STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

November 1, 2017

Lee Bowman
Briar Chapel, LLC
1342 Briar Chapel Parkway
Chapel Hill, NC 27516

SUBJECT: ENCROACHMENT AGREEMENT (E081-019-17-0177)
Pavement widening and pavement marking improvements
SR 1532 (Mann`s Chapel)
Chatham County

Aten: Lee Bowman

Attached is a properly executed copy of a Right of Way Encroachment Agreement which covers the following:

Pavement widening and pavement marking improvements on Mann`s Chapel Rd in Chatham County, and any associated pre-construction work.

This agreement is approved subject to the Special Provisions and plans which are attached to and made a part of the Encroachment Agreement. Any work associated with the subject project permitted under an NCDOT approved Driveway Permit shall be completed in accordance with this Encroachment Agreement.

Sincerely,

Brandon H. Jones, P.E.
Division Engineer

DocuSigned by:
Matthew Kitchen, PE Dist Engineer
DE44C69F4BC74D9...
By Matthew Kitchen, PE
District Engineer

Attachments
cc.: Justin Bullock., Chatham County Maintenance Engineer

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
DISTRICT OFFICE
PO BOX 1164
ASHEBORO, NC 27204

Telephone: (336) 318-4000
Fax: (336) 318-4010
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
300 DOT DRIVE
ASHEBORO, NC 27205

E081-019-17-0177

ROUTE SR 1532 (Mann's Chapel Road) PROJECT Briar Chapel Development COUNTY OF STATE OF NORTH CAROLINA Chatham

DEPARTMENT OF TRANSPORTATION

-AND-

NNP – BRIAR CHAPEL, LLC
1342 BRIAR CHAPEL PKWY, CHAPEL HILL, NC 27516

RIGHT OF WAY ENCROACHMENT AGREEMENT FOR CURB AND GUTTER, PAVEMENT WIDENING AND STORM DRAINAGE

THIS AGREEMENT, made and entered into this the 1 day of NOV, 20 17, by and between the Department of Transportation, party of the first part; and NNP – BRIAR CHAPEL, LLC party of the second part,

WITNESSETH

THAT WHEREAS, the party of the second part desires to encroach on the right of way of the public road designated as Route(s) SR 1532 (Mann's Chapel Road), located At the intersection of SR 1574 (Great Ridge Parkway) with the construction and/or erection of: Pavement widening and pavement marking improvements

WHEREAS, it is to the material advantage of the party of the second part to effect this encroachment, and the party of the first part in the exercise of authority conferred upon it by statute, is willing to permit the encroachment within the limits of the right of way as indicated, subject to the conditions of this agreement;

NOW, THEREFORE, IT IS AGREED that the party of the first part hereby grants to the party of the second part the right and privilege to make this encroachment as shown on attached plan sheet(s), specifications and special provisions which are made a part hereof upon the following conditions, to wit:

That the said party of the second part binds and obligates himself to install the encroaching facility in such safe and proper condition that it will not interfere with or endanger travel upon said highway.

That the party of the second part agrees to provide during construction proper signs, signal lights, flagmen and other warning devices for the protection of traffic in conformance with the latest Manual on Uniform Traffic Control Devices for Streets and Highways and Amendments or Supplements thereto. Information as to the above rules and regulations may be obtained from the Division Engineer of the party of the first part.

That the party of the second part hereby agrees to indemnify and save harmless the party of the first part from all damages and claims for damage that may arise by reason of the installation and maintenance of this encroachment.

It is clearly understood by the party of the second part that the party of the first part will assume no responsibility for any damage that may be caused to such facilities, within the highway rights of way limits, in carrying out its construction.

That the party of the second part agrees to restore all areas disturbed during construction to the satisfaction of the Division Engineer of the party of the first part. The party of the second part agrees to exercise every reasonable precaution during construction and maintenance to prevent eroding of soil; silting or pollution of rivers, streams, lakes, reservoirs, other water impoundments, ground surfaces or other property; or pollution of the air. There shall be compliance with applicable rules and regulations of the North Carolina Division of Environmental Management, North Carolina Sedimentation Control Commission, and with ordinances and regulations of various counties, municipalities and other official agencies relating to pollution prevention and control. When any construction operation disturbs the ground surface and existing ground cover, the party of the second part agrees to remove and replace the sod or otherwise reestablish the grass cover to meet the satisfaction of the Division Engineer of the party of the first part.

That the party of the second part agrees to assume the actual cost of any inspection of the work considered to be necessary by the Division Engineer of the party of the first part.

That the party of the second part agrees to have available at the encroaching site, at all times during construction, a copy of this agreement showing evidence of approval by the party of the first part. The party of the first part reserves the right to stop all work unless evidence of approval can be shown.

Provided the work contained in this agreement is being performed on a completed highway open to traffic; the party of the second part agrees to give written notice to the Division Engineer of the party of the first part when all work contained herein has been completed. Unless specifically requested by the party of the first part, written notice of completion of work on highway projects under construction will not be required.

That in the case of noncompliance with the terms of this agreement by the party of the second part, the party of the first part reserves the right to stop all work until the facility has been brought into compliance or removed from the right of way at no cost to the party of the first part.

That it is agreed by both parties that this agreement shall become void if actual construction of the work contemplated herein is not begun within one (1) year from the date of authorization by the party of the first part unless written waiver is secured by the party of the second part from the party of the first part.

R/W (161B) : Party of the Second Part certifies that this agreement is true and accurate copy of the form R/W (161B) incorporating all revisions to date.

IN WITNESS WHEREOF, each of the parties to this agreement has caused the same to be executed the day and year first above written.

DEPARTMENT OF TRANSPORTATION

BY: DocuSigned by: Matthew Kitchen, PE Dist Engineer
District Engineer
DE44C69F4BC24D9...

ATTEST OR WITNESS:

Newland Communities

BY:

NNP – BRIAR CHAPEL, LLC

Second Party

INSTRUCTIONS

When the applicant is a corporation or a municipality, this agreement must have the corporate seal and be attested by the corporation secretary or by the empowered city official, unless a waiver of corporate seal and attestation by the secretary or by the empowered City official is on file in the Raleigh office of the Manager of Right of Way. In the space provided in this agreement for execution, the name of the corporation or municipality shall be typed above the name, and title of all persons signing the agreement should be typed directly below their signature.

When the applicant is not a corporation, then his signature must be witnessed by one person. The address should be included in this agreement and the names of all persons signing the agreement should be typed directly below their signature.

This agreement must be accompanied, in the form of an attachment, by plans or drawings showing the following applicable information:

1. All roadways and ramps.
2. Right of way lines and where applicable, the control of access lines.
3. Location of the proposed encroachment.
4. Length and type of encroachment.
5. Location by highway survey station number. If station number cannot be obtained, location should be shown by distance from some identifiable point, such as a bridge, road, intersection, etc. (To assist in preparation of the encroachment plan, the Department's roadway plans may be seen at the various Highway Division Offices, or at the Raleigh office.)
6. Drainage structures or bridges if affected by encroachment.
7. Typical section indicating the pavement design and width, and the slopes, widths and details for either a curb and gutter or a shoulder and ditch section, whichever is applicable.
8. Horizontal alignment indicating general curve data, where applicable.
9. Vertical alignment indicated by percent grade, P.I. station and vertical curve length, where applicable.
10. Amount of material to be removed and/or placed on NCDOT right of way, if applicable.
11. Cross-sections of all grading operations, indicating slope ratio and reference by station where applicable.
12. All pertinent drainage structures proposed. Include all hydraulic data, pipe sizes, structure details and other related information.
13. Erosion and sediment control.
14. Any special provisions or specifications as to the performance of the work or the method of construction that may be required by the Department must be shown on a separate sheet attached to encroachment agreement provided that such information cannot be shown on plans or drawings.
15. The Department's Division Engineer should be given notice by the applicant prior to actual starting of installation included in this agreement.
16. Method of handling traffic during construction where applicable.
17. Scale of plans, north arrow, etc.

ENCROACHMENT SPECIAL PROVISIONS

Briar Chapel, LLC
E081-019-17-0177 (Chatham COUNTY)

Approval of the encroachment agreement is made subject to the following Special Provisions:

1. Changes noted in red on the plans shall be incorporated into and made a part of the encroachment agreement. An executed copy of the encroachment agreement shall be available at the construction site at all times. NCDOT reserves the right to stop all work unless evidence of approval can be shown.

2. Notify the following prior to beginning work:

   - ***District Engineer***
     300 DOT Drive
     Asheboro, N.C. 27205
     (336) 318-4000

3. The Encroaching Party shall comply with all applicable federal, state and local environmental regulations, and shall obtain all necessary federal, state and local environmental permits, including but not limited to, those related to sediment control, stormwater, wetland, streams, endangered species, and historical sites.

4. All materials and construction shall be in accordance with NCDOT standards and specifications, including but not limited to the **NCDOT Standard Specifications for Roads and Structures 2006**, the **NCDOT Roadway Standards Drawings**, and **NCDOT Policies and Procedures for Accommodating Utilities on Highway Rights of Way.**

5. It shall be the responsibility of the Encroacher to determine the location of other utilities within the encroachment area in accordance with General Statute 87-102. The Encroacher shall be responsible for notifying other utility owners and providing protection and safeguards to prevent damage or interruption to existing facilities and to maintain accessibility to existing utilities. Costs to repair, restore, or relocate existing utilities due to this encroachment shall be the responsibility of the encroaching party.

6. NCDOT does not guarantee the Right of Way on this road, nor will it be responsible for any claim for damages brought by any property owner by reason of this encroachment. All Right of Way and easements necessary for construction and maintenance shall be dedicated to NCDOT with the proof of dedication furnished to the District Engineer prior to beginning work. Encroachment within the Right of Way does not imply approval for encroachment onto adjacent property. The Encroacher shall be responsible for securing any easement, permit, permission, or approval for encroachment or other use of property outside the state maintained right of way. Right of Way monuments disturbed during construction shall be referenced by a Professional Land Surveyor and reset immediately after construction.

7. The encroaching Party shall take whatever measures are necessary to minimize soil erosion and siltation, water pollution, and air pollution. It shall be the responsibility of the Encroaching Party to keep fully informed to comply with the applicable regulations of all legally constituted authorities relating to pollution prevention and control. In the event of conflict between regulations, specifications, or requirements, the more restrictive requirement shall apply. All erosion and pollution control devices and measures shall be constructed, installed, maintained and removed by the encroaching party in accordance with all applicable Federal, State and Local laws, regulations, ordinances, and policies. No construction shall begin until all erosion control devices have been installed to the satisfaction of the District Engineer. Failure to comply with this provision shall be grounds for immediate suspension of all activities within the Right of Way.

8. Effective July 1, 2010, all flagging operation within NCDOT Right of Way require qualified and trained Work Zone Flaggers. Effective July 1, 2011, qualified and trained Work Zone Traffic Control Supervisors will be required on Significant Projects. Training for this certification is provided by NCDOT approved training sources and by private entities that have been pre-approved to train themselves. If you have question, contact our web site at http://www.ncdot.org/doh/preconstruct/wztc/WZTCTrainingProgram/default.html , or contact Joseph Ishak, P.E., Central WZTC Engineer with Central WZTC Region (Divisions 5, 7 - 9) at (919) 250-4159 ext. 217 or jishak@ncdot.gov.

9. A **25,000$** Performance and Indemnity Bond shall be executed and posted with the District Engineer prior to beginning any work on the Right of Way. The bond shall remain in effect for a period of **one** years following

completion of the job. The encroaching party shall notify the District Engineer in writing when all work within the Right of Way has been completed. Upon receipt of written notification, the District Engineer will inspect the project and provide certification that the project has been completed. When the project has been satisfactorily completed for **one** year, the bonding company shall submit a written request along with a copy of the encroachment authorization to the District Engineer for release of the bond. The bond will be released upon satisfactory final inspection, review, and approval by the District Engineer.

10. A **25,000$** Performance and Indemnity Bond shall be executed and posted with the District Engineer prior to beginning any work on the Right of Way. The required bond may be executed in any of the following methods.

- Cash bond in the form of a certified check payable to the North Carolina Department of Transportation.
- Performance and indemnity bond underwritten by a surety company legally authorized to do business in North Carolina.
- Continuing bond for the performance of work within the NCDOT Right of Ways.
- Cashiers check or bank letter of credit (2 copies with original signature) in the amount of the bond.
- The Bond shall be submitted to the District Engineer, North Carolina Department of Transportation, **300 DOT Drive, Asheboro ,NC 27205** Please identify the Encroachment Agreement by including File # **E081-019-17-0177** on the Bond.

11. Bonds shall remain in effect for a period of **one year** following completion of the job. The encroaching party shall notify the District Engineer in writing when all work within the Right of Way has been completed. Upon receipt of written notification, the District Engineer will inspect the project and provide certification that the project has been completed. When the project has been satisfactorily completed for **one year**, the bonding company shall submit a written request along with a copy of the encroachment authorization to the District Engineer for release of the Bond. The Bond will be released upon satisfactory final inspection, review, and approval by the District Engineer.

12. In the event this encroachment is constructed under multiple contracts and the bond requirement is delegated to the contractor or contractors, separate bonds may be posted. The amount of the bond secured by each contractor shall be proportional to the length and size of the contract. The bond will be held for a period of one (1) year following completion of the contract.

13. No work shall commence until all Bond requirements have been satisfied.

14. The encroaching party shall provide an inspector acceptable to the District Engineer for the work to be performed under this agreement. All costs and expenses for inspection shall be the responsibility of the encroaching party. The inspector's name, telephone and qualifications shall be provided in writing to the District Engineer prior to beginning construction.

15. A pre-construction conference between NCDOT, the Encroaching Party or the Encroaching Party's designated representative, and the contractor(s) is required prior to commencing any work within the Right of Way.

16. Storage of materials or equipment within the Right of Way is prohibited. During non-working hours, equipment shall be parked as close to the right of way line as possible and shall be properly barricaded so that no equipment obstruction shall be within the Clear Recovery Area.

17. Construction equipment or vehicles shall not be parked on the pavement or roadway shoulder.

18. Construction is authorized to be performed on Monday through Friday during the hours between sunrise and sunset.

19. No lane(s) of traffic shall be closed or alteration of the traffic flow will be allowed on or during holidays, holiday weekends, special events, and/or any other time when traffic is unusually heavy. Holidays and holiday weekends shall include Easter, Memorial Day, Independence Day, and Labor Day.

20. No lane(s) of traffic shall be closed or restricted between the hours of <**time**>.

21. The encroaching party may delegate the performance of certain provisions of this agreement to contractors or other parties. However, this shall not in any way release the encroaching party from its obligations to the terms and provisions of the encroachment.

22. The Encroaching Party shall provide certification signed by a licensed Professional Engineer verifying that construction meets NCDOT design requirements. Certification shall include the following:

- Subgrade density
- Base and pavement thickness by type
- Stone Base density
- Core and test locations

23. The Encroaching Party shall provide the District Engineer with "as-built" plans upon completion of the installation.

24. Written notification shall be provided to the District Engineer upon completion of the work proposed under this agreement. Materials test frequencies and methods shall be in conformance with the NCDOT Materials and Tests guidelines, or as directed by NCDOT. A letter of approval, or recommendations for compliance, will be provided upon receipt and review of test reports.

25. The encroaching party or the contractor(s) for the encroaching party may request a written letter stating that the encroachment has been satisfactorily completed by making a request in writing to the appropriate County Maintenance Engineer. The letter of completion does not relieve the encroaching party from any obligations or responsibilities under the terms and provisions of the encroachment or from obligations or responsibilities for making repairs needed for a reasonable time period.

26. The traveling public shall be warned of construction with complete and proper signing and traffic control devices in accordance with the current **Manual on Uniform Traffic Control Devices (MUTCD)**. No work shall be performed in the Right of Way unless this requirement is satisfied. NCDOT reserves the right to require a written traffic control plan for encroachment operations. Traffic control devices and operations shall include, but are not limited to the following:

- Adequate and appropriate advance warning signs for any and all work zones, closed or obstructed areas.
- "End Construction" signage beyond the end of all work zones.
- Adequate and appropriate delineation and control devices for all work zone areas including but not limited to lane closures, disturbed areas, and active work sites.
- Properly trained and equipped flagmen.
- Proper maintenance of all traffic control devices, including but not limited to proper signage and controls during periods of inactivity and removal of inappropriate traffic control signage and/or devices.

27. The Encroacher agrees to provide traffic control devices, lane closures, road closures, positive protection and/or any other warning or positive protection devices necessary for the safety of road users during construction and any subsequent maintenance. This shall be performed in conformance with the latest NCDOT Roadway Standard Drawing and Standard Specifications for Roads and Structures and Amendments or Supplements thereto. When there is no guidance provided in the Roadway Standard Drawings or Specifications, comply with the Manual on Uniform Traffic Control Devices for Streets and Highways and Amendments or Supplement thereto. Information as to the above rules and regulations may be obtained from the Division Engineer.

28. Traffic shall not be detoured or rerouted without the prior written approval of the Division Engineer. Two-way traffic shall be maintained at all times.

29. In the event work is completed in less time than permitted, the normal traffic pattern shall be restored as soon as the work has been completed.

30. The Traffic Services Supervisor shall be notified at (910) 947-3930 in Carthage, NC, prior to beginning work on the Right of Way if there are existing NCDOT signs, traffic signals, or signal equipment in or near the proposed work zone. Costs to relocate, replace, or repair NCDOT signs, signals, or associated equipment shall be the responsibility of the Encroacher.

31. Excavation within 500 feet of a signalized intersection will require notification by the party of the second part to the Division Traffic Engineer at telephone number (910) 947-3930. All traffic signal or detection cables must be located prior to excavation.

32. All temporary and final pavement markings, reflective pavement markers, traffic control devices, and signage are the responsibility of the encroaching party and shall be installed in accordance with current NCDOT

standards. **Final pavement marking plans shall be submitted to and approved by the Division Traffic Engineer at (910)947-3930, at 150 DOT Drive, Carthage, NC 28327.** Plans should be submitted as soon as possible to allow adequate time for review. **Pavement markings shall be pre-marked and the Division Traffic Services Supervisor shall be notified at** (910) 947-3930 **for inspection of pre-marking before permanent pavement markings are placed.** The encroaching party shall provide at least two working days notification for the inspection. Pavement markings and reflective pavement markers which are damaged, obscured, or obliterated during construction shall be replaced in conformance with current NCDOT standards. Thermoplastic pavement markings shall be installed at locations where the adjacent pavement are thermoplastic or as directed by the Division Traffic Engineer.

33. All pavement markings shall be thermoplastic and shall conform to the requirements of the **NCDOT Standard Specifications for Roads and Structures 2006** .

34. Access to the site covered under this agreement shall remain closed (i.e. barricaded) to traffic until all requirements relating to traffic control and signalization have been satisfied.

35. Curb cuts and ramps for handicapped persons shall be constructed in accordance with the current NCDOT "Standard for Wheelchair Ramp Curb Cuts" and the Americans with Disabilities (ADA) Accessibility Guidelines for Buildings and Facilities.

36. Ingress and egress shall be maintained to businesses and dwellings. Driveways altered during construction shall be restored to a condition equal to that prior to beginning construction.

37. Excavated material shall not be placed on the paved roadway surface at any time unless specifically approved by the District Engineer. Drainage structures shall not be blocked with excavated material at any time.

38. Trenches/excavations/bore pits shall not remain open longer than a 24 hour period. No trench/excavation/bore pit shall be left open overnight except in the event of emergency, in which case the encroacher shall notify the District Engineer and inform him as to the nature and anticipated duration of the emergency. Any excavation left open overnight due to emergency shall be protected and delineated with complete, adequate and appropriate safety and traffic control devices.

39. All backfill shall meet the Statewide Borrow Criteria and shall be placed in accordance with section 300-6 of **NCDOT Standard Specifications for Roads and Structures 2006**. Backfill material shall be free from rocks and debris placed in six inch loose layers and compacted to at least 95% of standard density as determined by AASHTO Method T-99 as modified by NCDOT, except that backfill material placed within eight (8) inches of the pavement subgrade shall be compacted to 100% of standard density. (Copies of these testing procedures are available on request from the NCDOT Materials and Tests Unit.) Each layer must be fully compacted by an approved mechanical tamp before the next layer is placed.

40. Excavated areas adjacent to pavement having more than a 2 inch drop shall be backfilled and made safe with a 6:1 or flatter slope and shall be designated by appropriate delineation during periods of construction inactivity including, but not limited to, night and weekend hours.

41. When burying around the end of a pipe, culvert, or bridge, the utility shall be located a minimum of five (5) feet from the nearest part of the pipe, culvert, or bridge, and buried to a minimum depth of five (5) feet below the stream bed. At points where the utility is placed under existing storm drains by trenching, the trench shall be backfilled with Class B concrete up to the outside diameter of the existing pipe.

42. All excavations inside the theoretical 1:1 slope from the existing edge of pavement to the bottom of the nearest trench wall shall be made in accordance with the following conditions:

- Traffic shall be moved to a travel lane outside the limits of a theoretical 1:1 slope from the bottom of the nearest trench wall to the pavement surface.
- Active excavation shoring such as sheet piling shall be installed. The design of the shoring shall include the effects of traffic loads. The design shall be designed and sealed by an engineer registered in North Carolina. Shoring plans and design calculations shall be submitted to the Division Engineer for review prior to construction. **Trench boxes shall not be accepted as positive shoring.**
- The trench backfill shall meet the Statewide Borrow Criteria. The trench shall be backfilled in accordance with Section 300-6 of **NCDOT Standard Specifications for Roads and Structures 2006.**

- At the first sign of trench failure, the trench shall be immediately backfilled with materials consisting of A-1, A-3, A-2-4 soils or A-4 soils having a maximum of 45% passing a No. 200 sieve and a maximum P.I. of 6. All work shall cease and the Division Engineer shall be contacted. The Encroaching party or contractor shall repair any damage to the pavement caused by the excavation.
- All trench excavation inside the limits of the theoretical 1:1 slope from the bottom of the nearest trench wall to the pavement surface shall be completely backfilled and compacted at the end of each construction day. No portion of the trench shall be left open overnight.
- The length of parallel excavation shall be limited to the length necessary to install and backfill on joint of pipe at a time, not to exceed twenty five (25) feet.

43. If fill material is to be hauled to the site by means other than legally loaded trucks, the encroacher shall first notify the District Engineer of the method of hauling and provide a description of the haul route detailing all state maintained roads upon which material will be transported. The District Engineer shall determine any measures or precautions which shall be required to preserve and protect the integrity of the roadway and the safety of the traveling public.

44. Drainage structures and systems shall be preserved and protected. Any structure which is disturbed or damaged during construction shall be immediately restored to its original condition at no expense to the Department of Transportation. All utility installations shall be designed and constructed so as not to hinder, disrupt or interfere with existing storm drainage. All facilities shall pass over or under highway drainage facilities.

45. A ¼ inch per foot pavement slope based on the existing centerline in tangent sections is required. In addition, a smooth transition must be maintained along areas of superelevation. The proposed widening may necessitate wedging or resurfacing one half of the existing roadway to accomplish this requirement. Widened areas less than 6 feet in width shall utilize a full depth asphalt pavement design. The minimum pavement design shall be installed per plans.

46. All disturbed soil areas shall be promptly seeded and mulched. The encroaching party shall obtain the District Engineer's approval of ditch and shoulder grading prior to seeding and mulching.

47. All earth areas shall be regraded, seeded and mulched in accordance with Section 1660 of the **NCDOT Standard Specifications for Roads and Structures 2006**. Final determination of soil type shall be made by the Engineer. The following rates in pounds per acre apply:

- *YEAR ROUND MIXTURE (Sandy Soils)*
  KY 31 Tall Fescue or Alta Tall Fescue – 50 pounds
  Pensacola Bahiagrass – 50 pounds
  Centipede – 5 pounds
  Fertilizer (10-20-20 analysis) – 500 pounds
  Limestone – 4000 pounds
- *YEAR ROUND MIXTURE (Clay Soils)*
  KY 31 Tall Fescue or Alta Tall Fescue – 100 pounds
  Kenblue Bluegrass – 15 pounds
  Fertilizer (10-20-20 analysis) – 500 pounds
  Limestone – 4000 pounds
- Add 10 pounds of Kobe or Korean Lespedeza and 10 pounds of Millet to the above mixture from May 1 to August 31.
- On cut and fill slopes 2:1 or steeper, add 30# Sericea Lespedeza from January 1 to December 31.
- Fertilizer shall be 10-20-20 analysis. Upon written approval of the Engineer, a different analysis may be used provided the 1-2-2 ratio is maintained and the rate of application is adjusted to provide the same amount of plant food as a 10-20-20 analysis.

48. The encroaching party or any agent acting on behalf of the encroaching party shall exercise care and provide any and all necessary measures and precautions to preserve and protect existing landscaping and roadside plantings within the right of way. Existing landscaping and landscape plantings shall not be disturbed unless approved by the NCDOT Division 8 Roadside Environmental Engineer. All costs associated with restoration or

replacement of landscaping or landscape plantings damaged or destroyed by the encroaching party or its agents shall be the responsibility of the encroaching party.

49. In the event it is determined that there is a conflict between the existing landscaping or landscape plantings and the proposed utility installation, the encroaching party or any agent acting on behalf of the encroaching party shall not proceed until the Division 8 Roadside Environmental Engineer has been notified and the conflict has been resolved to his satisfaction.

50. Upon completion of the work authorized under this agreement, the encroaching party shall notify the Division 8 Roadside Environmental Engineer for inspection of the work to verify that landscaping and landscape plantings are acceptable. No bonds shall be released until this requirement has been satisfied.

51. The Division 8 Roadside Environmental Engineer can be contacted as follows:

Roadside Environmental Engineer
902 N. Sandhills Boulevard
P. O. Box 1067Aberdeen, NC 28315
(910-944-2344)

52. The area of proposed construction covered under this agreement lies within the limits of an NCDOT construction project and is subject to the following conditions:

- Relocation, modification, or adjustment of the proposed utility necessary for the construction of the NCDOT project shall be the responsibility of the Encroaching party and shall be done at no expense to the Department of Transportation upon notification by the Department.
- The NCDOT project shall have priority over all others. Work performed under this agreement shall be performed either prior to the NCDOT operations, or after the NCDOT project is completed. If the work is performed prior to the NCDOT project, the encroaching party shall obtain written approval from the District Engineer to commence work within the project limits. No work permitted under this encroachment shall be performed during the period of the NCDOT project unless approved in writing by the District Engineer. NCDOT shall not be held liable for any delays to work proposed under the encroachment agreement.
- Installations proposed within an NCDOT contract project shall be subject to approval by the contractor for the project. The encroaching party shall obtain a waiver in writing from the project contractor releasing NCDOT from liability for damages or delays and granting access within the project limits.

53. The encroaching party shall assume all responsibility, obligation, and liability for maintenance of the structure permitted under this encroachment agreement. This condition shall be conveyed in any future buy, lease, sell or rental agreement. In the event that the encroaching party, or any future responsible party should fail to satisfy this condition, NCDOT reserves the right close or remove the structure.

54. Any disturbed or damaged guardrail shall be reset in accordance with current NCDOT standards or as directed by the District Engineer.

55. Notify **District Engineer** at **300 DOT Drive, Asheboro, NC 27205 (336) 318-4000,** prior to beginning work. The encroaching party shall provide the District Engineer with the following information at least 3 working days prior to commencing operations:

- Proposed schedule of operations
- The name(s) and phone number(s) of project contact person(s). (See Special Provision 16)
- Tentative locations where directional bores will commence and terminate.

56. All activities or operations approved under this agreement which fall within the project limits or contract period of any active NCDOT project shall require a waiver from the prime Contractor for the NCDOT project, granting the encroaching party access within the project and releasing NCDOT from claims against NCDOT by the prime Contractor resulting from the encroaching party's operations or activities. The NCDOT project shall have precedence and priority over all others.

57. Ingress and egress through the controlled access right of way is prohibited. No staging or queuing of vehicles or equipment within the Controlled Access Right of Way, travel lanes, or shoulders shall be permitted.

Kimley»Horn

3001 Weston Parkway
Cary, North Carolina 27513

TEL 919 677 2000
FAX 919 677 2050

Transmittal

Date: 10-17-2017 Job Number: 012741050

Project Name: US 15-501 Superstreet

To: Justin Richardson
NCDOT District 1
300 DOT Drive
PO Box 1164
Asheboro, NC 27204 Telephone No. 336-318-4003

We are sending these by

☐ U.S. Mail ☐ FedEx ☐ Hand Delivery
☒ Other Electronic submittal via Email.

We are sending you

☒ Attached ☐ Under separate cover via _____ *the following items:*

☐ Shop drawings ☐ Prints/Plans ☐ Samples ☐ Specifications ☐ Change Orders

☒ Other Final Plans for approval and Encroachment Permit Application

Copies	*Date*	*No.*	*Description*
1	10-17-17	1	Final Mann's Chapel Right-turn to Great Ridge Plans
1	10-17-17	1	Encroachment Permit Application

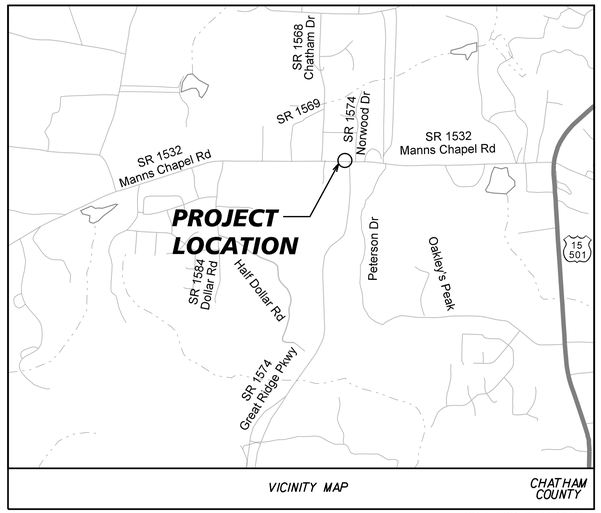
These are transmitted as checked below:

☐ For your use ☐ Approved as submitted ☐ Resubmit ☒ Copies for approval
☐ As requested ☐ Approved as noted ☐ Submit ☐ Copies for distribution
☐ For review and comment ☐ Returned for corrections ☐ Return ☐ Corrected prints

Remarks:
Justin, We are submitting the enclosed set of Final roadway design plans for your review. Also enclosed encroachment permit application for the project. These plans represent the required improvements along SR 1532 (Mann's Chapel Road) at the intersection with SR 1574 (Great Ridge Parkway associated with the Briar Chapel development. Please feel free to contact me if you have any questions or need additional information.

Thanks, Erin Thompson - Kimley-Horn - 3001 Weston Parkway - Cary, NC 27513. Ph: (919) 677-2107 email: erin.thompson@kimley-horn.com.

Copy to: File, R. Adams, L. Bowman, G. Browne Signed: Erin Thompson, P.E.



NOTE: NOT TO SCALE

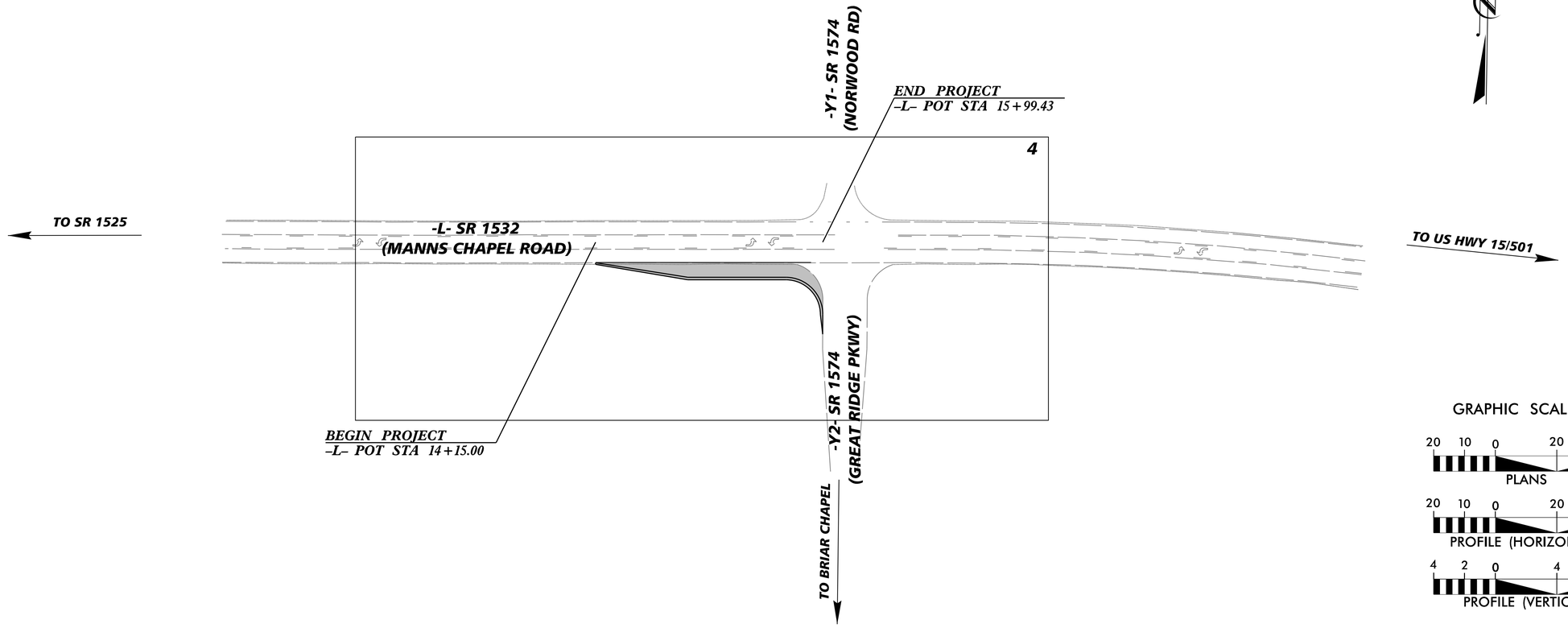
See Sheet 1-A For Index Of Sheets
See Sheet 1-B For Conventional Plan Sheet Symbols

NNP - BRIAR CHAPEL, LLC

BRIAR CHAPEL DEVELOPMENT
SR 1532 (MANNS CHAPEL ROAD)
AT SR 1574 (GREAT RIDGE PARKWAY)
CHATHAM COUNTY, NORTH CAROLINA

TYPE OF WORK: GRADING, PAVING, SIGNING, PAVEMENT MARKINGS, AND MARKERS.

LENGTH OF PROJECT: SR 1532: APPROX. 185 FEET OF PAVEMENT WIDENING



GRAPHIC SCALES

20 10 0 20 40
PLANS

20 10 0 20 40
PROFILE (HORIZONTAL)

4 2 0 4 8
PROFILE (VERTICAL)

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

DATE	FILE NUMBER	SHEET NUMBER	TOTAL SHEETS
10-17-17		1	

OWNER:

NNP - BRIAR CHAPEL, LLC
1342 BRIAR CHAPEL PARKWAY
CHAPEL HILL, NC 27516
(919) 951-0712 TEL
(919) 951-0711 FAX

CONTACT: LEE BOWMAN

ENGINEER:

KIMLEY-HORN AND ASSOCIATES, INC.
PO BOX 33068
RALEIGH, NC 27636-3068
(919) 677-2000 TEL
(919) 677-2050 FAX

CONTACT: ERIN THOMPSON, P.E.

PLANS PREPARED BY:

Kimley»Horn

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SUITE 600
RALEIGH, NC 27601
PHONE: (919) 677-2000
FAX: (919) 677-2050

PLANS PREPARED BY:

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©2017

DocuSigned by:
ERIN KATHLEEN THOMPSON
NORTH CAROLINA PROFESSIONAL SEAL 037827 ENGINEER ERIN KATHLEEN THOMPSON
10/17/2017

FINAL PLANS

NO.	DATE	REVISIONS

CLIENT: NNP - BRIAR CHAPEL, LLC
1342 BRIAR CHAPEL PARKWAY
CHAPEL HILL, NC 27516

PROJECT: SR 1532 (MANNS CHAPEL RD)
AND SR 1574 (GREAT RIDGE PKWY)
RIGHT TURN LANE

TITLE: TITLE SHEET

DESIGNED BY:	CDL
DRAWN BY:	TGS
CHECKED BY:	EKT
DATE:	10-17-17
PROJECT#:	012741050

1

K:\RAL_Roadway\012741050 - Manns Chapel-Half Dollar\Plan\Plan Sheets\012741050_1sh.dgn
10/17/2017

NNP - BRIAR CHAPEL, LLC

INDEX OF SHEETS

GENERAL NOTES

GENERAL NOTES: 2012 SPECIFICATIONS EFFECTIVE: 01-01-12

QUALITY OF WORK:

ALL WORK ON THIS PROJECT SHALL CONFORM TO THESE PLANS, THE LATEST EDITIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) ROAD STANDARDS AND SPECIFICATIONS, THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL HANDBOOK, THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL REGULATIONS, IN THE EVENT OF CONFLICT BETWEEN ANY OF THESE STANDARDS, SPECIFICATIONS, OR PLANS, THE NCDOT GUIDELINES SHALL GOVERN UNLESS OTHERWISE NOTED IN THESE PLANS.

ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS AND SPECIFICATIONS AND SITE CONDITIONS OR ANY INCONSISTENCIES OR AMBIGUITIES IN DRAWINGS OR SPECIFICATIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER, IN WRITING, WHO SHALL PROMPTLY ADDRESS SUCH INCONSISTENCIES OR AMBIGUITIES. WORK DONE BY THE CONTRACTOR AFTER HIS DISCOVERY OF SUCH DISCREPANCIES, INCONSISTENCIES, OR AMBIGUITIES SHALL BE DONE AT THE CONTRACTOR'S RISK.

STATEMENT OF WORK:

THE PROJECT CONSISTS OF THE ADDITION OF AN EASTBOUND RIGHT TURN LANE FROM MANNS CHAPEL ROAD (SR 1532) ONTO GREAT RIDGE PARKWAY (SR 1574), INCLUDING PAVEMENT MARKINGS.

SPECIFIC IMPROVEMENTS ARE DETAILED HEREIN.

ALL WORK SHALL CONFORM TO NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS.

GENERAL NOTES CONTINUED

GENERAL NOTES: 2012 SPECIFICATIONS EFFECTIVE: 01-01-12

GRADE LINE:
GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.

LIST OF 2012 ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - ROADWAY DESIGN UNIT - NC DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREIN ARE CONSIDERED A PART OF THESE PLANS.

DIVISION 2 - EARTHWORK	
200.02	METHOD OF CLEARING - METHOD II
225.02	GUIDE FOR GRADING SUBGRADE - SECONDARY AND LOCAL
225.04	METHOD OF OBTAINING SUPERELEVATION - TWO LANE PAVEMENT
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	METHOD OF SHOULDER CONSTRUCTION - HIGH SIDE OF SUPERELEVATED CURVE - METHOD I
DIVISION 8 - INCIDENTALS	
860.01	CONCRETE RIGHT-OF-WAY MARKER
DIVISION 11 - WORK ZONE TRAFFIC CONTROL	
1101.01	WORK ZONE ADVANCED WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS - MOUNTING HEIGHT & LATERAL CLEARANCE
1110.02	PORTABLE WORK ZONE SIGNS - MOUNTING HEIGHT & LATERAL CLEARANCE
1130.01	DRUM
1150.01	FLAGGING DEVICES
DIVISION 12 - PAVEMENT MARKINGS, MARKERS, AND DELINEATION	
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - DIVIDED AND UNDIVIDED ROADWAYS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY

PLANS PREPARED BY:
Kimley»Horn
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PHONE: (919) 677-2000
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DocuSigned by: ERIN KATHLEEN THOMPSON
NORTH CAROLINA PROFESSIONAL SEAL 037827 ENGINEER ERIN KATHLEEN THOMPSON
10/17/2017

FINAL PLANS

NO.	DATE	REVISIONS

CLIENT: NNP - BRIAR CHAPEL, LLC
1342 BRIAR CHAPEL PARKWAY
CHAPEL HILL, NC 27516

PROJECT: SR 1532 (MANNS CHAPEL RD) AND SR 1574 (GREAT RIDGE PKWY) RIGHT TURN LANE

TITLE: GENERAL NOTES

DESIGNED BY:	CDL
DRAWN BY:	TGS
CHECKED BY:	EKT
DATE:	10-17-17
PROJECT#:	012741050

1-A

NNP - BRIAR CHAPEL, LLC

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale **S.U.E. = Subsurface Utility Engineering*

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line

- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- U/G Power Line LOS B (S.U.E.*) — P
- U/G Power Line LOS C (S.U.E.*) — P
- U/G Power Line LOS D (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- U/G Telephone Cable LOS B (S.U.E.*) — T
- U/G Telephone Cable LOS C (S.U.E.*) — T
- U/G Telephone Cable LOS D (S.U.E.*) — T
- U/G Telephone Conduit LOS B (S.U.E.*) — TC
- U/G Telephone Conduit LOS C (S.U.E.*) — TC
- U/G Telephone Conduit LOS D (S.U.E.*) — TC
- U/G Fiber Optics Cable LOS B (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS C (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS D (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line LOS B (S.U.E*) — W
- U/G Water Line LOS C (S.U.E*) — W
- U/G Water Line LOS D (S.U.E*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Cable LOS B (S.U.E.*) — TV
- U/G TV Cable LOS C (S.U.E.*) — TV
- U/G TV Cable LOS D (S.U.E.*) — TV
- U/G Fiber Optic Cable LOS B (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS C (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS D (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line LOS B (S.U.E.*) — G
- U/G Gas Line LOS C (S.U.E.*) — G
- U/G Gas Line LOS D (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- SS Forced Main Line LOS B (S.U.E.*) — FSS
- SS Forced Main Line LOS C (S.U.E.*) — FSS
- SS Forced Main Line LOS D (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line LOS B (S.U.E.*) — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole LOS A (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

PLANS PREPARED BY:
Kimley»Horn
421 FAYETTEVILLE STREET
SUITE 600
RALEIGH, NC 27601
PHONE: (919) 677-2000
FAX: (919) 677-2050

DocuSigned by:
NORTH CAROLINA PROFESSIONAL SEAL 037827 ENGINEER ERIN KATHLEEN THOMPSON
10/17/2017

FINAL PLANS

NO.	DATE	REVISIONS

CLIENT: NNP - BRIAR CHAPEL, LLC
1342 BRIAR CHAPEL PARKWAY
CHAPEL HILL, NC 27516

PROJECT: SR 1532 (MANNS CHAPEL RD)
AND SR 1574 (GREAT RIDGE PKWY)
RIGHT TURN LANE

TITLE: CONVENTIONAL SYMBOLS

DESIGNED BY:	CDL
DRAWN BY:	TGS
CHECKED BY:	EKT
DATE:	10-17-17
PROJECT#:	012741050

1-B

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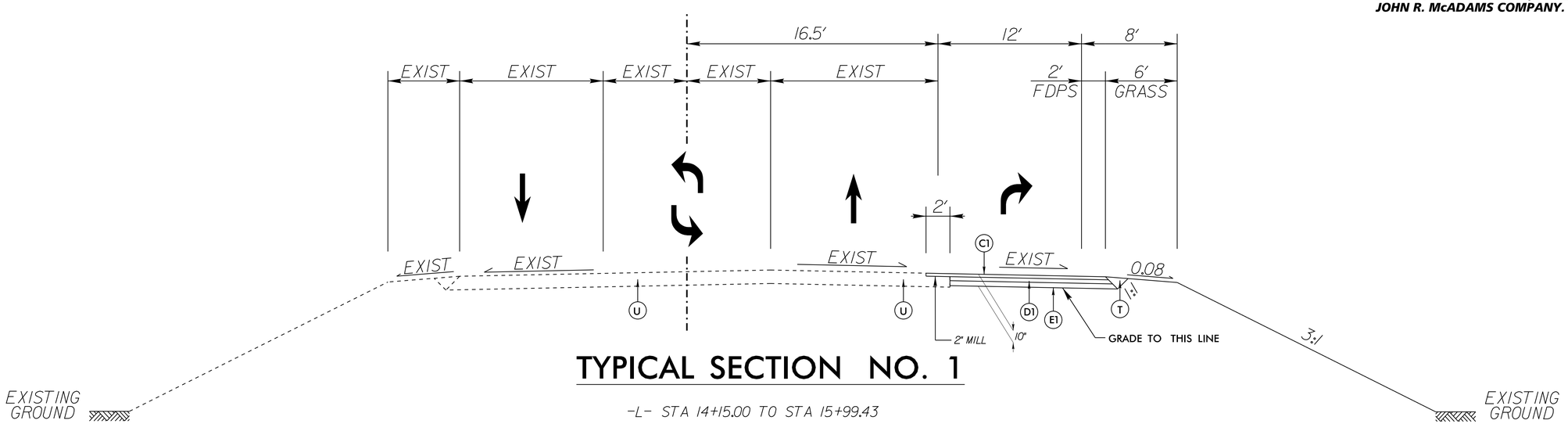
10/17/2017

℄ –L– SR 1532 (MANNS CHAPEL RD)



TYPICAL SECTION NO. 1

–L– STA 14+15.00 TO STA 15+99.43

NOTES:

1. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED
2. SEE PLANS FOR TAPER LOCATIONS
3. L-LINE PAVEMENT DESIGN HAVE BEEN TAKEN FROM THE BRIAR CHAPEL PHASE 2 CONSTRUCTION PLANS, PRODUCED BY THE JOHN R. McADAMS COMPANY.

	PAVEMENT SCHEDULE
CI	PROPOSED APPROX. 2" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B. AT AN AVERAGE RATE OF 220 LBS. PER SQ. YARD.
DI	PROPOSED APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B AT AN AVERAGE RATE OF 342 LBS. PER SQ. YARD.
EI	PROPOSED APPROX. 5" ASPHALT CONCRETE BASE COURSE. TYPE B25.0B AT AN AVERAGE RATE OF 570 LBS.PER SQ YARD.
T	EARTH MATERIAL
U	EXISTING PAVEMENT

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NORTH CAROLINA PROFESSIONAL SEAL 037827 ENGINEER ERIN KATHLEEN THOMPSON
10/17/2017

FINAL PLANS

NO.	DATE	REVISIONS

CLIENT: NNP - BRIAR CHAPEL, LLC
1342 BRIAR CHAPEL PARKWAY
CHAPEL HILL, NC 27516

PROJECT: SR 1532 (MANNS CHAPEL RD)
AND SR 1574 (GREAT RIDGE PKWY)
RIGHT TURN LANE

TITLE: TYPICAL SECTIONS SHEET

DESIGNED BY:	CDL
DRAWN BY:	TGS
CHECKED BY:	EKT
DATE:	10-17-17
PROJECT#:	012741050

2

10/17/2017 K:\RAL_Roadway\012741050 - Manns Chapel-Half Dollar\Plan\Plan Sheets\012741050_typ.dgn

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	STATION	STATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + 20%	BORROW	WASTE
–L–	14+15.00	15+99.43	72	0	5	0	67
TOTALS			80			0	

PLANS PREPARED BY:
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DocuSigned by:
Erin Kathleen Thomson
NORTH CAROLINA PROFESSIONAL SEAL 037827 ENGINEER ERIN KATHLEEN THOMSON
10/17/2017

FINAL PLANS

NO.	DATE	REVISIONS

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NNP - BRIAR CHAPEL, LLC
1342 BRIAR CHAPEL PARKWAY
CHAPEL HILL, NC 27516

PROJECT:
SR 1532 (MANNS CHAPEL RD)
AND SR 1574 (GREAT RIDGE PKWY)
RIGHT TURN LANE

TITLE:
SUMMARY OF EARTHWORK SHEET
SUMMARY OF GUARDRAIL SHEET

DESIGNED BY:	CDL
DRAWN BY:	TGS
CHECKED BY:	EKT
DATE:	10-17-17
PROJECT#:	012741050

10/17/2017 K:\RAL_Roadway\012741050 - Manns Chapel-Half Dollar\Plan\Plan Sheets\012741050_sum.dgn

-Y1- POT Sta. 10+75.00

-L- POT Sta.16+12.24 =
-Y1- POT Sta. 10+00.00

BEGIN PROJECT
BEGIN CONSTRUCTION
-L- POT 14+15.00

75' BAY TAPER

100' RT TURN LANE

+15.00

+90.00

+90.00

END PROJECT
END CONSTRUCTION
-L- POT 15+99.43

-Y1- NORWOOD ROAD
N 1° 51' 04.7" E

-L- POT Sta.16+17.80 =
-Y2- POT Sta.11+50.00

-L- PC Sta. 17+10.25

EXISTING R/W

60.00'

EXISTING R/W

10.4'
6.0'
5.8'
10.9'

EXIST

EXIST

-L- MANNS CHAPEL ROAD
N 89° 03' 25.8" E

N89°03'56"E
249.96'

28.5'
16.5'
12'
38'

S89°02'37"W; 290.78'

10.6'
5.7'
5.9'
10.7'

2' PS

2'

30' R

+45.55
EXIST

+45.26
38' (RT)

CONTRACTOR TO WORK OUSIDE OF THIS PARCEL

+90
38'
43'

+68
43'

+70.00
38' (RT)

+97.37
EXIST

+91.43
EXIST

-Y2- GREAT RIDGE PARKWAY
N 0° 37' 24.6" W

18'

18'

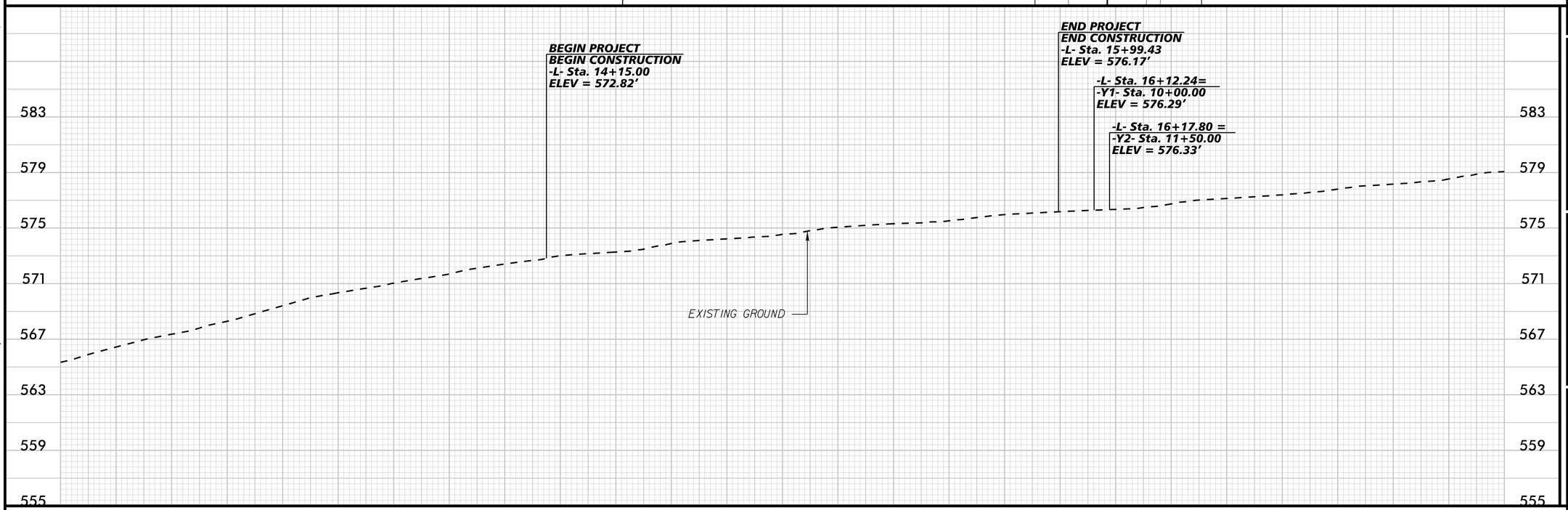
EXIST

17.7'

17.8'

1
CHATHAM COUNTY

-L-
PI Sta 18+55.27
△ = 6° 23' 06.8" (RT)
D = 2° 12' 13.3"
L = 289.75'
T = 145.03'
R = 2,600.00'



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NORTH CAROLINA PROFESSIONAL SEAL 037827 ENGINEER ERIN KATHLEEN THOMPSON
10/17/2017

FINAL PLANS

NO.	DATE	REVISIONS

CLIENT: NNP - BRIAR CHAPEL, LLC
1342 BRIAR CHAPEL PARKWAY
CHAPEL HILL, NC

PROJECT: SR 1532 (MANNS CHAPEL RD)
AND SR 1574 (GREAT RIDGE PKWY)
RIGHT TURN LANE

TITLE: PLAN / PROFILE SHEET

DESIGNED BY:	CDL
DRAWN BY:	TGS
CHECKED BY:	EKT
DATE:	10-17-17
PROJECT#:	012741050

4

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10/17/2017

TRAFFIC NOTES

ALL TRAFFIC CONTROL SHALL CONFORM TO THE LATEST MUTCD AND 2012 NCDOT STANDARDS

ADAPT THE TRAFFIC CONTROL CONCEPTS, WHEN DIRECTED BY THE ENGINEER, TO MEET FIELD CONDITIONS TO PROVIDE SAFE AND EFFICIENT TRAFFIC MOVEMENT. CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
1. SR 1532 MANNS CHAPEL ROAD	MONDAY THROUGH FRIDAY FROM 6 AM TO 9 AM AND FROM 4 PM TO 7 PM
2. SR 1574 GREAT RIDGE PARKWAY	

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
1. SR 1532 MANNS CHAPEL ROAD	ANYTIME
2. SR 1574 GREAT RIDGE PARKWAY	

C) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
1. SR 1532 MANNS CHAPEL ROAD	MONDAY THROUGH FRIDAY FROM 6 AM TO 9 AM AND FROM 4 PM TO 7 PM
2. SR 1574 GREAT RIDGE PARKWAY	

D) DO NOT STOP TRAFFIC FOR MORE THAN 15 MINUTES AS FOLLOWS:

ROAD NAME	OPERATION
1. SR 1532 MANNS CHAPEL ROAD	MONDAY THROUGH FRIDAY FROM 6 AM TO 9 AM AND FROM 4 PM TO 7 PM
2. SR 1574 GREAT RIDGE PARKWAY	

E) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR OTHERWISE DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

F) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.

G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 40 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

H) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

I) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

J) DO NOT WORK SIMULTANEOUSLY, ON BOTH SIDES OF AN OPEN TRAVELWAY, WITHIN THE SAME LOCATION, ON A TWO-LANE, TWO-WAY ROAD.

K) DO NOT PERFORM WORK INVOLVING HEAVY EQUIPMENT WITHIN 15 FT OF THE EDGE OF TRAVELWAY WHEN WORK IS BEING PERFORMED BEHIND A LANE CLOSURE ON THE OPPOSITE SIDE OF THE TRAVELWAY.

PAVEMENT EDGE DROP OFF REQUIREMENTS

L) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS A DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER.

M) DO NOT EXCEED A DIFFERENCE OF 1.5 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 500 FT IN ADVANCE OF THE UNEVEN AREA.

SIGNING

N) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 100 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

WHEN NO WORK IS BEING CONDUCTED FOR A PERIOD LONGER THAN ONE WEEK, REMOVE OR COVER ALL ADVANCE WORK ZONE WARNING SIGNS, AS DIRECTED BY THE ENGINEER.

O) PROVIDE PERMANENT SIGNING.

P) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

Q) SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH), EXCEPT 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY, WHEN LANE CLOSURES ARE NOT IN EFFECT.

R) PLACE SETS OF THREE DRUMS PERPENDICULAR TO THE EDGE OF THE TRAVELWAY ON 300 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC. THESE DRUMS SHALL BE IN ADDITION TO CHANNELIZING DEVICES.

PAVEMENT MARKINGS AND MARKERS

S) INSTALL PAVEMENT MARKINGS AS SHOWN ON PLAN SHEETS.

T) REFER TO SECTION 1205 OF THE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES DATED JANUARY 2012 FOR APPLICATION TIMES AND TEMPERATURE CONDITIONS FOR PAVEMENT MARKINGS.

U) PLACE AT LEAST TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE ON NEW ASPHALT PAVEMENT. PLACE ADDITIONAL APPLICATIONS OF PAINT UPON SUFFICIENT DRYING TIME, AS DETERMINED BY THE ENGINEER.

V) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

W) REPLACE ANY PAVEMENT MARKINGS THAT HAVE BEEN DAMAGED BY THE END OF EACH DAY'S OPERATION.

X) PLACE AT LEAST TWO APPLICATIONS OF PAINT ON NEW ASPHALT WITH TEMPORARY TRAFFIC PATTERNS WHICH WILL REMAIN IN PLACE OVER THREE (3) MONTHS. PLACE ADDITIONAL APPLICATIONS OF PAINT UPON SUFFICIENT DRYING TIME, AS DETERMINED BY THE ENGINEER.

Y) CONTRACTOR SHALL MAINTAIN ALL TEMPORARY PAINT PAVEMENT MARKINGS UNTIL COMPLETION OF THERMOPLASTIC PAVEMENT MARKING INSTALLATION.

Z) BEFORE SHIFTING TRAFFIC TO NEW LOCATIONS, CONTRACTOR SHALL REMOVE ANY MARKINGS WHICH CONFLICT WITH THE NEW TRAFFIC PATTERN(S).

PEDESTRIAN AND BICYCLIST SAFETY

AA) PEDESTRIAN AND BICYCLIST SAFETY MUST BE MAINTAINED AT ALL TIMES BY ADEQUATE PROJECT LIMITS, FENCING, AND SIGNAGE.

MISCELLANEOUS

BB) POLICE MAY BE USED TO MAINTAIN TRAFFIC THROUGH INTERSECTIONS.

CC) STOCKPILE EXISTING SIGNS FOR USE WHEN NEEDED IN TEMPORARY LOCATIONS DURING CONSTRUCTION.

DD) ACCESS SHALL BE MAINTAINED TO ALL RESIDENCES AND BUSINESSES AT ALL TIMES.

EE) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) AND RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

ADVANCE WARNING SIGNS

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS, THIS SIGNING APPLICATION IS OPTIONAL; MAY USE ONLY APPLICABLE ROADWAY STANDARD DRAWINGS INSTEAD. HOWEVER, IF THIS SIGNING APPLICATION IS USED, SIGNS MAY BE PORTABLE MOUNTED.
- ADVANCE WARNING SIGN SPACING IS RECOMMENDED TO BE THE FOLLOWING:
  - SR 1532 MANNS CHAPEL ROAD - 500' BEFORE CONSTRUCTION LIMITS
  - SR 1574 GREAT RIDGE PARKWAY - 500' BEFORE CONSTRUCTION LIMITS
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE 3 LB STEEL U-CHANNEL POST OR 4" X 4" WOOD POST FOR ALL WORK ZONE SIGNS. 3 LB STEEL U-CHANNEL POSTS MUST MEET THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 1094-1(B), MAY BE GALVANIZED STEEL, OR MAY BE PAINTED GREEN BY THE POST MANUFACTURER. SQUARE STEEL TUBING POSTS HAVING EQUIVALENT STRENGTH OF THE 3 LB STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS, 3 LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATION "WORK ZONE SIGNS" SECTION 1110.
- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1110.01. REMOVE ENTIRE POST WHEN REMOVING SIGNS WITH SPLICED POSTS.
- DO NOT BACK BRACE SIGN SUPPORTS.

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DocuSigned by:
NORTH CAROLINA PROFESSIONAL SEAL 037827 ENGINEER ERIN KATHLEEN THOMPSON
10/17/2017

FINAL PLANS

NO.	DATE	REVISIONS

CLIENT: NNP - BRIAR CHAPEL LLC
1342 BRIAR CHAPEL PARKWAY
CHAPEL HILL, NC 27516

PROJECT: SR 1532 (MANNS CHAPEL RD)
AND SR 1574 (GREAT RIDGE PKWY)
RIGHT TURN LANE

TITLE: TEMPORARY TRAFFIC CONTROL PLAN

DESIGNED BY:	CDL
DRAWN BY:	TGS
CHECKED BY:	EKT
DATE:	10-17-17
PROJECT#:	012741050

TMP-1

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10/17/2017

SR 1532
MANNS CHAPEL ROAD

PHASING NOTES

STEP 1

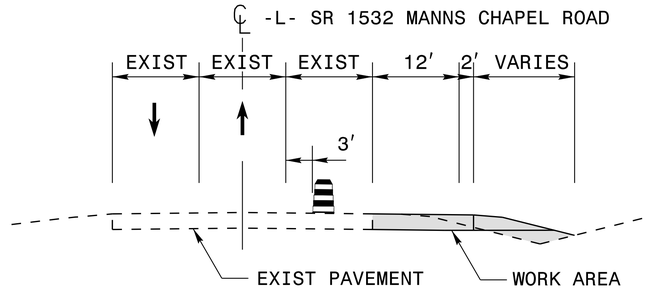
THE CONTRACTOR SHALL PLACE ALL ADVANCE WARNING SIGNS PRIOR TO BEGINNING WORK ACCORDING TO NCDOT STANDARD DRAWING NO. 1101.01. SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED.

WHILE MAINTAINING EXISTING TRAFFIC AND USING NCDOT STANDARD DRAWING 1101.02 FOR TEMPORARY LANE CLOSURES AS NEEDED, THE CONTRACTOR SHALL CONSTRUCT PROPOSED IMPROVEMENTS ON THE SOUTH SIDE OF SR 1532 MANNS CHAPEL RD INCLUDING MILLING, PAVEMENT WIDENING, AND SHOULDER GRADING/PAVING, UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE PAVEMENT.

STEP 2

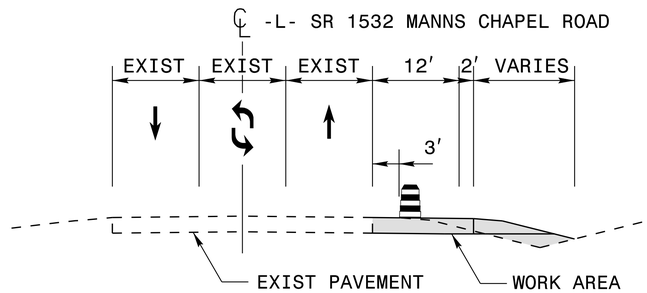
WHILE MAINTAINING EXISTING TRAFFIC AND USING NCDOT STANDARD DRAWING 1101.02 FOR TEMPORARY LANE CLOSURES AS NEEDED, THE CONTRACTOR SHALL INSTALL THE FINAL ASPHALT SURFACE COURSE, FINAL PAVEMENT MARKINGS, PLACE TRAFFIC ONTO FINAL PATTERN, AND REMOVE ALL TRAFFIC CONTROL DEVICES AND SIGNAGE.

TEMPORARY LANE CLOSURE TRAFFIC PATTERN
(NCDOT STD. 1101.02)



PHASE 1 CONSTRUCTION

"END OF DAY" TRAFFIC PATTERN



PHASE 1 CONSTRUCTION

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10/17/2017

FINAL PLANS

NO.	DATE	REVISIONS

CLIENT:
NNP - BRIAR CHAPEL, LLC
1342 BRIAR CHAPEL PARKWAY
CHAPEL HILL, NC 27516

PROJECT:
SR 1532 (MANNS CHAPEL RD)
AND SR 1574 (GREAT RIDGE PKWY)
RIGHT TURN LANE

TITLE:
TEMPORARY
TRAFFIC CONTROL
PLAN

DESIGNED BY:	CDL
DRAWN BY:	TGS
CHECKED BY:	EKT
DATE:	10-17-17
PROJECT#:	012741050

TMP-2

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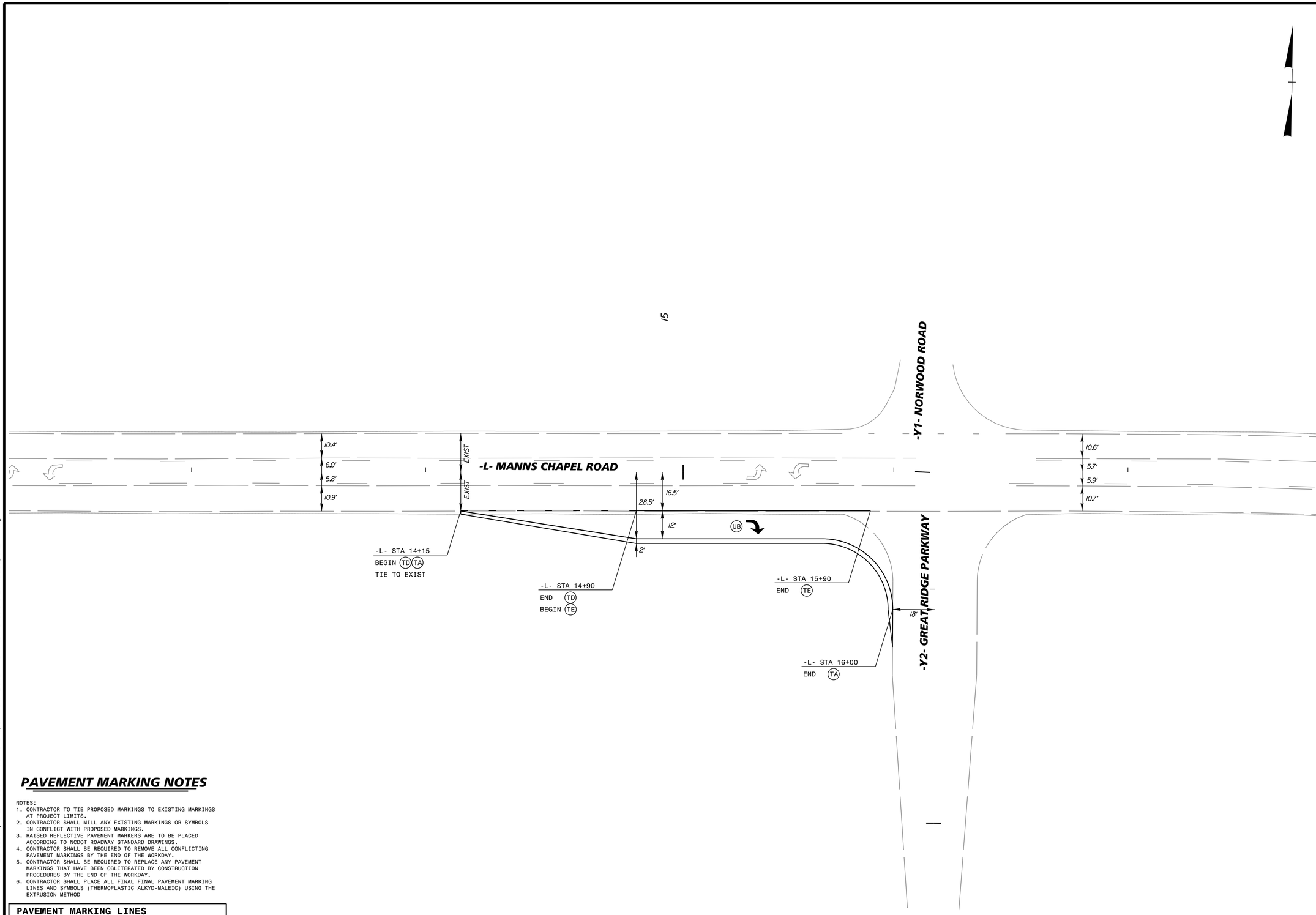
10/17/2017



PAVEMENT MARKING NOTES

NOTES:
1. CONTRACTOR TO TIE PROPOSED MARKINGS TO EXISTING MARKINGS AT PROJECT LIMITS.
2. CONTRACTOR SHALL MILL ANY EXISTING MARKINGS OR SYMBOLS IN CONFLICT WITH PROPOSED MARKINGS.
3. RAISED REFLECTIVE PAVEMENT MARKERS ARE TO BE PLACED ACCORDING TO NCDOT ROADWAY STANDARD DRAWINGS.
4. CONTRACTOR SHALL BE REQUIRED TO REMOVE ALL CONFLICTING PAVEMENT MARKINGS BY THE END OF THE WORKDAY.
5. CONTRACTOR SHALL BE REQUIRED TO REPLACE ANY PAVEMENT MARKINGS THAT HAVE BEEN OBLITERATED BY CONSTRUCTION PROCEDURES BY THE END OF THE WORKDAY.
6. CONTRACTOR SHALL PLACE ALL FINAL FINAL PAVEMENT MARKING LINES AND SYMBOLS (THERMOPLASTIC ALKYD-MALEIC) USING THE EXTRUSION METHOD

PAVEMENT MARKING LINES

TA - THERMOPLASTIC (4" WHITE, 90 MILS) EDGELINE
TD - THERMOPLASTIC (4" WHITE, 120 MILS) 3' - 9'/SP MINISKIP
TE - THERMOPLASTIC (4" WHITE, 120 MILS) SOLID LANE LINE
T8 - THERMOPLASTIC (4" WHITE, 120 MILS) 2' - 6'/SP MINISKIP

PAVEMENT MARKING SYMBOLS

UB - THERMOPLASTIC (RIGHT TURN ARROW) (90 MILS)

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10/17/2017

FINAL PLANS

NO.	DATE	REVISIONS

CLIENT: NNP - BRIAR CHAPEL, LLC
1342 BRIAR CHAPEL PARKWAY
CHAPEL HILL, NC 27516

PROJECT: SR 1532 (MANNS CHAPEL RD)
AND SR 1574 (GREAT RIDGE PKWY)
RIGHT TURN LANE

TITLE: PAVEMENT MARKING

DESIGNED BY: TGS
DRAWN BY: TGS
CHECKED BY: EKT
DATE: 10-17-17
PROJECT#: 012741050

PM-1

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10/17/2017

NOTES:

1. **VEGETATION COVER MUST BE ACCOMPLISHED WITHIN 15 CALENDAR DAYS FOLLOWING THE COMPLETION OF ANY PHASE OF GRADING OR ANY PERIOD OF INACTIVITY.**

15

-Y1- NORWOOD ROAD

EXISTING R/W

60.00'

-L- MANNS CHAPEL ROAD

N89°03'56"E
249.96'

EXISTING R/W

S89°02'37"W: 290.78'

0.10 AC

INSTALL TEMPORARY SEDIMENT FENCE NCDENR PRACTICE 6.62.1 (TYPICAL)

CONTRACTOR NOT TO DISTURB THIS PROPERTY

INSTALL SILT FENCE OUTLET SEE SHEET EC-6 (TYPICAL)

1

CHATHAM COUNTY

-Y2- GREAT RIDGE PARKWAY

565 570 575

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10/17/2017

EROSION CONTROL LEGEND

DISTURBED AREA	
CONSTRUCTION LIMIT	C F
TEMPORARY SILT FENCE	
SILT FENCE OUTLET	

PLANS PREPARED BY:

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10/17/2017

FINAL PLANS

NO.	DATE	REVISIONS

CLIENT: NNP - BRIAR CHAPEL, LLC
1342 BRIAR CHAPEL PARKWAY
CHAPEL HILL, NC 27516

PROJECT: SR 1532 (MANNS CHAPEL RD)
AND SR 1574 (GREAT RIDGE PKWY)
RIGHT TURN LANE

TITLE: EROSION CONTROL

DESIGNED BY:	TGS
DRAWN BY:	TGS
CHECKED BY:	EKT
DATE:	10-17-17
PROJECT#:	012741050

ERO-1

EROSION CONTROL
GENERAL NOTES AND DETAILS

CONSTRUCTION SCHEDULE

CONSTRUCTION SPECIFICATIONS

1. Obtain plan approval and other applicable permits including grading permits for borrow site. Refer to Section 230 "Borrow Excavation" in the 2012 NCDOT Standard Specifications.
2. Flag the work limits for protection.
3. Hold preconstruction conference at least one week prior to starting construction.
4. Prior to any land disturbing (including demolition) activities, install gravel and rip rap basin, temporary diversion, fabric/block and gravel drop inlet protection, temporary gravel construction entrance/exits, check dams, tree protection fence, and silt fence as shown on the erosion control plans.
5. In accordance with the erosion control plans and traffic control plans: grade roadway, install storm drain system, and place inlet protection at each catch basin and drop inlet. Until boxes are built and yard inlet devices installed, install and maintain storm drain under construction at end of day or onset of rain. Place outlet protection as shown on plans. Place additional check dams and stabilized ditches as indicated. Modify silt fence placement around pipe inlets and outlets as necessary, place silt fence around top of proposed headwalls.
6. Complete final grading for roads and stabilize with gravel.
7. Finish drainage inlets, place curb and gutter and pavement, and build shoulders.
8. Finish grading of slopes, topsoil critical areas and permanently vegetate, seed and mulch.
9. Plant or otherwise provide a permanent ground cover sufficient to restrain erosion after completion of any phase of construction or development. Except when a shorter timeframe is applicable pursuant to section 16(a)(3) or Section 6 of the 'Chatham County Soil Erosion and Sedimentation Control Ordinance', provisions for a ground cover sufficient to restrain erosion must be accomplished within 15 calendar days following completion of any phase of grading or any period of inactivity, regardless of weather conditions, weekends, holidays, equiptment malfuntion and/or any extenuating circumstance.
10. After seeding is established, the contractor shall call NCDENR and arrange for a final site inspection. Upon approval, all temporary erosion control measures shall be removed from the project.
11. All erosion and sediment control practices will be inspected weekly and after rainfall events. Needed repairs will be made immediately.
12. Estimated time before final stabilization is 12 months.
13. Site includes approximately 0.05 acre of permanent vegetation area.
14. After site is stabilized, gravel and rip rap basin, temporary diversion, and construction staging and material area stockpile areas, shall be removed, restored as existing, and permanently vegetated as described in the maintenance and vegetative plan.

MAINTENANCE

Follow the construction sequence throughout project development. When changes in construction activities are needed, amend the sequence schedule in advance to maintain management control.

MAINTENANCE PLAN

1. The Contractor shall check all erosion and sediment control practices for stability and operation following every runoff producing rainfall but in no case less than once every week. Any needed repairs will be made immediately by the Contractor to maintain all practices as designed. Also per National Pollutant Discharge Elimination System (NPDES) general stormwater permit, a rain gauge must be installed on site. The rain gauge must be kept onsite and inspections by the contractor must be made and logged after every half inch of rainfall and once a week.
2. The Contractor shall remove sediment from sediment trap when storage capacity has been approximately 50% filled. Gravel will be cleaned or replaced when the sediment pool no longer drains properly.
3. The Contractor shall remove sediment from behind silt fence when it becomes 0.5 feet deep at the fence. Silt fence will be repaired as necessary to maintain a barrier.
4. The Contractor shall fertilize, reseed as necessary, and mulch all seeded areas according to specifications in the vegetative plan to maintain a vigorous, dense vegetative cover.
5. The Contractor shall provide ground cover on exposed slopes or other areas within 21 calendar days of completion of any phase of grading. Permanent ground cover is to be provided for all disturbed areas within 21 calendar days or sooner following completion of construction or development.

VEGETATIVE PLAN (6.11)

SEEDING SCHEDULE

Shoulders, Side Ditches, Slopes (3:1)

Date	Type	Planting Rate
Aug.15–Nov.1	Tall Fescue	250 lbs./acre
Nov.1–Mar.1	Tall Fescue & Abruzzi Rye	250 lbs./acre 25 lbs./acre
Mar.1–Apr.15	Tall Fescue	250 lbs./acre
Apr.15–Jun.15	Hulled Common Bermudagrass	12 lbs./acre
Jun.15–Aug.15	Tall Fescue & Browntop Millet *** or Sorghum-Sudan Hybrids ***	60 lbs./acre 35 lbs./acre 30 lbs./acre
	Slopes (3:1 to 2:1)	
Mar.1–Jun.1	Sericea Lespedeza (scarified) and	50 lbs./acre
(Mar.1–Apr.15)	Add Tall Fescue	60 lbs./acre
(Mar.1–Jun.30)	or Add Weeping Lovegrass	5 lbs./acre
(Mar.1–Jun.30)	or Add Hulled Common Bermudagrass	8 lbs./acre
Jun.1–Sep.1	Tall Fescue *** & Browntop Millet *** or Sorghum-Sudan Hybrids ***	60 lbs./acre 35 lbs./acre 30 lbs./acre
Sep.1–Mar.1	Sericea Lespedeza (unhulled-unscarified) & Tall Fescue	70 lbs./acre 50 lbs./acre
(Nov.1–Mar.1)	Add Abruzzi Rye	25 lbs./acre

Consult Conservation Engineer or Soil Conservation Service for additional information concerning other alternatives for vegetation of denuded areas. The above vegetation rates are those which do well under local conditions; other seeding rate combinations are possible.

*** Temporary - Reseed according to optimum season for desired permanent vegetation. Do not allow temporary cover to grow over 12 inches in height before mowing, otherwise, fescue may be shaded out.

SEEDING SPECIFICATIONS

1) After rough grading is completed, till soil in areas to be seeded and planted to a depth of six inches.
2) Apply agricultural lime, fertilizer, and superphosphate to disturbed areas to be vegetated.
   90 lbs. limestone/1000 sq.ft. (2 tons/acre)
   35 lbs. 10-10-10 fertilizer/1000 sq.ft. (1500 lbs/acre)
   40 lbs. 50% superphosphate/1000 sq.ft. (1750 lbs/acre)
3) Disk nutrients into soil to a depth of six inches until surface is uniform and free of large dirt clods.
4) Seeding permanent grass.
   3.0 lbs. KY-31 tall fescue/1000 sq.ft. (130 lbs./acre) during February 15 through May 15 or August 15 through November 15.
   -OR-
   3.0 lbs. KY-31 tall fescue and 2.0 lbs. annual ryegrass/1000 sq.ft. during November 15 through February 15.
5) Mulch seeded area with small grain straw at 90 lbs/1000 sq.ft. (2 tons/acre). Spread uniformly. Approximately 1/2 of ground surface should be visible to avoid blocking sunlight to seedlings. On areas where the ground surface equals or exceeds a 3:1 slope, and in the inverts of all drainage swales, tack mulch with asphalt emulsion at a rate of 450 gallons emulsion per acre of straw.
6) Mulch around shubbery and trees with pine straw to depth of 3 inches.
7) Temporary cover
   1.0 lbs. brown top millet/1000 sq.ft. May through August 25.
   -OR-
   1.0 lbs. annual ryegrass/1000 sq.ft. August 25 through April.

LAND GRADING (6.02)

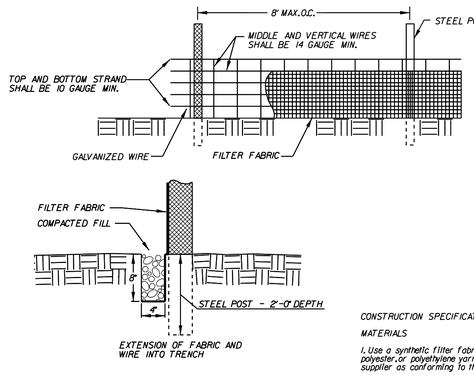
CONSTRUCTION SPECIFICATIONS

1. Construct and maintain all erosion and sedimentation control practices and measures in accordance with the approved sedimentation control plan and construction schedule.
2. Remove good topsoil, as determined by a Geotechnical Engineer from areas to be graded and filled, and preserve it for use in finishing the grading of all critical areas.
3. Scarify areas to be topsoiled to a minimum depth of 2 inches before placing topsoil.
4. Clear and grub areas to be filled to remove trees, vegetation, roots, or other objectionable material that would affect the planned stability of the fill.
5. Ensure that fill material is free of brush, rubbish, rocks, logs, stumps, building debris, and other materials inappropriate for constructing stable fills.
6. Place all fill in layers not to exceed 9 inches in thickness, and compact the layers as required to reduce erosion, slippage, settlement, or other related problems.
7. Do not incorporate frozen material or soft or highly compressible materials into fill slopes.
8. Do not place fill on a frozen foundation, due to possible subsidence and slippage.
9. Keep diversions and other water conveyance measures free of sediment during all phases of development.
10. Handle seeps or springs encountered during construction in accordance with approved methods.
11. Permanently stabilize all graded areas immediately after final grading is completed on each area in the grading plan. Apply temporary stabilization measures on all graded areas when work is to be interrupted or delayed for 15 working days or longer.
12. Show topsoil stockpiles, borrow areas, and spoil areas on the plans, and make sure they are adequately protected from erosion. Include final stabilization of these areas in the plan.

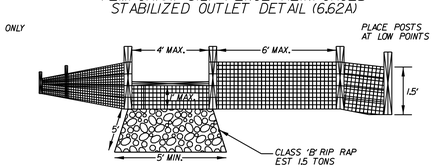
MAINTENANCE

Periodically check all graded areas and the supporting erosion and sedimentation control practices, especially after heavy rainfalls. Promptly remove all sediment from diversion and other water-disposal practices. If washouts or breaks occur, repair them immediately. Prompt maintenance of small eroded areas before they become significant gullies is an essential part of an effective erosion and sedimentation control plan.

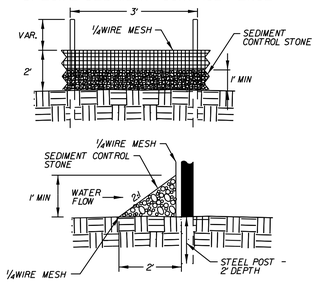
TEMPORARY SILT FENCE DETAIL (6.62)



TEMPORARY SILT FENCE REINFORCED STABILIZED OUTLET DETAIL (6.62A)



SPECIAL SEDIMENT CONTROL FENCE



Physical Property	Requirements
Filtering Efficiency	85% (min)
Tensile Strength at 20% (max.) Elongation	Standard Strength- 30 lb/lin in (min)
	Extra Strength- 50 lb/lin in (min)
Slurry Flow Rate	0.3 gal/sq ft/min (min)

CONSTRUCTION SPECIFICATIONS

MATERIALS

1. Use a synthetic filter fabric or a pervious sheet of polypropylene, nylon, polyester, or polyethylene yarn, which is certified by the manufacturer or supplier as conforming to the requirements shown in the table below.

   Synthetic filter fabric should contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6 months of expected usable construction life at a temperature range of 0 to 120 degrees F.

2. Ensure that posts for sediment fences are 1.33 lb/linear ft steel with a minimum length of 4 ft. Make sure that steel posts have projections to facilitate fastening the fabric.
3. For reinforcement of standard strength filter fabric, use wire fence with a minimum 14 gauge and a maximum mesh spacing of 6 inches.

CONSTRUCTION

1. Construct the sediment barrier of standard strength or extra strength synthetic filter fabrics.
2. Ensure that the height of the sediment fence does not exceed 18 inches above the ground surface. (Higher fences may impound volumes of water sufficient to cause failure of the structure).
3. Construct the filter fabric from a continuous roll cut to the length of the barrier to avoid joints. When joints are necessary, securely fasten the filter cloth only at a support post with overlap to the next post.
4. Support standard strength filter fabric by wire mesh fastened securely to the upslope side of the posts using heavy duty wire staples at least 1 inch long, or the wires. Extend the wire mesh support to the bottom of the trench.
5. When a wire mesh support fence is used, space posts a maximum of 8 ft apart. Support posts should be driven securely into the ground to a minimum of 18 inches on the downslope side of the trench.
6. Extra strength filter fabric with 6-ft post spacing does not require wire mesh support fence. Staple or wire the filter fabric directly to posts.
7. Excavate a trench approximately 4 inches wide and 8 inches deep along the proposed line of posts and upslope from the barrier.
8. Adjust spacing to place posts at low points along the fence line.
9. Backfill the trench with compacted soil or gravel placed over the filter fabric.
10. Do not attach filter fabric to existing trees.
11. Fasten support wire fence to upslope side of posts, extending 6 inches into the trench.
12. Attach continuous length of fabric to upslope side of fence posts. Avoid joints, particularly at low points in the fence line. When joints are necessary, fasten fabric securely support posts and overlap to the next post.
13. Attach warning sign (see Tree Protection Details) to fence where fence is located adjacent to and in buffer areas. Warning sign is incidental to silt fence.

MAINTENANCE

Inspect sediment fences at least once a week and after each rainfall. Make any required repairs immediately.

Should the fabric of a sediment fence collapse, tear, decompose or become ineffective, replace it promptly. Replace burlap every 60 days.

Remove sediment deposits as necessary to provide adequate storage volume for the next rain and to reduce pressure on the fence. Take care to avoid undermining the fence during cleanout.

Remove all fencing materials and unstable sediment deposits and bring the area to grade and stabilize it after the contributing drainage area has been properly stabilized.

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NORTH CAROLINA PROFESSIONAL SEAL 037827 ENGINEER ERIN KATHLEEN THOMSON
10/17/2017

FINAL PLANS

NO.	DATE	REVISIONS

CLIENT: NNP - BRIAR CHAPEL, LLC
1342 BRIAR CHAPEL PARKWAY
CHAPEL HILL, NC 27516

PROJECT: SR 1532 (MANNS CHAPEL RD)
AND SR 1574 (GREAT RIDGE PKWY)
RIGHT TURN LANE

TITLE: EROSION CONTROL
GENERAL NOTES AND DETAILS

DESIGNED BY:	TGS
DRAWN BY:	TGS
CHECKED BY:	EKT
DATE:	10-17-17
PROJECT#:	012741050

ERO-2

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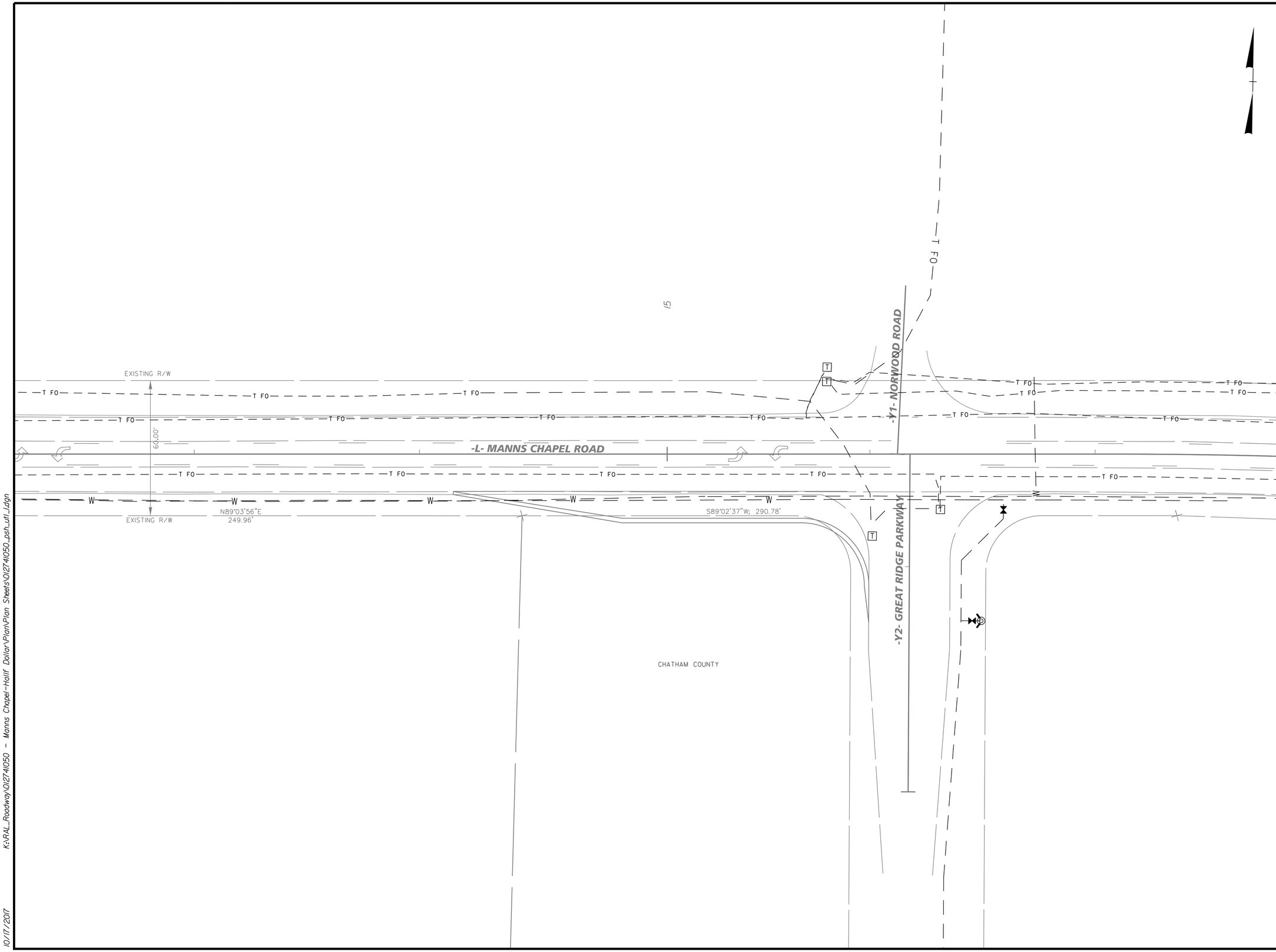

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CHAPEL HILL, NC 27516

PROJECT: SR 1532 (MANNS CHAPEL RD)
AND SR 1574 (GREAT RIDGE PKWY)
RIGHT TURN LANE

TITLE: EXISTING UTILITIES SHEET

DESIGNED BY:	TGS
DRAWN BY:	TGS
CHECKED BY:	EKT
DATE:	10-17-17
PROJECT#:	012741050

UTL-1

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10/17/2017

SR-1532 (MANNS CHAPEL RD - RIGHT TURN LANE)
CROSS SECTION INDEX

-L- SR-1532 (MANNS CHAPEL RD) X-2 THRU X-3

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10/17/2017

FINAL PLANS

NO.	DATE	REVISIONS

CLIENT:
NNP - BRIAR CHAPEL, LLC
1342 BRIAR CHAPEL PARKWAY
CHAPEL HILL, NC 27516

PROJECT:
SR 1532 (MANNS CHAPEL RD)
AND SR 1574 (GREAT RIDGE PKWY)
RIGHT TURN LANE

TITLE:
CROSS SECTION INDEX

DESIGNED BY:	TGS
DRAWN BY:	TGS
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DATE:	10-17-17
PROJECT#:	012741050

X-1

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PROJ. REFERENCE NO.	SHEET NO.
012741050	X-2

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57.48 EXIST 57.48 3:1

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10/17/2017

PROJ. REFERENCE NO.	SHEET NO.
012741050	X-3

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