth		0	0	0	0		0		0			
Vested New Trips												
Vested Traffic Volumes												
2025 NO-BUILD TRAFFIC VOLUMES		**7**	**0**	**0**	**2**		**0**		**0**			
Inbound Trip Distribution Percentage				**50%**	**50%**							
Outbound Trip Distribution Percentage		**50%**							50%			
Inbound New Project Traffic				102	102							
Outbound New Project Traffic		106							105			
Total New Project Traffic		106		102	102				105			
2025 BUILD TRAFFIC VOLUMES		**113**	**0**	**102**	**104**		**0**		**105**			

Attachment 5

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

Meadow Drive & Grassey Lane

TRAFFIC CONTROL: Unsignalized

DATE COUNTED: N/A

SUNDAY PEAK HOUR	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2023 Traffic Volumes		**7**	**0**	**0**	**2**		**0**		**0**			
Years To Current Year (2023)	0	0	0	0	0	0	0	0	0	0	0	0
Yearly Growth Rate		2.0%	2.0%	2.0%	2.0%		2.0%		2.0%			
Background Traffic Growth		0	0	0	0		0		0			
2023 TRAFFIC VOLUMES		**7**	**0**	**0**	**2**		**0**		**0**			
Years To Buildout (2025)		2	2	2	2		2		2			
Yearly Growth Rate		2.0%	2.0%	2.0%	2.0%		2.0%		2.0%			
Background Traffic Growth		0	0	0	0		0		0			
Vested New Trips												
Vested Traffic Volumes												
2025 NO-BUILD TRAFFIC VOLUMES		**7**	**0**	**0**	**2**		**0**		**0**			
Inbound Trip Distribution Percentage				**50%**								
Outbound Trip Distribution Percentage									50%			
Inbound New Project Traffic				102								
Outbound New Project Traffic									106			
Total New Project Traffic				102					106			
2025 BUILD TRAFFIC VOLUMES		**7**	**0**	**102**	**2**		**0**		**106**			

Attachment 5

Graph Look Up

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
210

LAND USE GROUP:
(200-299) Residential

LAND USE :
210 - Single-Family Detached Housing

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

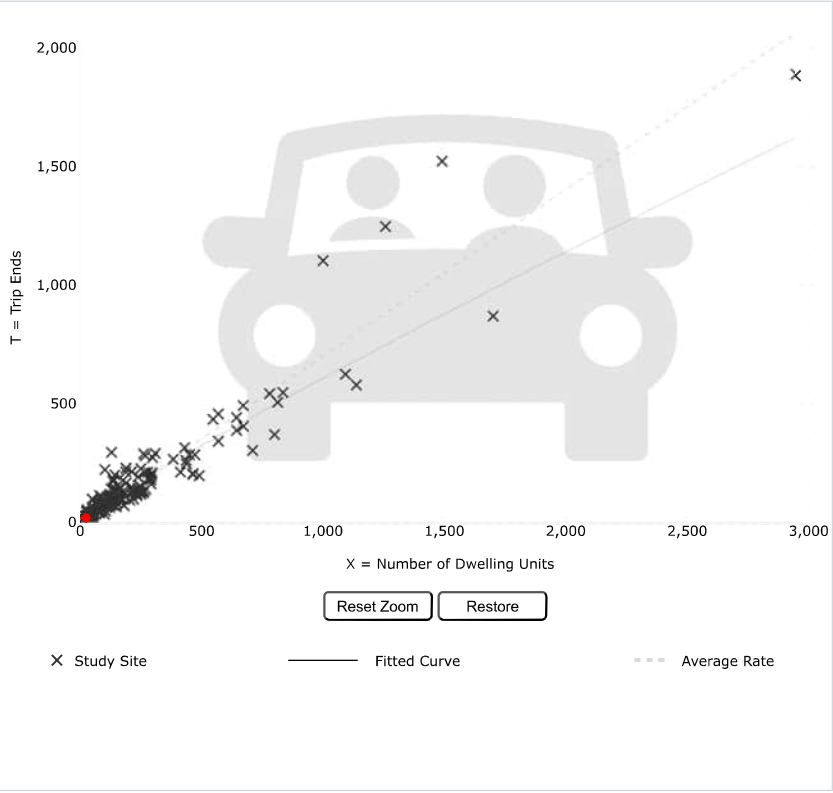
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Tr

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
25 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Single-Family Detached Housing (210) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
192

Avg. Num. of Dwelling Units:
226

Average Rate:
0.70

Range of Rates:
0.27 - 2.27

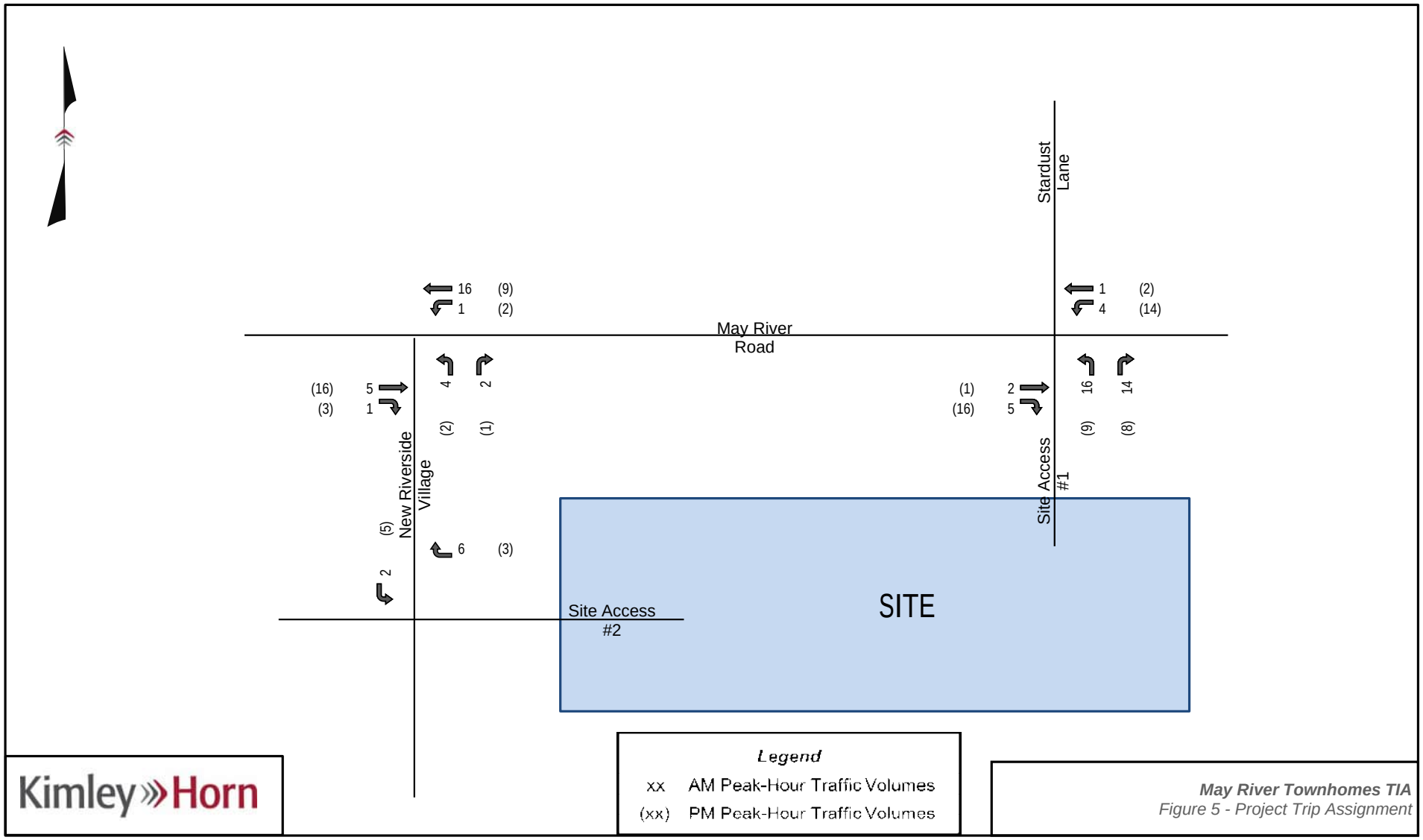
Standard Deviation:
0.24

Fitted Curve Equation:
Ln(T) = 0.91 Ln(X) + 0.12

R^2:
0.90

Directional Distribution:
25% entering, 75% exiting

Calculated Trip Ends:
Average Rate: 18 (Total), 4 (Entry), 14 (Exit)
Fitted Curve: 21 (Total), 5 (Entry), 16 (Exit)



Kimley»Horn

May River Townhomes TIA
Figure 5 - Project Trip Assignment

Attachment 5

ITETripGen **Web-based App**

Help | Katelyn Love | Sign out

Graph Look Up

ITETripGen Web-based App

Graph Look Up

How to Use *ITETripGen*

TGM Desk Reference

TGM Appendices

Support Documents

Add Users

Comments

Add-ons to do more

Try OTISS Pro

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
560

LAND USE GROUP:
(500-599) Institutional

LAND USE :
560 - Church

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

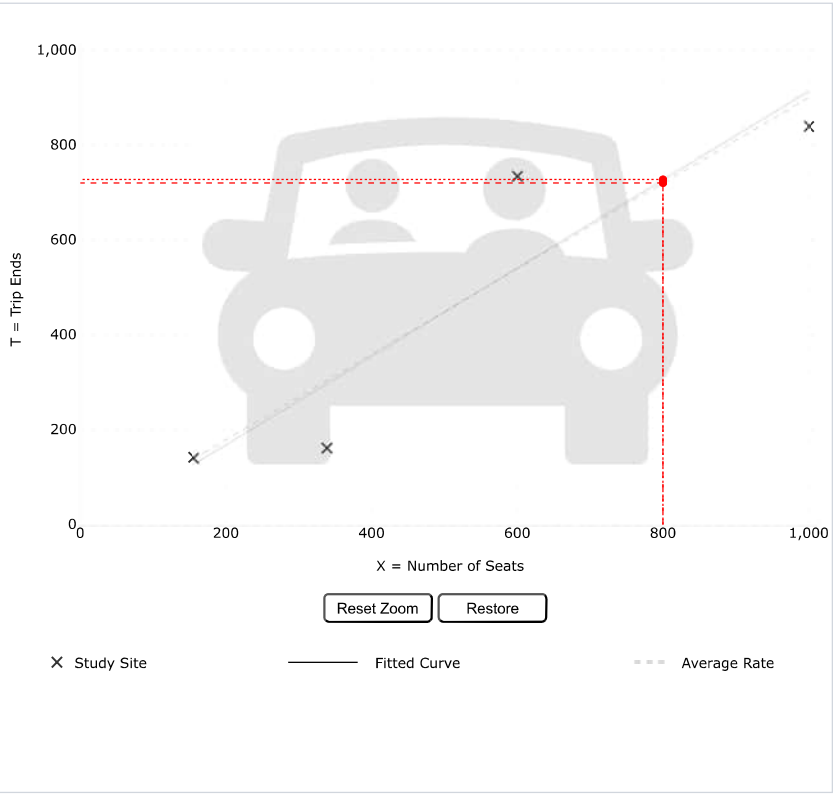
INDEPENDENT VARIABLE (IV):
Seats

TIME PERIOD:
Weekday

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
800 Calculate

Data Plot and Equation *Caution – Small Sample Size*



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Church (560) Click for Description and Data Plots

Independent Variable:
Seats

Time Period:
Weekday

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
4

Avg. Num. of Seats:
524

Average Rate:
0.90

Range of Rates:
0.48 - 1.22

Standard Deviation:
0.28

Fitted Curve Equation:
T = 0.93(X) - 16.74

R^2:
0.85

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 720 (Total), 360 (Entry), 360 (Exit)
Fitted Curve: 727 (Total), 364 (Entry), 363 (Exit)

Attachment 5

ITETripGen **Web-based App**

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Graph Look Up

ITETripGen Web-based App

- Graph Look Up
- How to Use *ITETripGen*
- TGM Desk Reference
- TGM Appendices
- Support Documents
- Add Users
- Comments
- Add-ons to do more
- Try OTISS Pro

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
560

LAND USE GROUP:
(500-599) Institutional

LAND USE :
560 - Church

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

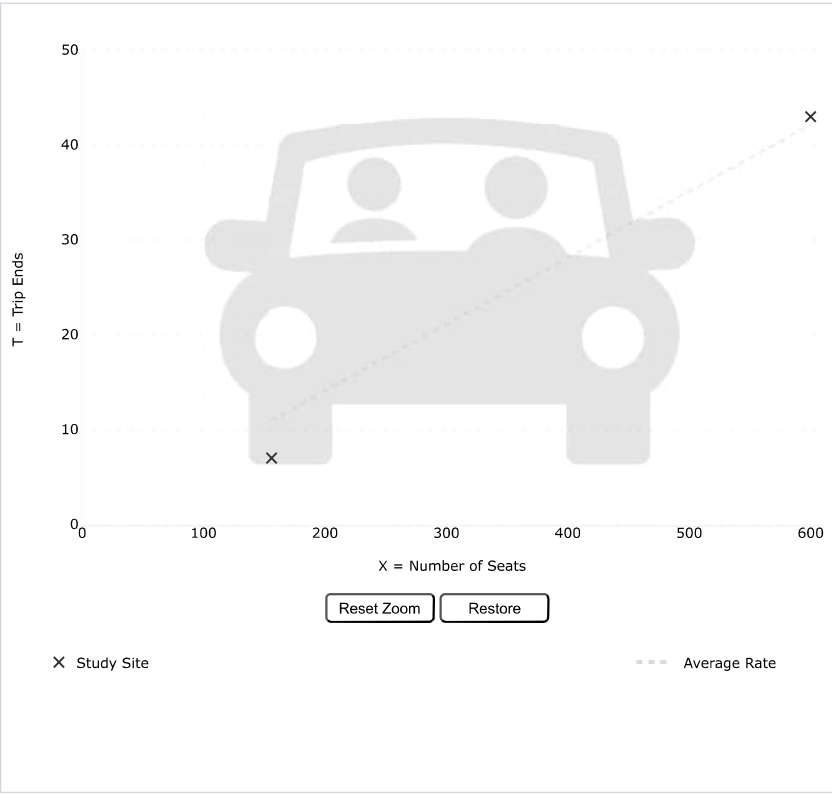
INDEPENDENT VARIABLE (IV):
Seats

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Tr

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
800 Calculate

Data Plot and Equation *Caution – Small Sample Size*



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Church (560) Click for Description and Data Plots

Independent Variable:
Seats

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
2

Avg. Num. of Seats:
378

Average Rate:
0.07

Range of Rates:
0.04 - 0.07

Standard Deviation:
****

Fitted Curve Equation:
Not Given

R^2:
****

Directional Distribution:
60% entering, 40% exiting

Calculated Trip Ends:
Average Rate: 56 (Total), 34 (Entry), 22 (Exit)

Attachment 5

ITETripGen **Web-based App**

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Graph Look Up

ITETripGen Web-based App

- Graph Look Up
- How to Use *ITETripGen*
- TGM Desk Reference
- TGM Appendices
- Support Documents
- Add Users
- Comments

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
560

LAND USE GROUP:
(500-599) Institutional

LAND USE :
560 - Church

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

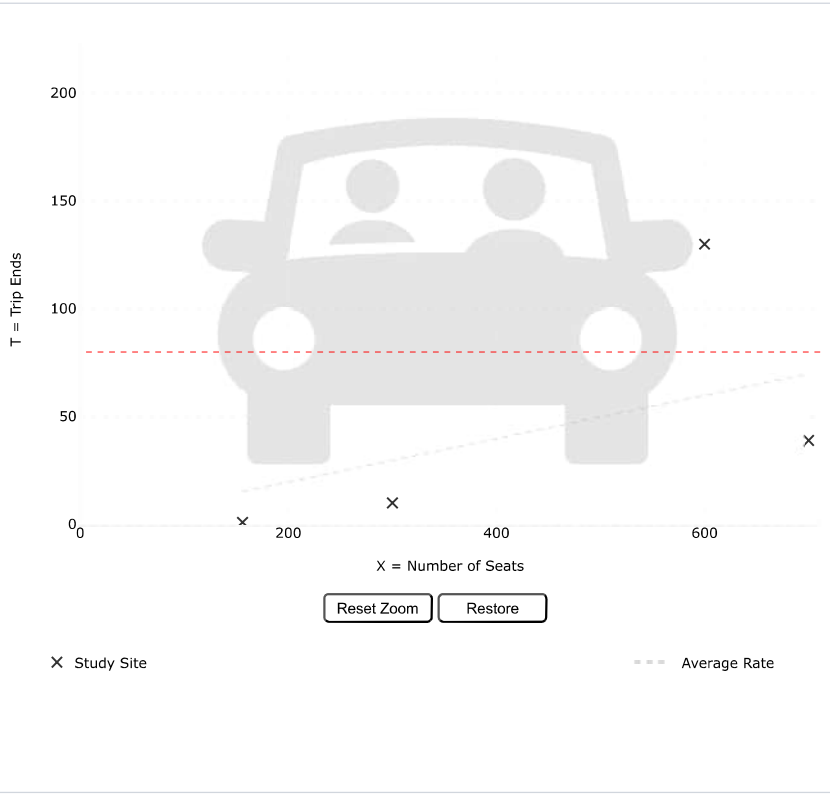
INDEPENDENT VARIABLE (IV):
Seats

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Tr

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
800 Calculate

Data Plot and Equation *Caution – Small Sample Size*



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Church (560) Click for Description and Data Plots

Independent Variable:
Seats

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
4

Avg. Num. of Seats:
439

Average Rate:
0.10

Range of Rates:
0.01 - 0.22

Standard Deviation:
0.10

Fitted Curve Equation:
Not Given

R^2:
****

Directional Distribution:
45% entering, 55% exiting

Calculated Trip Ends:
Average Rate: 80 (Total), 36 (Entry), 44 (Exit)

- Add-ons to do more
- Try OTISS Pro

Attachment 5

ITETripGen Web-based App

Help | Katelyn Love | Sign out

Graph Look Up

ITETripGen Web-based App

Graph Look Up

How to Use *ITETripGen*

TGM Desk Reference

TGM Appendices

Support Documents

Add Users

Comments

Add-ons to do more

Try OTISS Pro

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
560

LAND USE GROUP:
(500-599) Institutional

LAND USE :
560 - Church

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

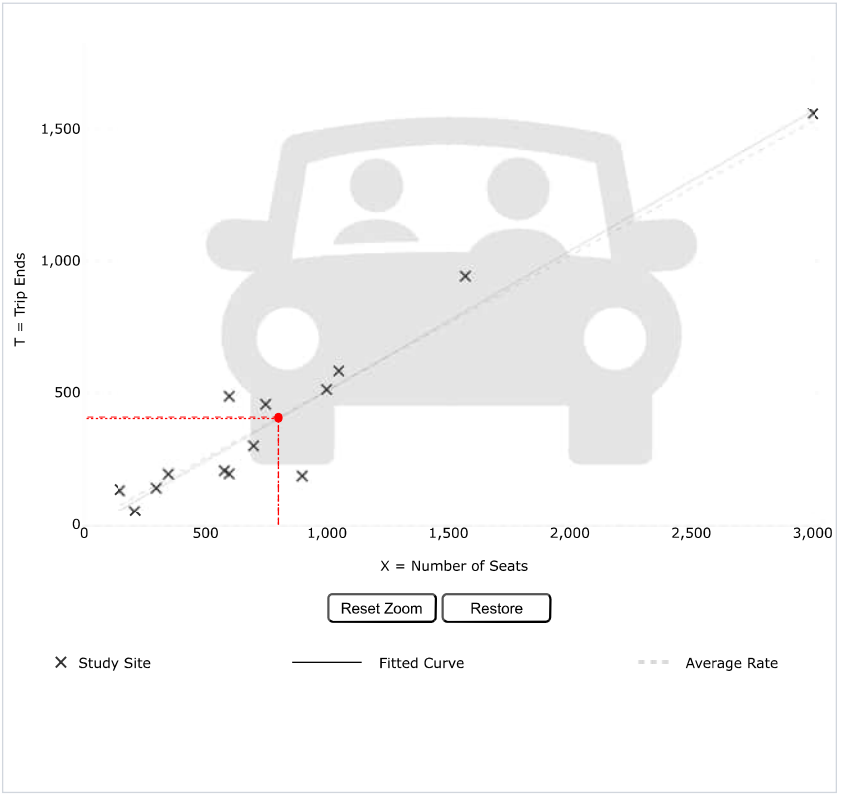
INDEPENDENT VARIABLE (IV):
Seats

TIME PERIOD:
Sunday, Peak Hour of Generator

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
800 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Church (560) Click for Description and Data Plots

Independent Variable:
Seats

Time Period:
Sunday
Peak Hour of Generator

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
14

Avg. Num. of Seats:
840

Average Rate:
0.51

Range of Rates:
0.21 - 0.89

Standard Deviation:
0.15

Fitted Curve Equation:
T = 0.53(X) - 21.83

R^2:
0.92

Directional Distribution:
49% entering, 51% exiting

Calculated Trip Ends:
Average Rate: 408 (Total), 200 (Entry), 208 (Exit)
Fitted Curve: 402 (Total), 197 (Entry), 205 (Exit)

Attachment 5

ITETripGen **Web-based App**

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Graph Look Up

How to Use *ITETripGen*

TGM Desk Reference

TGM Appendices

Support Documents

Add Users

Comments

Add-ons to do more

Try OTISS Pro

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
565

LAND USE GROUP:
(500-599) Institutional

LAND USE :
565 - Day Care Center

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

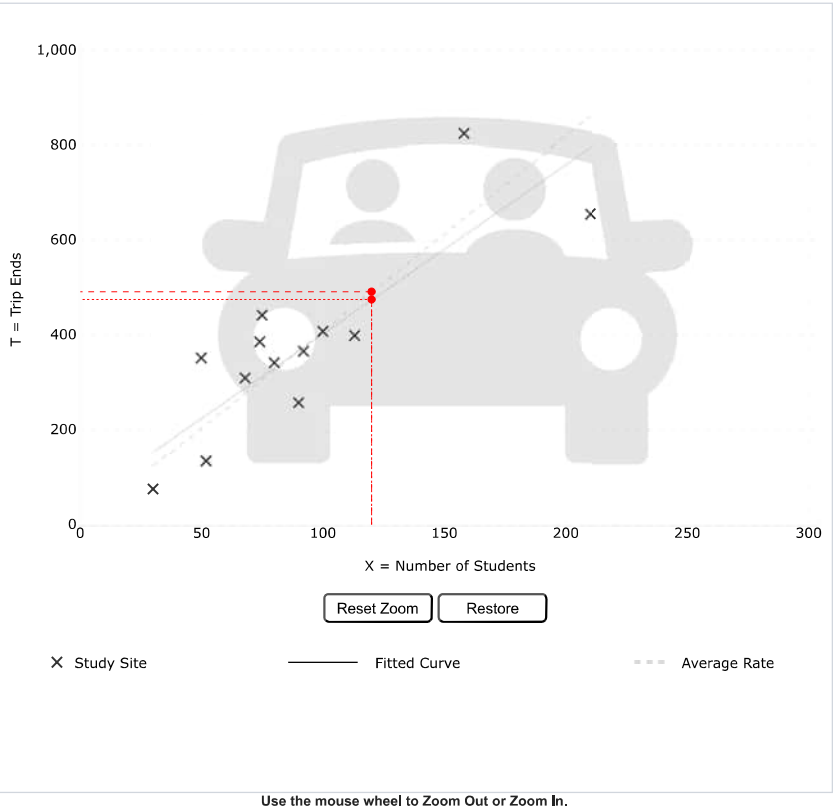
INDEPENDENT VARIABLE (IV):
Students

TIME PERIOD:
Weekday

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
120 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Day Care Center (565) Click for Description and Data Plots

Independent Variable:
Students

Time Period:
Weekday

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
14

Avg. Num. of Students:
89

Average Rate:
4.09

Range of Rates:
2.50 - 7.06

Standard Deviation:
1.21

Fitted Curve Equation:
T = 3.56(X) + 47.23

R^2:
0.72

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 491 (Total), 245 (Entry), 246 (Exit)
Fitted Curve: 474 (Total), 237 (Entry), 237 (Exit)

Attachment 5

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Graph Look Up

ITETripGen Web-based App

- Graph Look Up
- How to Use *ITETripGen*
- TGM Desk Reference
- TGM Appendices
- Support Documents
- Add Users
- Comments
- Add-ons to do more
- Try OTISS Pro

Query Filter

DATA SOURCE: Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE: 565

LAND USE GROUP: (500-599) Institutional

LAND USE : 565 - Day Care Center

LAND USE SUBCATEGORY: All Sites

SETTING/LOCATION: General Urban/Suburban

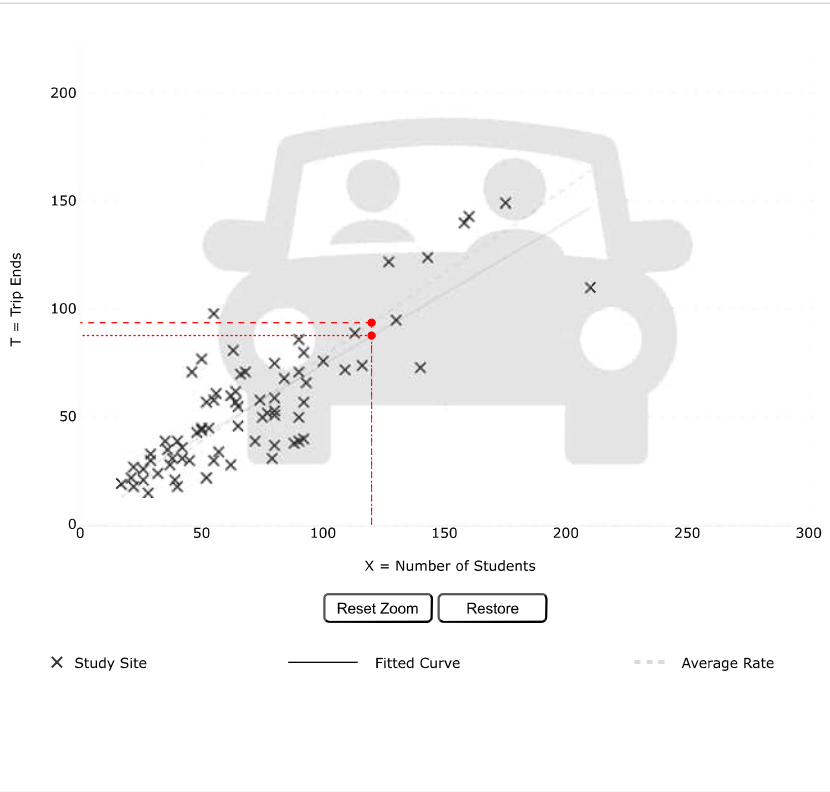
INDEPENDENT VARIABLE (IV): Students

TIME PERIOD: Weekday, Peak Hour of Adjacent Street Tr

TRIP TYPE: Vehicle

ENTER IV VALUE TO CALCULATE TRIPS: 120 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Day Care Center (565) Click for Description and Data Plots

Independent Variable:
Students

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
75

Avg. Num. of Students:
71

Average Rate:
0.78

Range of Rates:
0.39 - 1.78

Standard Deviation:
0.25

Fitted Curve Equation:
T = 0.66(X) + 8.42

R^2:
0.69

Directional Distribution:
53% entering, 47% exiting

Calculated Trip Ends:
Average Rate: 94 (Total), 50 (Entry), 44 (Exit)
Fitted Curve: 88 (Total), 46 (Entry), 42 (Exit)

Attachment 5

Graph Look Up

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
565

LAND USE GROUP:
(500-599) Institutional

LAND USE :
565 - Day Care Center

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

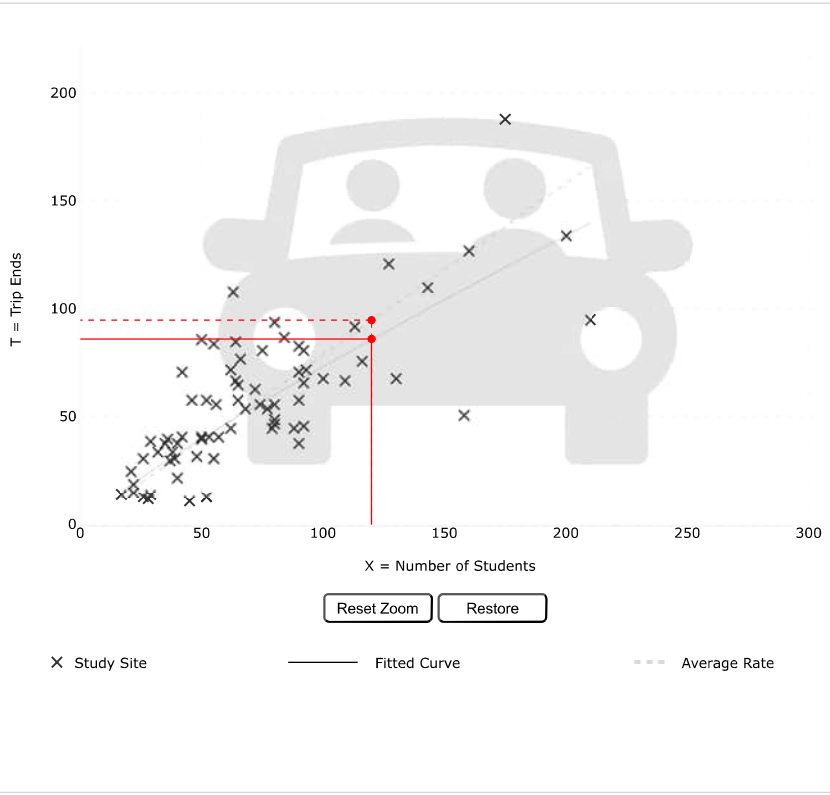
INDEPENDENT VARIABLE (IV):
Students

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Tr

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
120 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Day Care Center (565) Click for Description and Data Plots

Independent Variable:
Students

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
75

Avg. Num. of Students:
72

Average Rate:
0.79

Range of Rates:
0.24 - 1.72

Standard Deviation:
0.30

Fitted Curve Equation:
Ln(T) = 0.87 Ln(X) + 0.29

R^2:
0.57

Directional Distribution:
47% entering, 53% exiting

Calculated Trip Ends:
Average Rate: 95 (Total), 45 (Entry), 50 (Exit)
Fitted Curve: 86 (Total), 40 (Entry), 46 (Exit)

Attachment 5

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Graph Look Up

How to Use *ITETripGen*

TGM Desk Reference

TGM Appendices

Support Documents

Add Users

Comments

Add-ons to do more

Try OTISS Pro

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
565

LAND USE GROUP:
(500-599) Institutional

LAND USE :
565 - Day Care Center

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

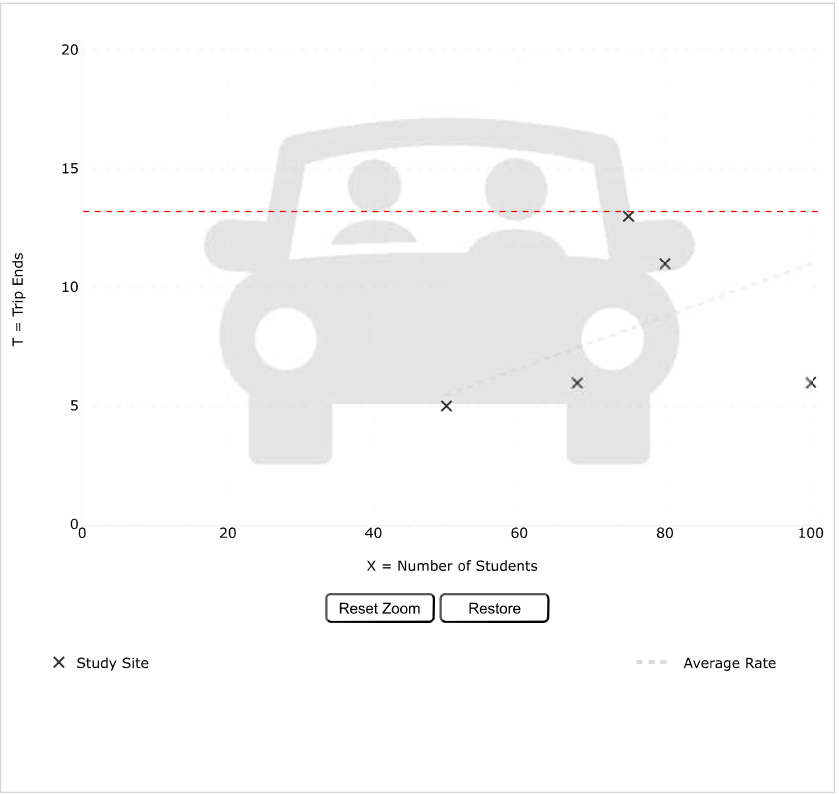
INDEPENDENT VARIABLE (IV):
Students

TIME PERIOD:
Sunday, Peak Hour of Generator

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
120 Calculate

Data Plot and Equation *Caution – Small Sample Size*



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Day Care Center (565) Click for Description and Data Plots

Independent Variable:
Students

Time Period:
Sunday
Peak Hour of Generator

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
5

Avg. Num. of Students:
75

Average Rate:
0.11

Range of Rates:
0.06 - 0.17

Standard Deviation:
0.05

Fitted Curve Equation:
Not Given

R^2:
****

Directional Distribution:
54% entering, 46% exiting

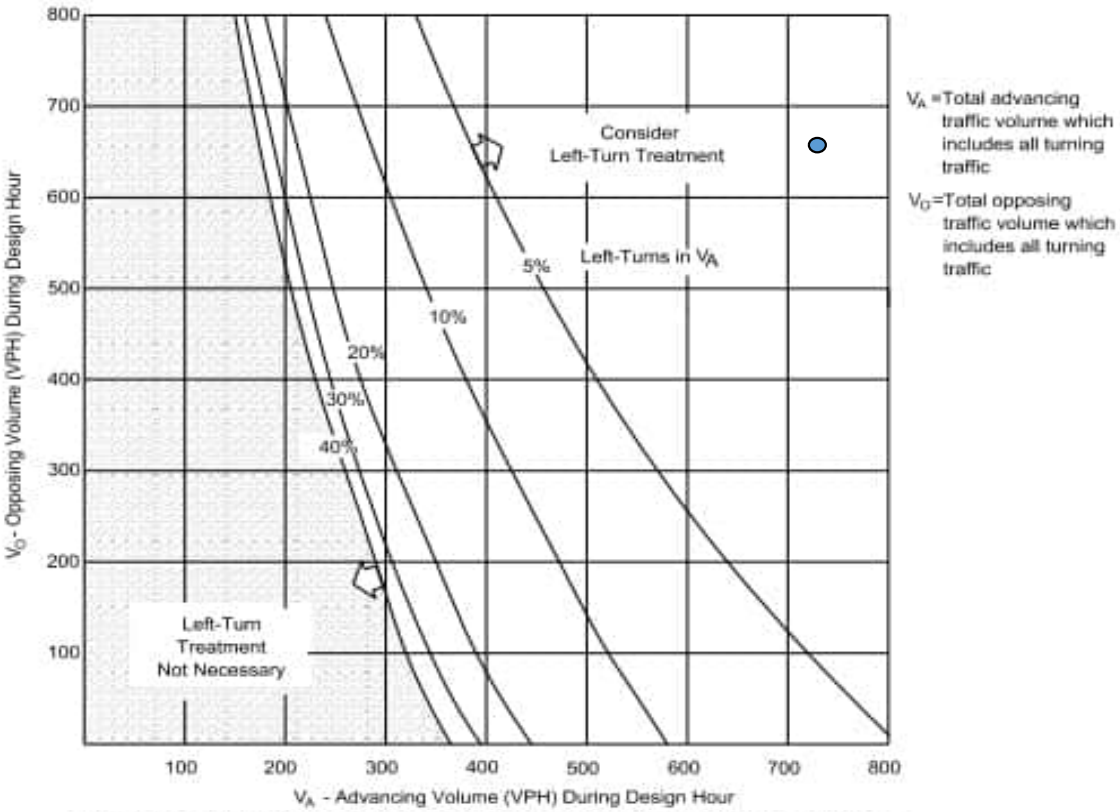
Calculated Trip Ends:
Average Rate: 13 (Total), 7 (Entry), 6 (Exit)

APPENDIX D

Turn Lane Analysis Worksheets

Cornerstone Church TIS

LEFT-TURN LANE WARRANT REVIEW



VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (40 mph)
Figure 9.5-G

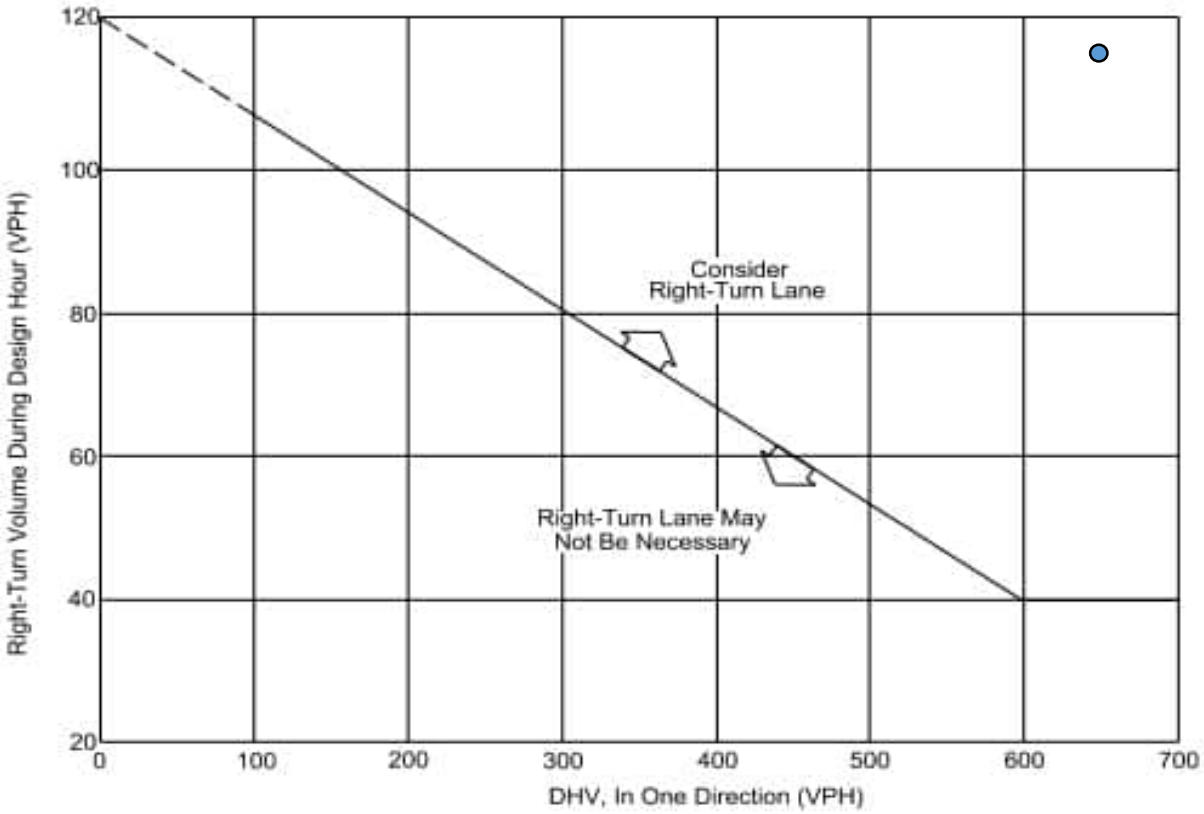
INTERSECTION: SC 46 & Meadow Drive

MOVEMENT: Westbound left turn

SCENARIO	Advancing Volume (V_a)	Westbound left turn	Opposing Volume (V_o)	Left Turn % of V_a	Symbol
Sunday Build	717	92	668	12.8%	●

Cornerstone Church TIS

RIGHT-TURN LANE WARRANT REVIEW



Note: For highways with a design speed below 50 miles per hour with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS

Figure 9.5-A

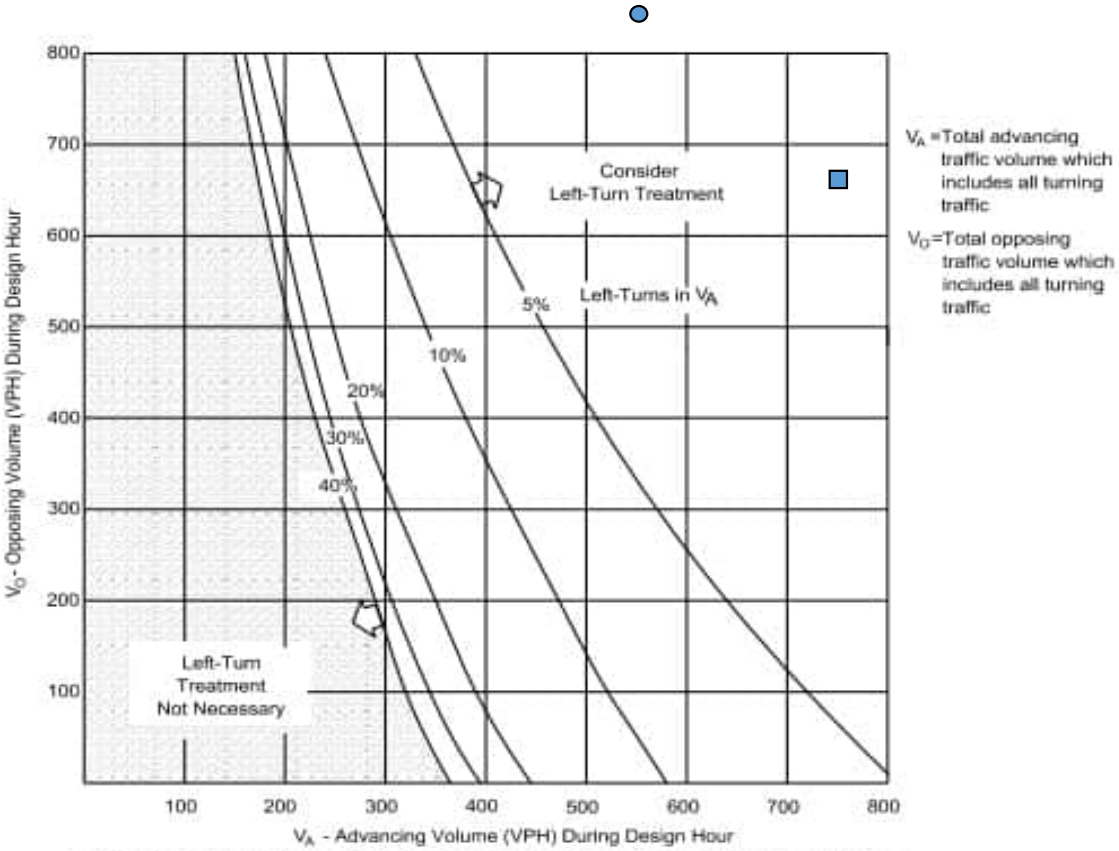
INTERSECTION: SC 46 & Meadow Drive

MOVEMENT: Eastbound Right Turn

SCENARIO	Design Hour Volume	Right Turn Volume	Symbol
Sunday Build 11am	668	114	●

Cornerstone Church TIS

LEFT-TURN LANE WARRANT REVIEW



VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (40 mph)
Figure 9.5-G

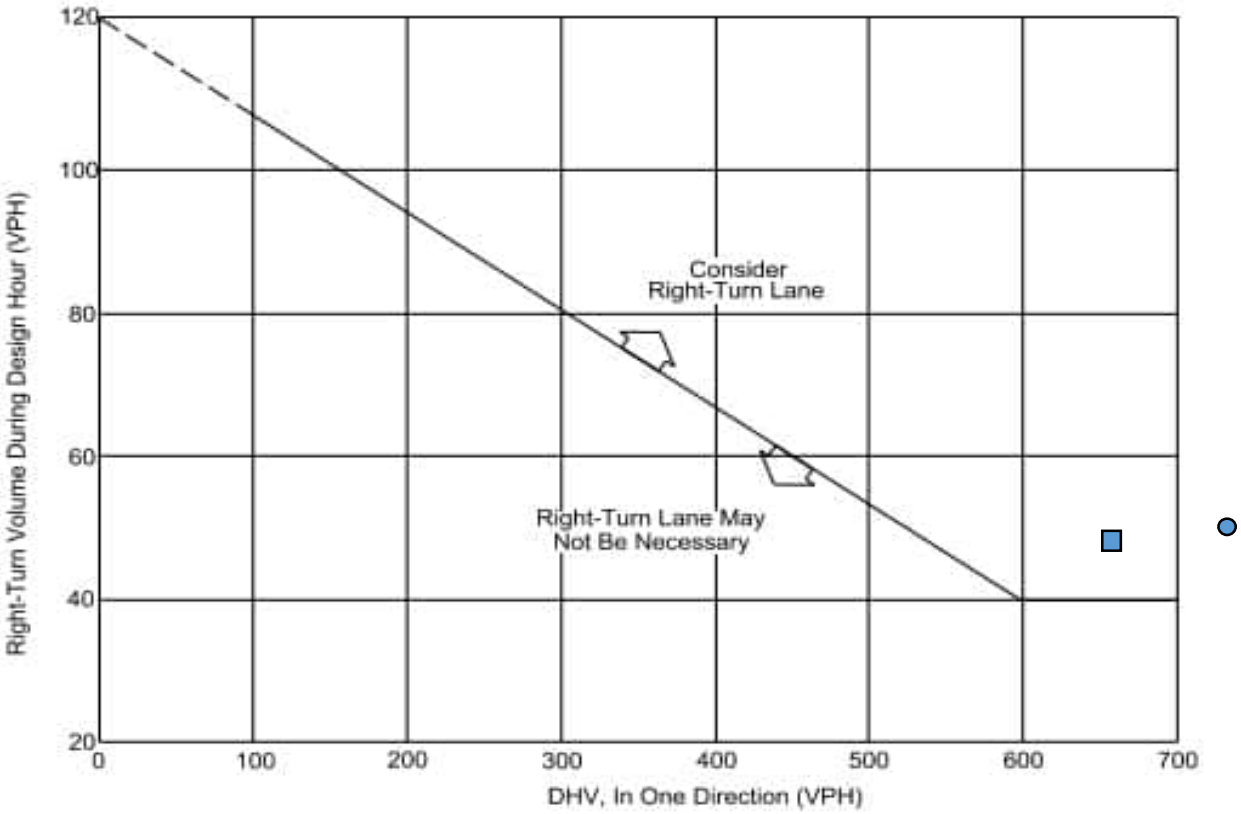
INTERSECTION: SC 46 & Meadow Drive

MOVEMENT: Westbound left turn

SCENARIO	Advancing Volume (V_a)	Westbound left turn	Opposing Volume (V_o)	Left Turn % of V_a	Symbol
AM Build	555	37	892	6.7%	●
PM Build	769	36	677	4.7%	■

Cornerstone Church TIS

RIGHT-TURN LANE WARRANT REVIEW



Note: For highways with a design speed below 50 miles per hour with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS

Figure 9.5-A

INTERSECTION: SC 46 & Meadow Drive

MOVEMENT: Eastbound Right Turn

SCENARIO	Design Hour Volume	Right Turn Volume	Symbol
2025 AM Build	892	48	●
2025 PM Build	677	47	■

APPENDIX E

Capacity Analysis

2023 – Existing Conditions

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	796	4	1	493	12	4
Future Vol, veh/h	796	4	1	493	12	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	150	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	865	4	1	536	13	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	869	0	1403	865
Stage 1	-	-	-	-	865	-
Stage 2	-	-	-	-	538	-
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	-	-	775	-	154	353
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	585	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	775	-	154	353
Mov Cap-2 Maneuver	-	-	-	-	154	-
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	584	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	26.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	154	353	-	-	775	-
HCM Lane V/C Ratio	0.085	0.012	-	-	0.001	-
HCM Control Delay (s)	30.5	15.3	-	-	9.7	-
HCM Lane LOS	D	C	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	597	5	2	689	7	2
Future Vol, veh/h	597	5	2	689	7	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	150	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	649	5	2	749	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	654	0	1402	649
Stage 1	-	-	-	-	649	-
Stage 2	-	-	-	-	753	-
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	-	-	933	-	154	470
Stage 1	-	-	-	-	520	-
Stage 2	-	-	-	-	465	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	933	-	154	470
Mov Cap-2 Maneuver	-	-	-	-	154	-
Stage 1	-	-	-	-	520	-
Stage 2	-	-	-	-	464	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	25.8
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	154	470	-	-	933	-
HCM Lane V/C Ratio	0.049	0.005	-	-	0.002	-
HCM Control Delay (s)	29.6	12.7	-	-	8.9	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	517	2	0	596	3	4
Future Vol, veh/h	517	2	0	596	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	150	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	562	2	0	648	3	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	564	0	1210	562
Stage 1	-	-	-	-	562	-
Stage 2	-	-	-	-	648	-
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	-	-	1008	-	202	526
Stage 1	-	-	-	-	571	-
Stage 2	-	-	-	-	521	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1008	-	202	526
Mov Cap-2 Maneuver	-	-	-	-	202	-
Stage 1	-	-	-	-	571	-
Stage 2	-	-	-	-	521	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	16.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	202	526	-	-	1008	-
HCM Lane V/C Ratio	0.016	0.008	-	-	-	-
HCM Control Delay (s)	23.1	11.9	-	-	0	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0	0	-	-	0	-

2025 No-Build Conditions

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	554	2	0	625	3	4
Future Vol, veh/h	554	2	0	625	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	150	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	602	2	0	679	3	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	604	0	1281	602
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	679	-
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	-	-	974	-	183	500
Stage 1	-	-	-	-	547	-
Stage 2	-	-	-	-	504	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	974	-	183	500
Mov Cap-2 Maneuver	-	-	-	-	183	-
Stage 1	-	-	-	-	547	-
Stage 2	-	-	-	-	504	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	17.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	183	500	-	-	974	-
HCM Lane V/C Ratio	0.018	0.009	-	-	-	-
HCM Control Delay (s)	25	12.3	-	-	0	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	844	4	1	518	12	4
Future Vol, veh/h	844	4	1	518	12	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	150	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	917	4	1	563	13	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	921	0	1482	917
Stage 1	-	-	-	-	917	-
Stage 2	-	-	-	-	565	-
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	-	-	741	-	138	330
Stage 1	-	-	-	-	390	-
Stage 2	-	-	-	-	569	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	741	-	138	330
Mov Cap-2 Maneuver	-	-	-	-	138	-
Stage 1	-	-	-	-	390	-
Stage 2	-	-	-	-	568	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	29.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	138	330	-	-	741	-
HCM Lane V/C Ratio	0.095	0.013	-	-	0.001	-
HCM Control Delay (s)	33.8	16.1	-	-	9.9	-
HCM Lane LOS	D	C	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	630	5	2	733	7	2
Future Vol, veh/h	630	5	2	733	7	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	150	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	685	5	2	797	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	690	0	1486	685
Stage 1	-	-	-	-	685	-
Stage 2	-	-	-	-	801	-
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	-	-	905	-	137	448
Stage 1	-	-	-	-	500	-
Stage 2	-	-	-	-	442	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	905	-	137	448
Mov Cap-2 Maneuver	-	-	-	-	137	-
Stage 1	-	-	-	-	500	-
Stage 2	-	-	-	-	441	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	28.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	137	448	-	-	905	-
HCM Lane V/C Ratio	0.056	0.005	-	-	0.002	-
HCM Control Delay (s)	32.8	13.1	-	-	9	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-

2025 No-Build Conditions

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	630	47	36	733	57	43
Future Vol, veh/h	630	47	36	733	57	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	150	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	685	51	39	797	62	47

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	736	0	1560	685
Stage 1	-	-	-	-	685	-
Stage 2	-	-	-	-	875	-
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	-	-	870	-	123	448
Stage 1	-	-	-	-	500	-
Stage 2	-	-	-	-	408	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	870	-	117	448
Mov Cap-2 Maneuver	-	-	-	-	117	-
Stage 1	-	-	-	-	500	-
Stage 2	-	-	-	-	390	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	43.7
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	117	448	-	-	870	-
HCM Lane V/C Ratio	0.53	0.104	-	-	0.045	-
HCM Control Delay (s)	66.1	14	-	-	9.3	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	2.5	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	45	54	0	38	45
Future Vol, veh/h	0	45	54	0	38	45
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	49	59	0	41	49

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	190	59	0	0	59	0
Stage 1	59	-	-	-	-	-
Stage 2	131	-	-	-	-	-
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	799	1007	-	-	1545	-
Stage 1	964	-	-	-	-	-
Stage 2	895	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	777	1007	-	-	1545	-
Mov Cap-2 Maneuver	777	-	-	-	-	-
Stage 1	964	-	-	-	-	-
Stage 2	871	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	3.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1007	1545	-
HCM Lane V/C Ratio	-	-	0.049	0.027	-
HCM Control Delay (s)	-	-	8.8	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	6.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	45	9	0	38	7
Future Vol, veh/h	0	45	9	0	38	7
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	49	10	0	41	8

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	100	10	0	0	10	0
Stage 1	10	-	-	-	-	-
Stage 2	90	-	-	-	-	-
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	899	1071	-	-	1610	-
Stage 1	1013	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	876	1071	-	-	1610	-
Mov Cap-2 Maneuver	876	-	-	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	910	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	6.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1071	1610	-
HCM Lane V/C Ratio	-	-	0.046	0.026	-
HCM Control Delay (s)	-	-	8.5	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	13.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	554	114	92	625	119	99
Future Vol, veh/h	554	114	92	625	119	99
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	150	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	602	124	100	679	129	108

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	726	0	1481	602
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	879	-
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	-	-	877	-	138	500
Stage 1	-	-	-	-	547	-
Stage 2	-	-	-	-	406	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	877	-	~ 122	500
Mov Cap-2 Maneuver	-	-	-	-	~ 122	-
Stage 1	-	-	-	-	547	-
Stage 2	-	-	-	-	360	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	97.9
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	122	500	-	-	877	-
HCM Lane V/C Ratio	1.06	0.215	-	-	0.114	-
HCM Control Delay (s)	167.5	14.2	-	-	9.6	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	7.4	0.8	-	-	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	105	113	0	102	104
Future Vol, veh/h	0	105	113	0	102	104
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	114	123	0	111	113

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	458	123	0	0	123	0
Stage 1	123	-	-	-	-	-
Stage 2	335	-	-	-	-	-
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	561	928	-	-	1464	-
Stage 1	902	-	-	-	-	-
Stage 2	725	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	516	928	-	-	1464	-
Mov Cap-2 Maneuver	516	-	-	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	666	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	3.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	928	1464	-
HCM Lane V/C Ratio	-	-	0.123	0.076	-
HCM Control Delay (s)	-	-	9.4	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.2	-

Intersection	
Int Delay, s/veh	7.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	106	7	0	102	2
Future Vol, veh/h	0	106	7	0	102	2
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	115	8	0	111	2

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	232	8	0	0	8	0
Stage 1	8	-	-	-	-	-
Stage 2	224	-	-	-	-	-
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	756	1074	-	-	1612	-
Stage 1	1015	-	-	-	-	-
Stage 2	813	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	704	1074	-	-	1612	-
Mov Cap-2 Maneuver	704	-	-	-	-	-
Stage 1	1015	-	-	-	-	-
Stage 2	757	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	7.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1074	1612	-
HCM Lane V/C Ratio	-	-	0.107	0.069	-
HCM Control Delay (s)	-	-	8.8	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.2	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	844	48	37	518	47	33
Future Vol, veh/h	844	48	37	518	47	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	150	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	917	52	40	563	51	36

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	969	0	1560	917
Stage 1	-	-	-	-	917	-
Stage 2	-	-	-	-	643	-
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	-	-	711	-	123	330
Stage 1	-	-	-	-	390	-
Stage 2	-	-	-	-	523	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	711	-	116	330
Mov Cap-2 Maneuver	-	-	-	-	116	-
Stage 1	-	-	-	-	390	-
Stage 2	-	-	-	-	494	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	41.5
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	116	330	-	-	711	-
HCM Lane V/C Ratio	0.44	0.109	-	-	0.057	-
HCM Control Delay (s)	58.5	17.2	-	-	10.4	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	1.9	0.4	-	-	0.2	-

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	32	49	0	40	45
Future Vol, veh/h	0	32	49	0	40	45
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	35	53	0	43	49

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	188	53	0	0	53	0
Stage 1	53	-	-	-	-	-
Stage 2	135	-	-	-	-	-
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	801	1014	-	-	1553	-
Stage 1	970	-	-	-	-	-
Stage 2	891	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	779	1014	-	-	1553	-
Mov Cap-2 Maneuver	779	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	866	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	3.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1014	1553	-
HCM Lane V/C Ratio	-	-	0.034	0.028	-
HCM Control Delay (s)	-	-	8.7	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	32	17	0	40	5
Future Vol, veh/h	0	32	17	0	40	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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	35	18	0	43	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	109	18	0	0	18	0
Stage 1	18	-	-	-	-	-
Stage 2	91	-	-	-	-	-
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	888	1061	-	-	1599	-
Stage 1	1005	-	-	-	-	-
Stage 2	933	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	864	1061	-	-	1599	-
Mov Cap-2 Maneuver	864	-	-	-	-	-
Stage 1	1005	-	-	-	-	-
Stage 2	908	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	6.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1061	1599	-
HCM Lane V/C Ratio	-	-	0.033	0.027	-
HCM Control Delay (s)	-	-	8.5	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-