

## **REQUEST FOR COMMITTEE ACTION**

### **HENDERSON COUNTY TECHINICAL REVIEW COMMITTEE**

**MEETING DATE:** May 17, 2022

**SUBJECT:** Combined Master and Development Plan for Lorena Woods Major Subdivision (2022-04-M)

**STAFF CONTACT:** Matt Champion, Zoning Administrator

**ATTACHMENTS:** 1. Staff Report  
2. Combined Master & Development Plan  
3. Application

#### **SUMMARY OF REQUEST:**

A subdivision application was submitted on behalf of the property owner Call, McCrae, and Smith LLC on May 3, 2022. The application is for a Master and Development Plan for Lorena Woods Major Subdivision, consisting of 14 lots for single family dwellings and 1,414 linear feet of new private roadway. The subject area is located off Clark Road (SR 1725) and contains 14.62 acres.

#### **TECHNICAL REVIEW COMMITTEE ACTION REQUESTED:**

Staff has found that the Master and Development Plan meet the standards of the subdivision regulations of Chapter 42, Henderson County Land Development Code (LDC). Staff recommends the Master Plan and Development Plan be subject to the developer addressing any issues raised by the TRC and addressing the comments listed in the Staff Report.

#### **Suggested Motion:**

I move that the TRC approve, approve with conditions, or deny the Master and Development Plan based on the Henderson County Land Development Code and recommendations of the Henderson County Comprehensive Plan and any conditions in the staff report or as discussed by the TRC.

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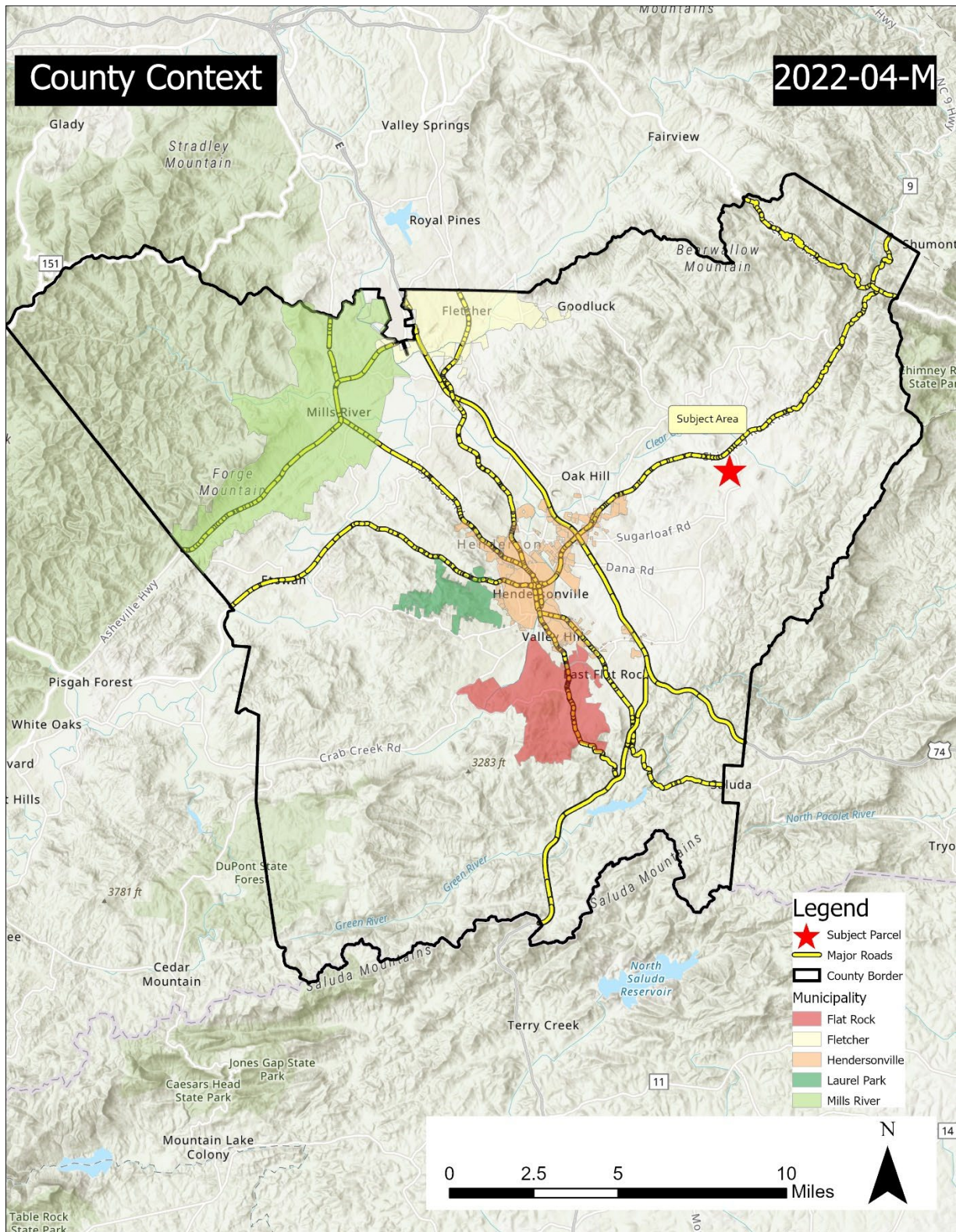
**Henderson County Planning Department Staff Report****Combined Master and Development Plan  
Lorena Woods Major Residential Subdivision (2022-03-M)****Property Owner(s)/Applicant(s): Call, McCrae, and Smith LLC  
Agent & Engineer: Jared DeRidder, WGLA Engineering  
PIN: 9690-77-8377****Master & Development Plan Comments:**

According to Chapter 42, Henderson County Land Development Code (LDC) §42-341), the purpose of a Master Plan is to provide general information about the proposed development to allow for an assessment of its impact on the orderly growth and development of the County, environmental quality, land values, natural features identified on the site analysis sketch and the County's roads and governmental services. During the review of the Combined the Master and Development Plan, the Technical Review Committee should take into consideration: applicable recommendations of the *Henderson County Comprehensive Plan*, the potential use of the land to be subdivided, and the impact of the subdivision and proposed use whether residential, commercial, or industrial.

When reviewing the Combined Master and Development Plan it is important to consider that, due to severe topographic conditions, inadequate road access, distance from services, unique natural areas, soils that do not easily support soil drainage systems and/or the proximity to existing and incompatible land uses/zoning, all land may not be suitable to be subdivided for the purpose of dense development (LDC §42-75).

Staff has reviewed the submitted revised Combined Master and Development Plan for the Lorena Woods Major Subdivision, taking into consideration the recommendations of the *Henderson County Comprehensive Plan* and reviewing the plan for conformance with Henderson County Land Development Code. Staff offers the following comments:

### Map A: County Context



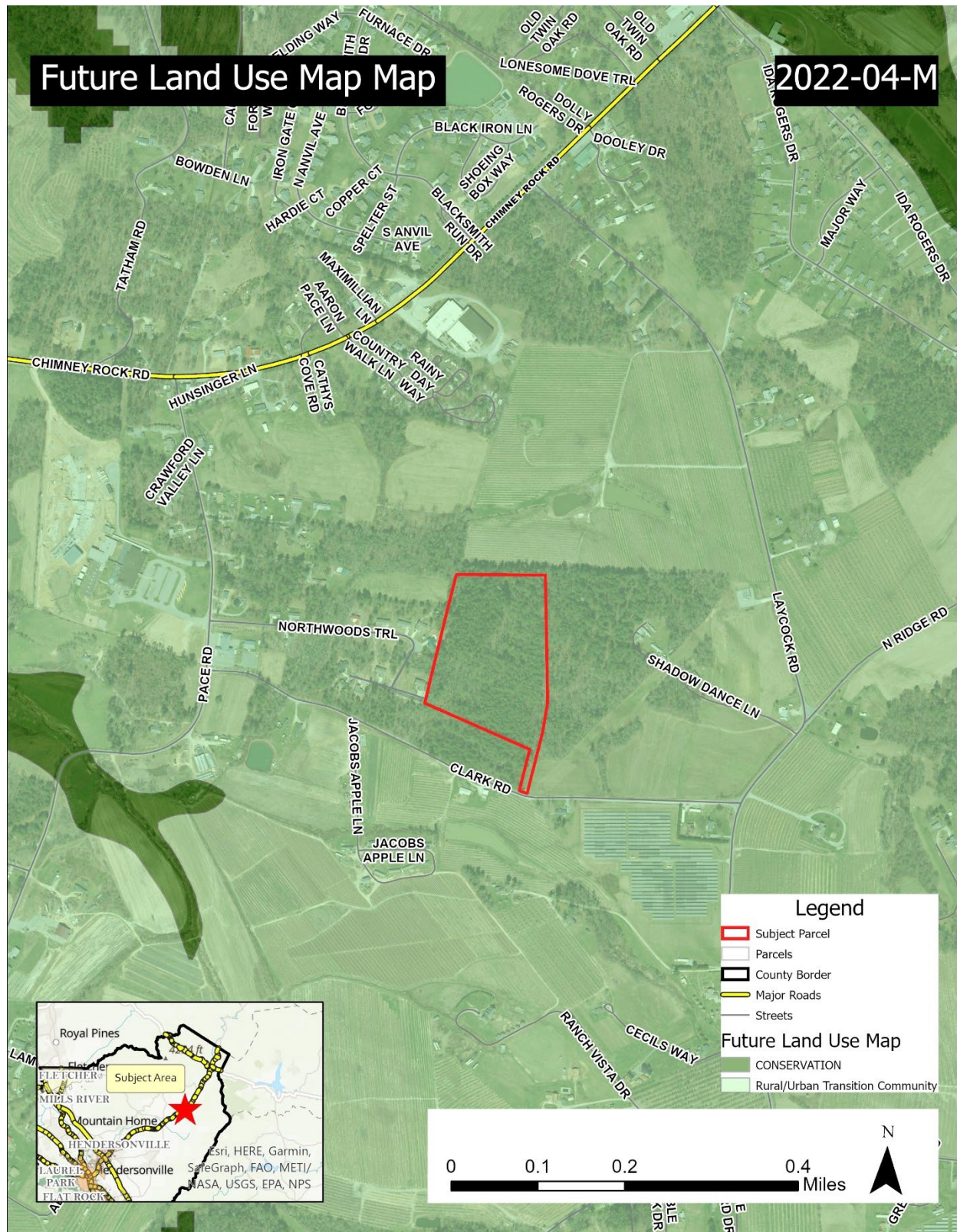


### Map B: Aerial Imagery





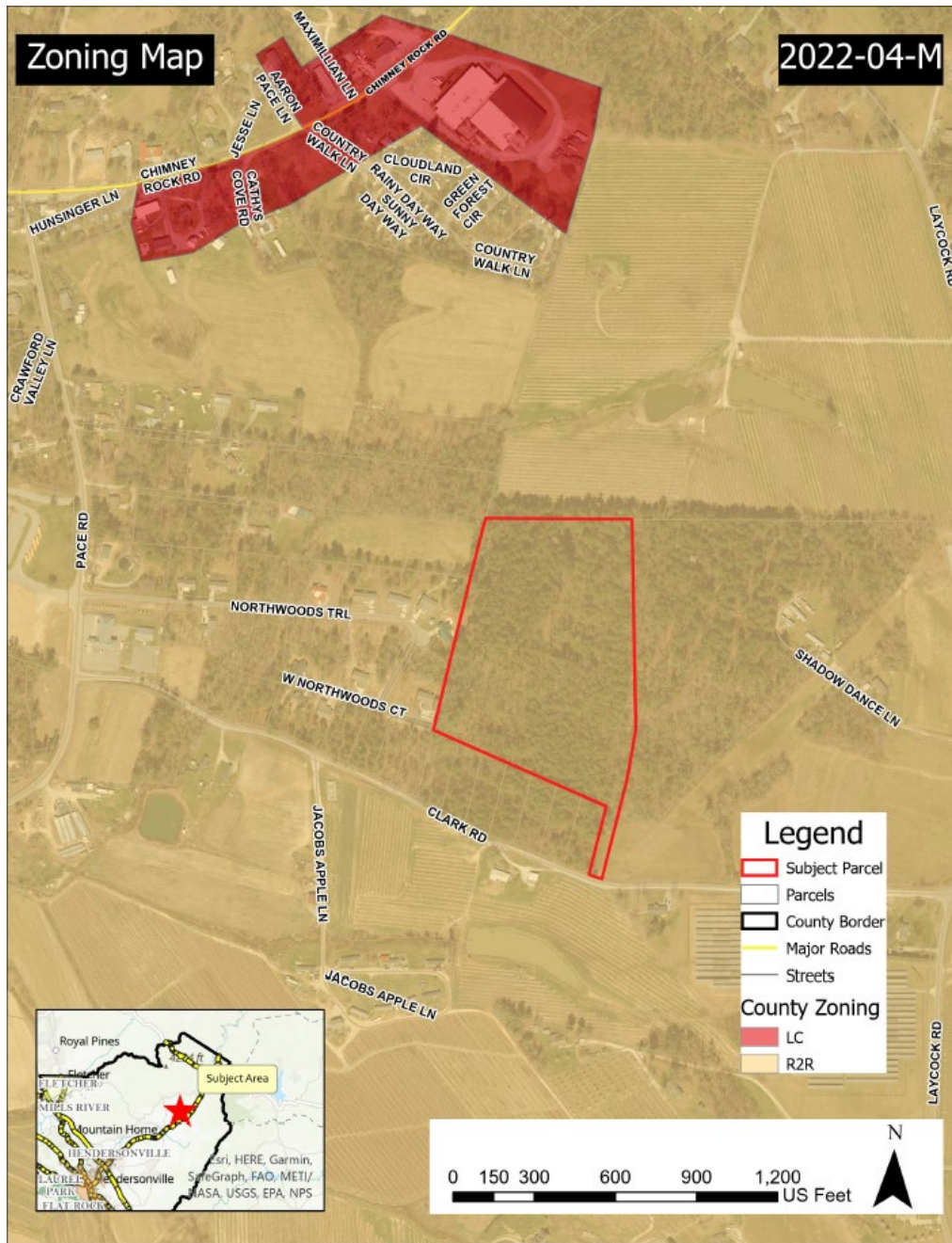
### Map C: County Comprehensive Plan Future Land Use Map



1. **Henderson County Comprehensive Plan (CCP).** The Future Land Use Map of the CCP shows the Subject Area as being located within the Rural Transition Area (RTA) Classification and a portion within the Commercial Service Area Classification.
  - a. **Rural Transition Area:** “The RTA is currently rural in character, with existing pockets of limited higher density residential and commercial development. Slopes vary across the RTA, although the area can be considered generally developable. The primary factor preventing urban development in the RTA is the absence of sewer and water service. The RTA will continue to experience extensive development over the operational timeframe of this Comprehensive Plan.”
    - i. Population and residential densities should be generally lower than the more urban population densities found within the USA and should be generally in keeping with topography, septic limitations, and school and transportation capacities. The RTA will remain in a state of transition and will absorb much of the development pressure in the USA. The RTA will be necessary to allow more dense development where appropriate.



**Map D: Official Zoning Map**



2. **Chapter 42, Henderson County Land Development Code (LDC).** According to Chapter 42, Henderson County Land Development Code (LDC) and its Official Zoning Map adopted September 19, 2007 (as amended); the proposed project site is located within the Residential Two Rural (R2R) Zoning District.

- a. **Residential Two Rural (R2R):** “The purpose of Residential Two Rural (R2R) is to foster orderly growth where the *principal use* of land is residential. The intent of this district is to allow for low to medium *residential development* and rural commercial and light industrial development consistent with the recommendations of the *Comprehensive Plan*. This general *use district* is typically meant to be utilized in areas designated as Transitional (RTA) in the *Comprehensive Plan*.”

- i. R2R allows for a standard density of 1 unit per acre. The overall density for the proposed subdivision is 0.96 units per acre.
3. **Water and Sewer Availability.** The applicant proposes the use of individual wells and individual septic systems for each lot in the subdivision.
4. **Road System:** The subdivision will be served by one private road, Woodrow Way, accessed off Clark Road (SR 1725), built in accordance with the Subdivision Local Road standards required in the LDC. The total linear footage of road is 1,285 linear feet and will be asphalt. The Combined Master and Development Plan specifies that the maximum grade does not exceed 15% on any portion of the proposed road. The proposed private road shows as a 45' right-of-way, with an 18' asphalt roadway width with 6' shoulders. The applicant is also proposing a cul-de-sac at the end of Woodrow Way.
5. **Total Project Proposal Summary:**
  - Overall tract size is 14.62 acres
  - Total of 14 single-family lots
  - Overall density of 0.96 units/acre
  - Proposed private roadway length is 1,414 linear feet
  - Private individual well and septic systems

#### **Master & Development Plan Comments:**

1. **Soil Erosion and Sedimentation Control Plan.** The applicant has already received an erosion control permit, under permit number 2021-11-04. The Letter of Approval was sent on December 10, 2021.
2. **Water Quality.** The Applicant shall submit written notice from the appropriate local agencies verifying that a Stormwater Management Permit has been received (LDC §42-95E).
3. **Private Roads.** Private roads shall be constructed in accordance with the Private Subdivision Local Road standards stated in Chapter 42 (LDC§42-109).
4. **Shoulder Stabilization.** All areas disturbed by the construction of a public road, including cut and fill slopes, shoulders and ditch banks, shall be seeded to stabilize the soil and prevent erosion. Seeding should be done as soon as feasible after road construction (LDC §42-102).
5. **Road Drainage, Culverts, and Shoulder Stabilization.** Road or drainage structures shall be constructed in accordance with state roads standards. Road drainage side ditches shall be constructed with sufficient depth and width to carry the expected volume of storm water runoff (LDC §42-100). All areas disturbed by the construction of a public road, including cut and fill slopes, shoulders and ditch banks, shall be seeded to stabilize the soil and prevent erosion. Seeding should be done as soon as feasible after road construction (LDC §42-105).
6. **Dead Ends, Culs-de-sac, and Turnarounds.** The Applicant proposes two (1) cul-de-sacs and (1) T-turnaround located at the end and along Woodrow Way. All turnarounds must meet of the LDC §42-105 C(8).



7. **Road Name Signs and Regulatory Signs.** Road name signs and regulatory signs shall be provided in accordance with Chapter 142 of the Henderson County Code. Road name signs and regulatory signs must be acquired and installed prior to final plat approval (LDC §42-104).
8. **Miscellaneous Advisory Provisions.** The Applicant should become familiar with the Miscellaneous Advisory Provisions of Chapter 42 (LDC §42-87).
9. **Final Plat Requirements.** The Final Plat(s) must meet the requirements provided by the Planning Department whenever a subdivision of land occurs (LDC §42-343).
10. **NCDOT Driveway Permit.** An NCDOT Driveway Permit is required for the proposed private, paved road, to access the site. *The applicant has already received a driveway permit for the site, dated October 8, 2021.*



**WGLA**  
Engineering

WGLA ENGINEERING, PLLC  
724 5th AVENUE WEST  
HENDERSONVILLE, NC 28739  
(828) 687-7177  
WGLA.COM  
NC LICENSE P-1342

**DEVELOPMENT BLOCK**

**PROJECT:** LORENA WOODS SUBDIVISION  
**OWNER:** HENDERSON COUNTY - R2R

**ADDRESS:** 99999 CLARK ROAD  
HENDERSONVILLE, NC 28792

**DEVELOPER:** SCOTT E. MCELRATH  
H. SCOTT & ASSOCIATES  
29 W. JORDAN STREET  
BREVARD, NC 28712

**OWNER:** CALL, MCCRAE AND SMITH, LLC  
29 W. JORDAN STREET  
BREVARD, NC 28712

**PIN #:** 9690-77-8377  
DB: 3566 Pg. 296

**ENGINEER:** JARED L. DERIDDER, P.E.  
WGLA ENGINEERING, PLLC  
724 5th AVENUE WEST  
HENDERSONVILLE NC 28739  
828-687-7177

**SURVEYOR:** ASSOCIATED LAND SURVEYORS, P.C.  
PO BOX 578, HORSE SHOE, NC 28742  
828-890-3507

**SETBACKS:**  
FRONT: 15'  
SIDE: 10'  
REAR: 10'

**TOTAL PROJECT AREA:** 14.62 ACRES ±

**PROPOSED LOTS :** 14

**PROPOSED DENSITY:**  
0.96 UNITS / ACRE

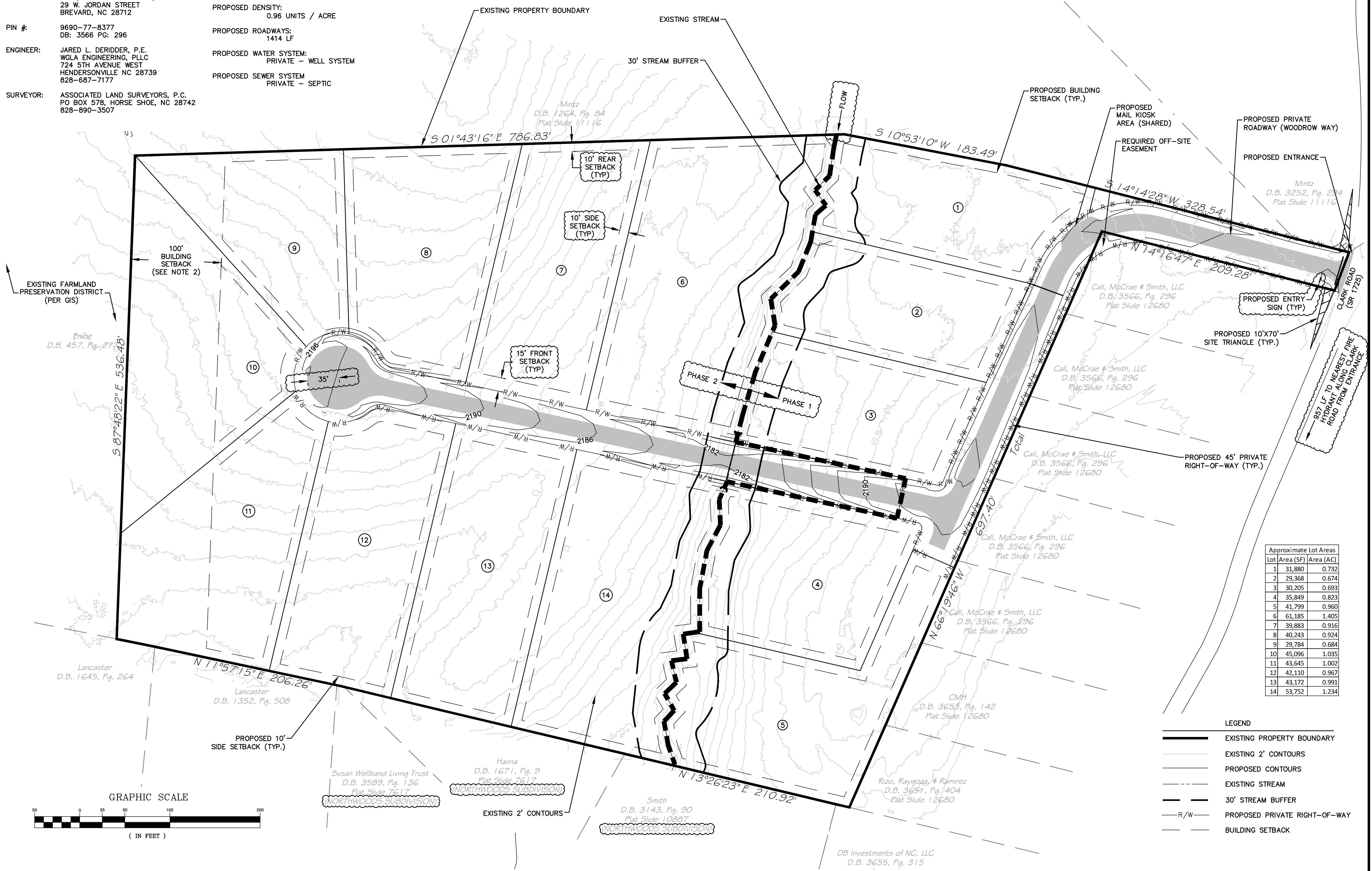
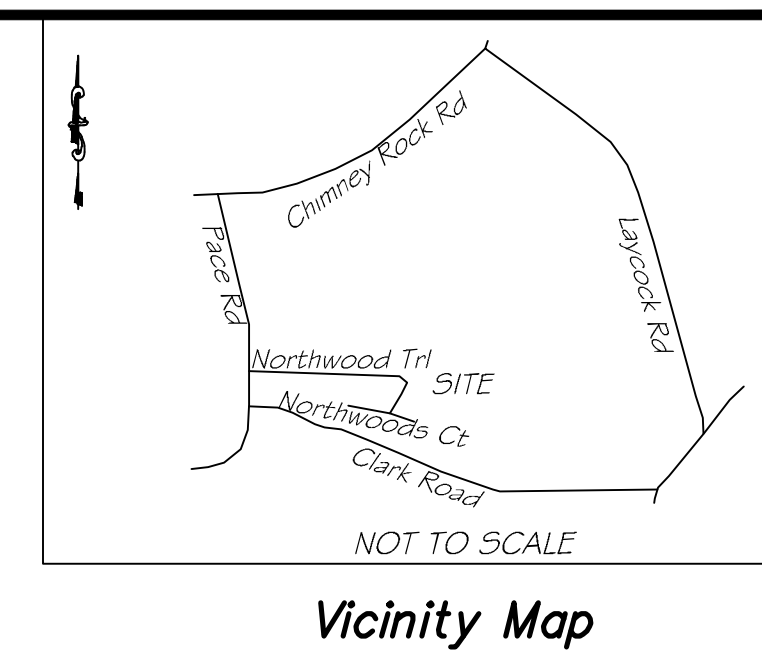
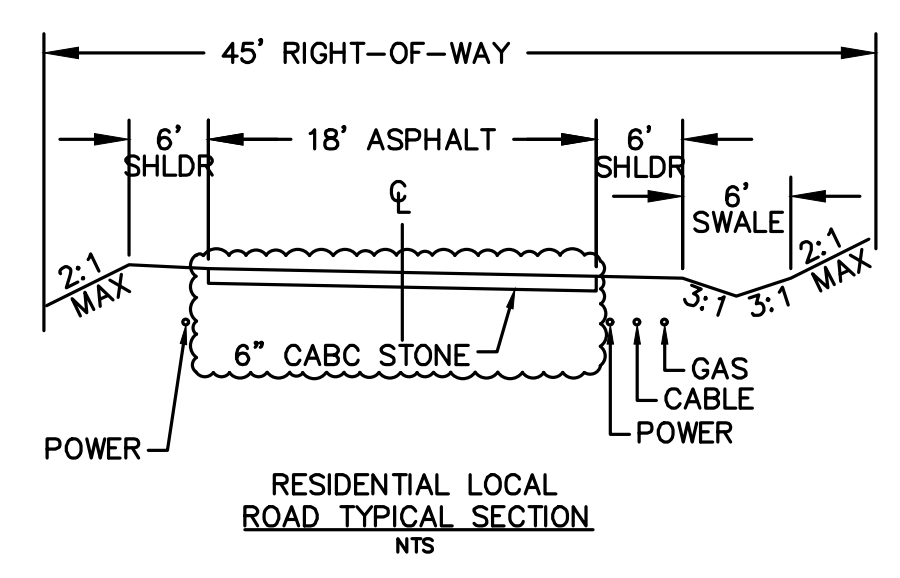
**PROPOSED ROADWAYS:**  
1414 LF

**PROPOSED WATER SYSTEM:**  
PRIVATE - WELL SYSTEM

**PROPOSED SEWER SYSTEM:**  
PRIVATE - SEPTIC

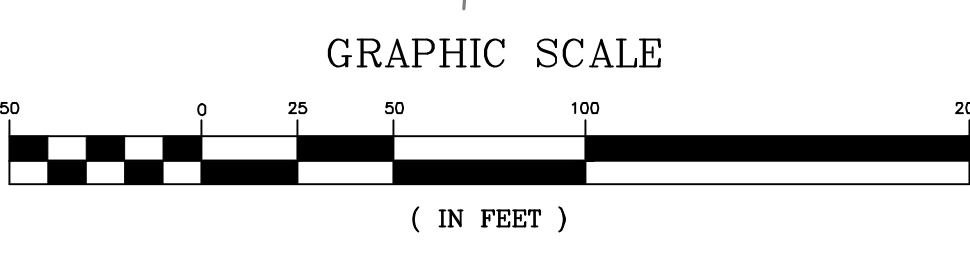
**NOTES**

- 0.62% OF THIS PROPERTY HAS A SLOPE OF 60% OR GREATER.
- SUBJECT PROPERTY IS ADJACENT TO A LAND IN A FARMLAND PRESERVATION DISTRICT.
- THIS PROPERTY IS NOT LOCATED IN THE 100-YEAR FLOODPLAIN.



Approximate Lot Areas

Lot	Area (SF)	Area (AC)
1	31,880	0.732
2	29,368	0.674
3	30,205	0.693
4	35,849	0.823
5	41,799	0.960
6	61,185	1.405
7	39,883	0.916
8	40,243	0.924
9	29,784	0.684
10	45,096	1.035
11	43,645	1.002
12	42,110	0.967
13	43,172	0.991
14	53,752	1.234



**LEGEND**

- EXISTING PROPERTY BOUNDARY
- EXISTING 2' CONTOURS
- PROPOSED CONTOURS
- EXISTING STREAM
- 30' STREAM BUFFER
- PROPOSED PRIVATE RIGHT-OF-WAY
- BUILDING SETBACK

**LORENA WOODS SUBDIVISION**

EDNEYVILLE  
HENDERSON COUNTY  
NORTH CAROLINA

Jared Deridder

**REVISIONS**

DATE	DESCRIPTION
5-4-22	REVISION 2

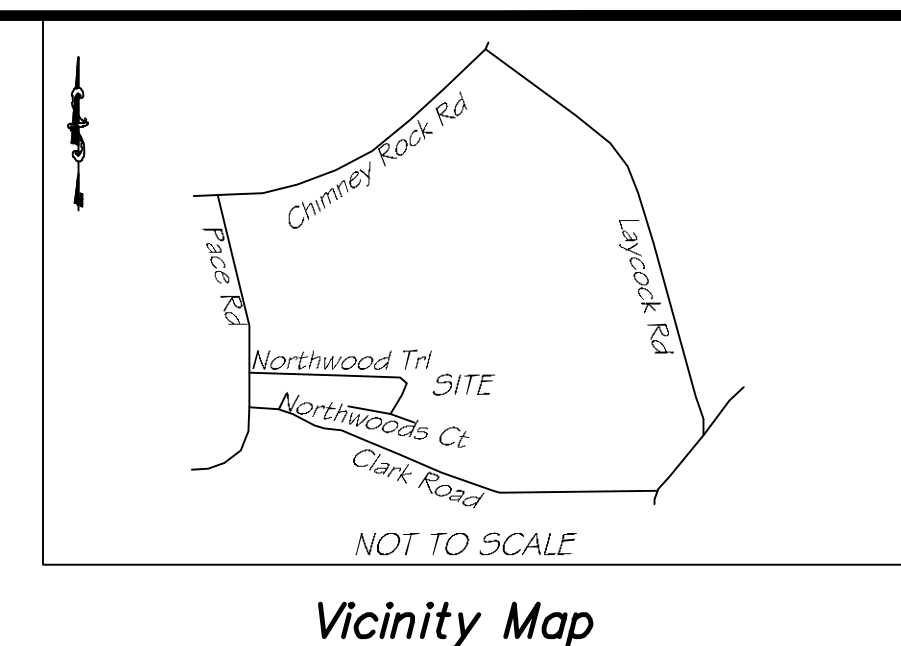
PROJECT NUMBER: 21169  
DATE: 11/8/21  
DRAWN BY: TJV  
CHECKED BY: JLD

**MASTER PLAN**

**C-201**

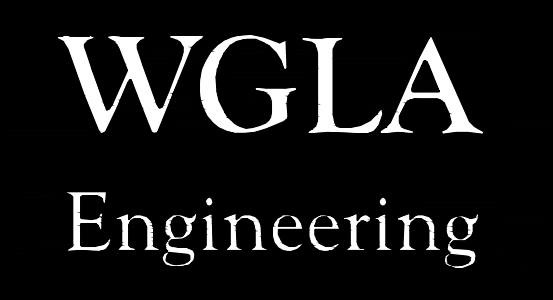
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# PRIVATE ROADWAY for LORENA WOODS SUBDIVISION

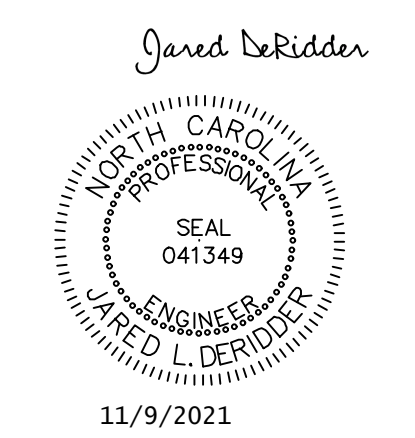
## EDNEYVILLE HENDERSON COUNTY NORTH CAROLINA



WGLA ENGINEERING, PLLC  
724 5th AVENUE WEST  
HENDERSONVILLE, NC 28739  
(828) 687-7177  
WGLA.COM  
NC LICENSE P-1342

LORENA WOODS  
SUBDIVISION

EDNEYVILLE  
HENDERSON COUNTY  
NORTH CAROLINA



REVISIONS	
DATE	DESCRIPTION



Know what's below.  
Call before you dig.

PROJECT NUMBER: 21169  
DATE: 11/1/21  
DRAWN BY: TJV  
CHECKED BY: JLD

**DEVELOPMENT BLOCK**

PROJECT: LORENA WOODS SUBDIVISION      OWNER: HENDERSON COUNTY - R2R

ADDRESS: 99999 CLARK ROAD      SETBACKS: FRONT: 15'  
HENDERSONVILLE, NC 28792      SIDE: 10'  
REAR: 10'

DEVELOPER: SCOTT E. MCELRATH      TOTAL PROJECT AREA: 14.62 ACRES ±  
H. SCOTT & ASSOCIATES      PROPOSED LOTS : 14  
29 W. JORDAN STREET      PROPOSED DENSITY:  
BREVARD, NC 28712      0.96 UNITS / ACRE

OWNER: CALL, MCCRAE AND SMITH, LLC      PROPOSED ROADWAYS:  
29 W. JORDAN STREET      1414 LF  
BREVARD, NC 28712

PIN #: 9690-77-8377      PROPOSED WATER SYSTEM:  
DB: 3566 PG: 296      PRIVATE - WELL SYSTEM

ENGINEER: JARED L. DERIDDER, P.E.      PROPOSED SEWER SYSTEM  
WGLA ENGINEERING, PLLC      PRIVATE - SEPTIC  
724 5TH AVENUE WEST  
HENDERSONVILLE NC 28739  
828-687-7177

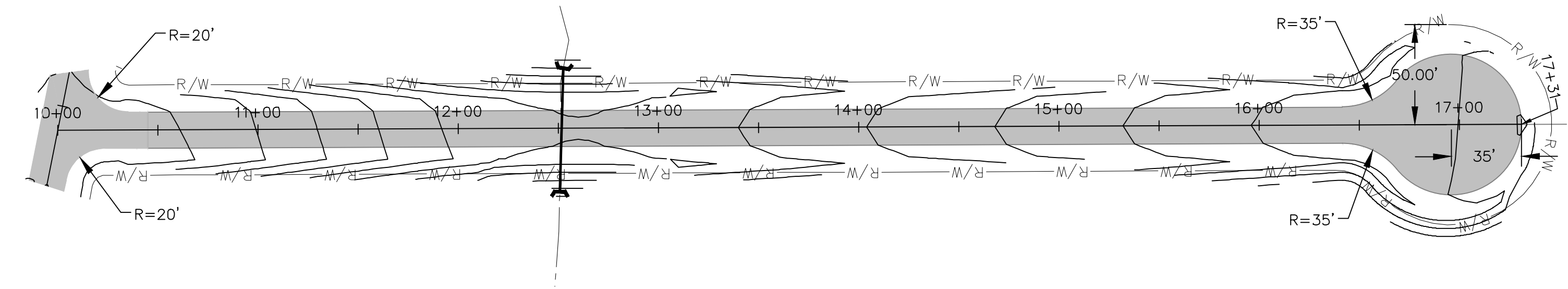
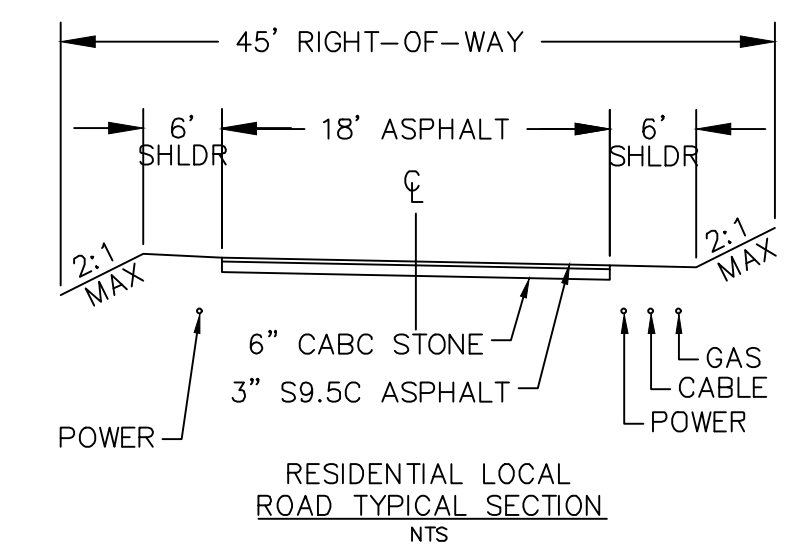
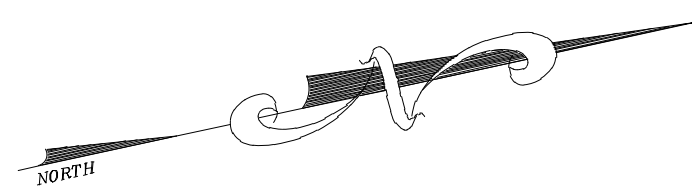
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### SHEET INDEX

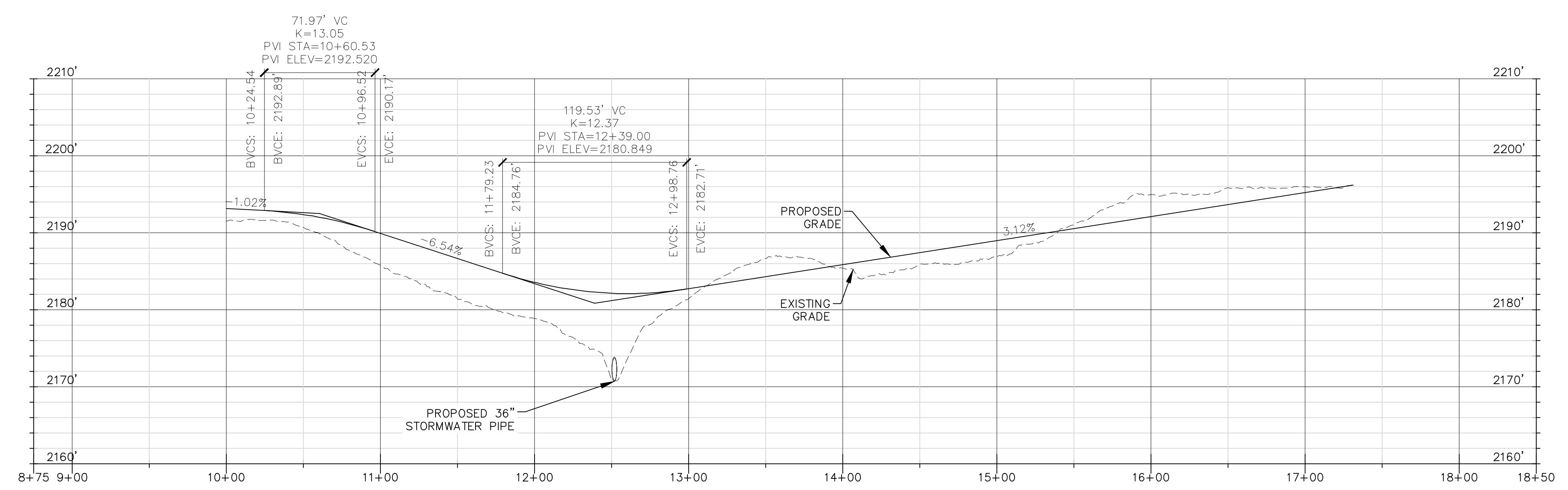
SHEET NO.	DESCRIPTION
C-700	ROAD "A" PLAN & PROFILE
C-701	ROAD "B" PLAN & PROFILE

## COVER

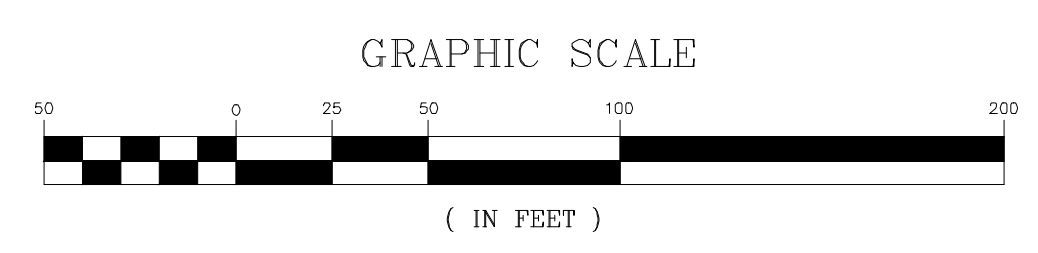
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PLAN VIEW  
SCALE 1"=50'



Profile View of Alignment - Road B  
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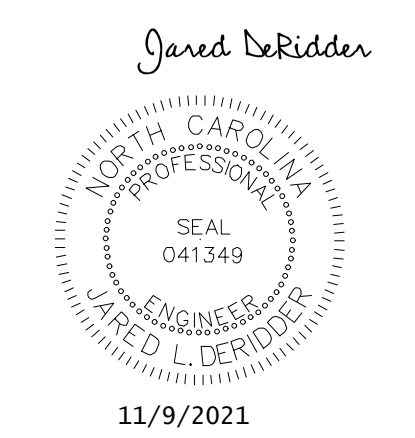


# WGLA Engineering

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NC LICENSE P-1342

## LORENA WOODS SUBDIVISION

EDNEYVILLE  
HENDERSON COUNTY  
NORTH CAROLINA



REVISIONS	
DATE	DESCRIPTION



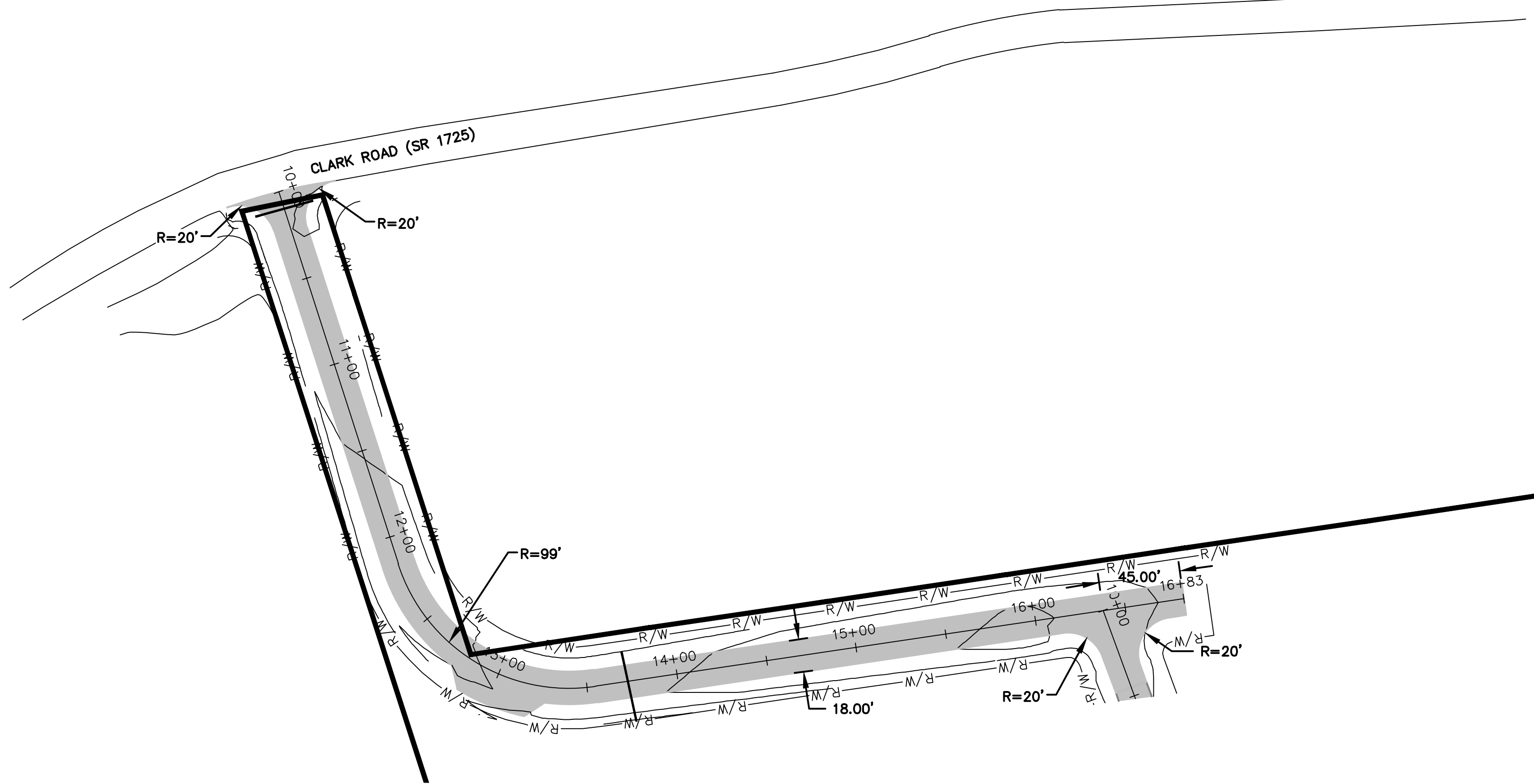
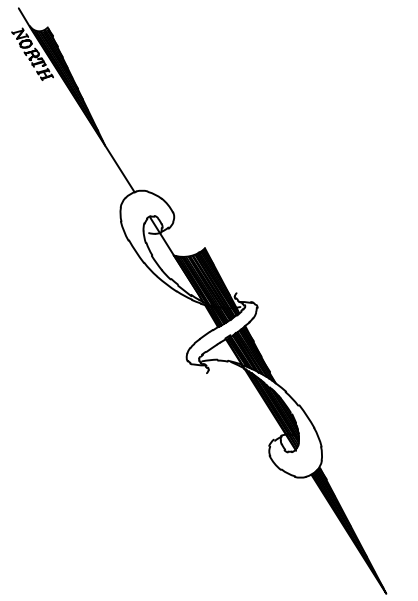
PROJECT NUMBER: 21169  
DATE: 11/8/21  
DRAWN BY: TJIV  
CHECKED BY: JLD

### ROADWAY PLAN

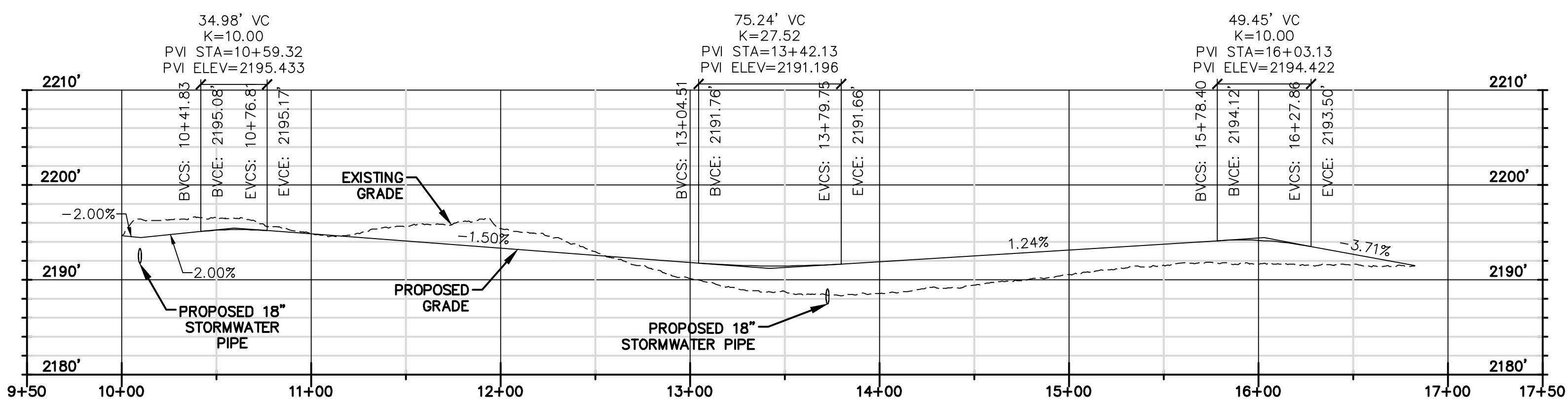
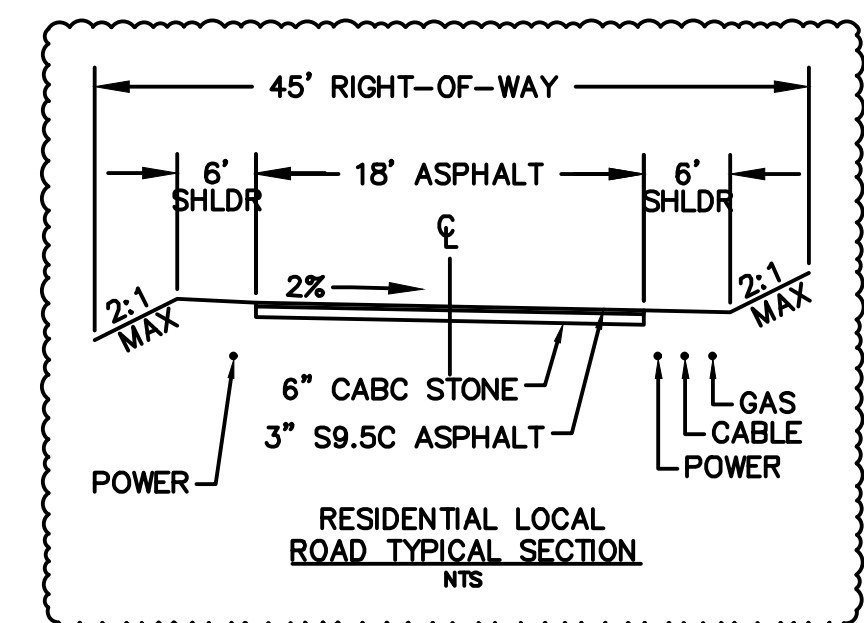
## C-701

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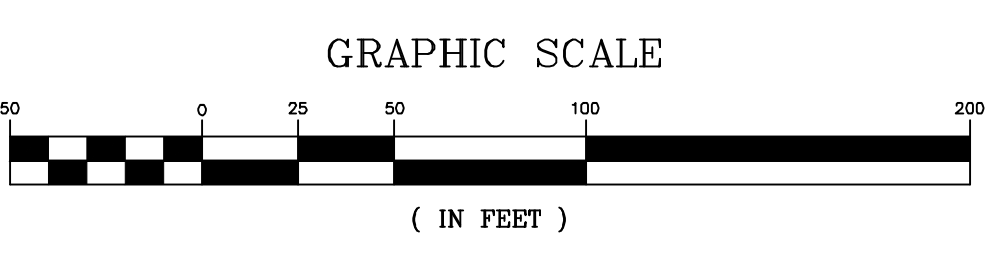




PLAN VIEW  
SCALE 1"=50'



Profile View of Alignment - Road A  
Horizontal Scale: 1"=50' Vertical Scale: 1"=10'

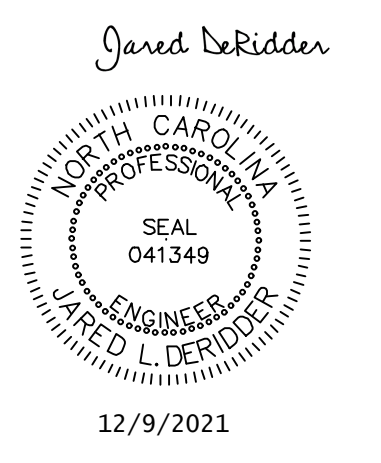


# WGLA Engineering

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WGLA.COM  
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## LORENA WOODS SUBDIVISION

EDNEYVILLE  
HENDERSON COUNTY  
NORTH CAROLINA



REVISIONS	
DATE	DESCRIPTION
12/9/21	MINOR

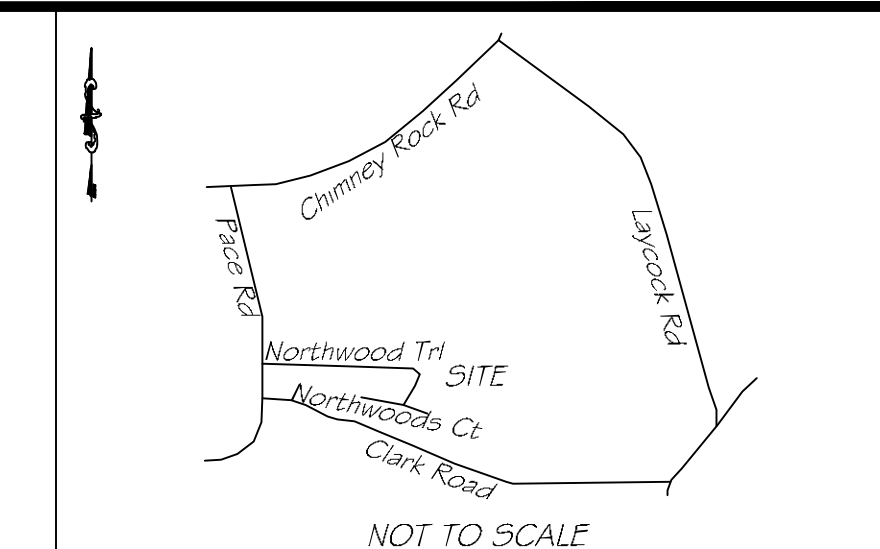


PROJECT NUMBER: 21169  
DATE: 12/9/21  
DRAWN BY: TJIV  
CHECKED BY: JLD

## ROADWAY PLAN

## C-700

SCALE: AS NOTED



Vicinity Map

**WGLA**  
Engineering

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LORENA WOODS  
SUBDIVISION

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NORTH CAROLINA

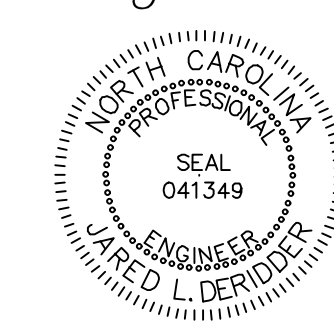
# GRADING, DRAINAGE, AND EROSION CONTROL PLANS

for

# LORENA WOODS SUBDIVISION

EDNEYVILLE  
HENDERSON COUNTY  
NORTH CAROLINA

Jared Deridder



11/30/2021

REVISIONS

DATE	DESCRIPTION



Know what's below.  
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**DEVELOPMENT BLOCK**

PROJECT:	LORENA WOODS SUBDIVISION	OWNER:	HENDERSON COUNTY - R2R
ADDRESS:	99999 CLARK ROAD HENDERSONVILLE, NC 28792	SETBACKS:	FRONT: 15' SIDE: 10' REAR: 10'
DEVELOPER:	SCOTT E. MCELRATH H. SCOTT & ASSOCIATES 29 W. JORDAN STREET BREVARD, NC 28712	TOTAL PROJECT AREA:	14.62 ACRES ±
OWNER:	CALL, MCCRAE AND SMITH, LLC 29 W. JORDAN STREET BREVARD, NC 28712	PROPOSED LOTS :	14
PIN #:	9690-77-8377 DB: 3566 PG: 296	PROPOSED DENSITY:	0.96 UNITS / ACRE
ENGINEER:	JARED L. DERIDDER, P.E. WGLA ENGINEERING, PLLC 724 5TH AVENUE WEST HENDERSONVILLE NC 28739 828-687-7177	PROPOSED ROADWAYS:	1414 LF
SURVEYOR:	ASSOCIATED LAND SURVEYORS, P.C. PO BOX 578, HORSE SHOE, NC 28742 828-890-3507	PROPOSED WATER SYSTEM:	PRIVATE - WELL SYSTEM
		PROPOSED SEWER SYSTEM:	PRIVATE - SEPTIC

PERCENT IMPERVIOUS: 23.2% ±  
RECEIVING STREAM: HENDERSON CREEK (CLASSIFICATION C:TR)

SHEET INDEX

SHEET NO.	DESCRIPTION
C-301	GRADING, DRAINAGE, & EROSION CONTROL PLAN
C-302-306	GRADING, DRAINAGE, & EROSION CONTROL DETAILS

COVER

SCALE: AS NOTED

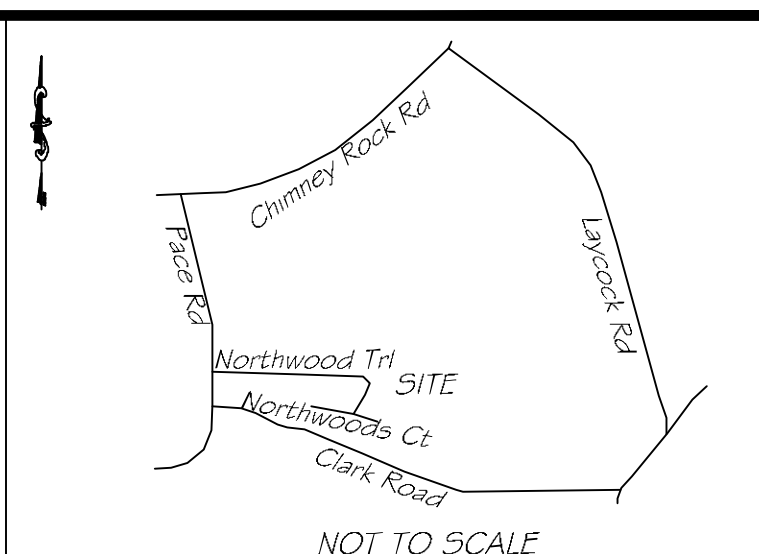
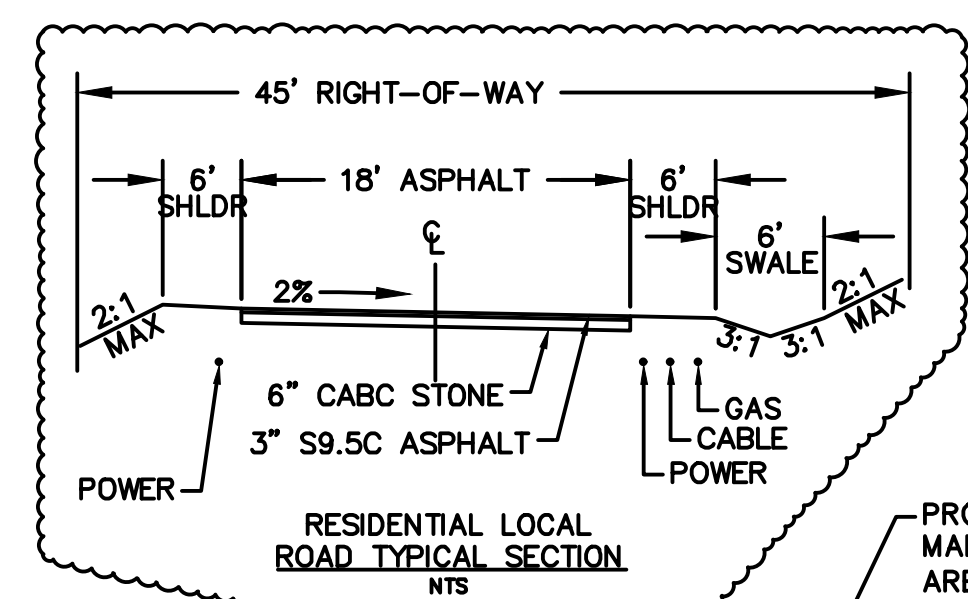


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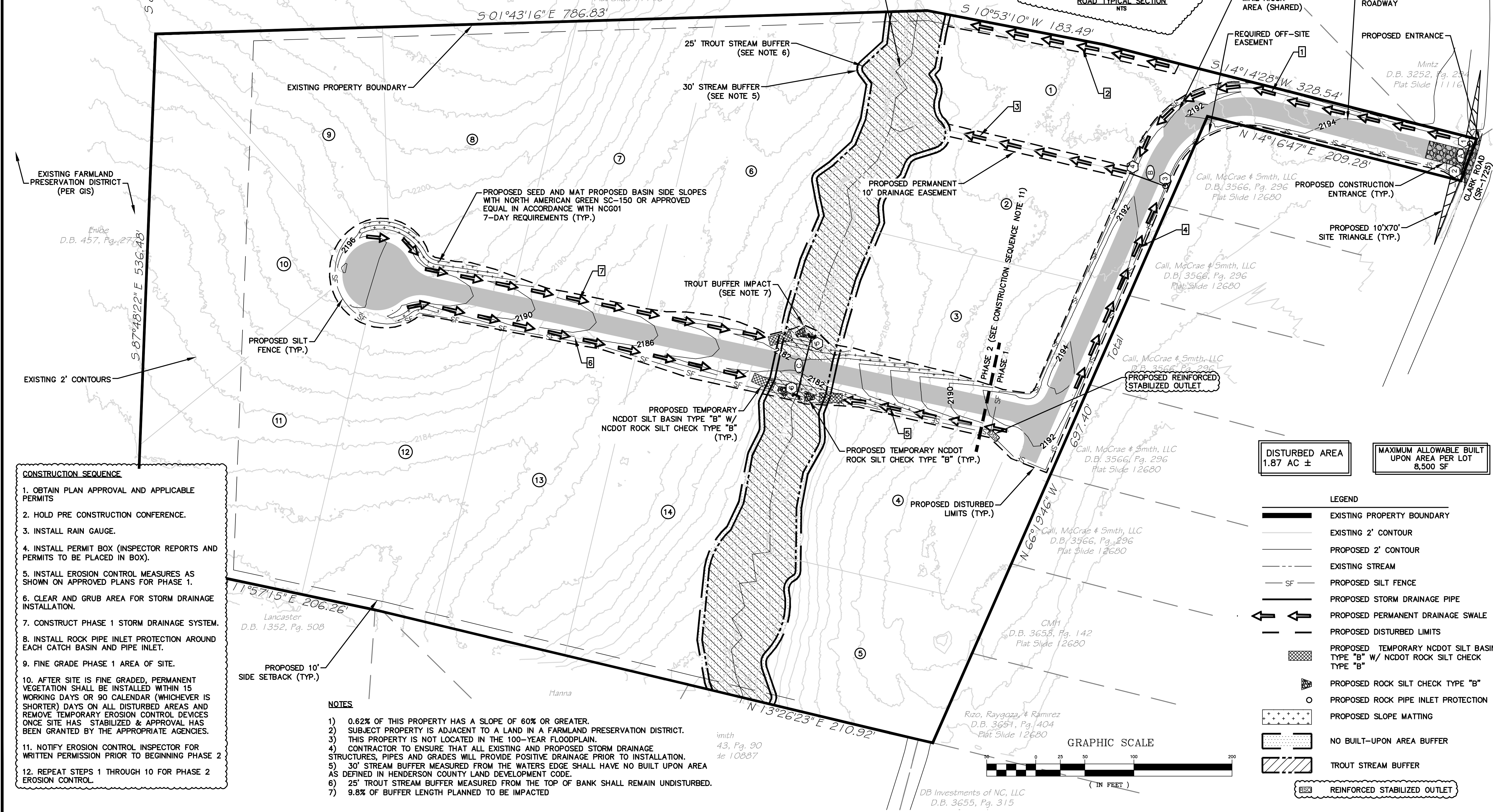
- MEASURES BEYOND THOSE SHOWN ON THE PLANS SHOULD BE APPROVED BY THE OWNER.
- CONTRACTOR SHALL OBTAIN A COPY OF THE APPROVED SEDIMENTATION AND EROSION CONTROL PERMIT AND FOLLOW ALL DIRECTIVES. CONTRACTOR SHALL READ AND UNDERSTAND THE NPDES REQUIREMENTS OF THE PERMIT INCLUDING BUT NOT LIMITED TO:
  - PLACEMENT OF RAIN GAUGE ON THE SITE
  - INSPECTION OF ALL EROSION CONTROL MEASURES FOLLOWING SPECIFIED RAINFALL EVENTS OR WEEKLY.
  - UPKEEP OF INSPECTION LOG FOR REVIEW UPON REQUEST BY NCDENR, LOCAL EROSION CONTROL AUTHORITY, OWNER OR ENGINEER.
- CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES THROUGHOUT THE LIFE OF THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD STAKING NECESSARY FOR THE CONSTRUCTION OF THE PROJECT. THE ENGINEER WILL PROVIDE THE CONTRACTOR WITH AN ELECTRONIC COPY OF THE DESIGN FOR STAKING PURPOSES. HOWEVER ALL ELECTRONIC INFORMATION SHOULD BE COORDINATED WITH THE PLANS.
- CONTRACTOR SHALL REMOVE ALL EROSION CONTROL MEASURES AT COMPLETION OF PROJECT, AFTER SITE HAS STABILIZED AND RESTORE TO FINAL GRADE.
- ALL STORM DRAINAGE INLETS SHALL HAVE GRAVEL INLET PROTECTION INSTALLED AROUND THEM AS SOON AS THEY ARE INSTALLED.
- CONTRACTOR SHALL ENSURE NO SILT ENTERS INTO THE EXISTING STREETS. IF SILT OR DEBRIS ENTERS THE EXISTING STREETS, THEN THE CONTRACTOR MUST IMMEDIATELY REMOVE THE SILT OR DEBRIS AT THE CONTRACTORS EXPENSE.
- SURVEY INFORMATION PROVIDED BY: ASSOCIATED LAND SURVEYORS 6475 BREVARD ROAD ETOWAH, NC 28729 (828) 890-3507
- ALL STORMWATER PIPES SHALL BE HDPE WITH SMOOTH INTERIOR WALL, WITH BELL AND SPIGOT ENDS AND SOIL TIGHT JOINTS, UNLESS OTHERWISE NOTED ON PLANS.
- ALL PENETRATIONS INTO STORMWATER STRUCTURES SHALL BE REPAIRED PROPERLY INSIDE AND OUTSIDE WITH BRICK AND OR NON-SHRINK GROUT.
- GIVEN PIPE LENGTHS ARE BASED ON HORIZONTAL DISTANCES BETWEEN STORMWATER STRUCTURES. CONTRACTOR SHALL FACTOR IN SLOPES WHEN ORDERING PIPE AND ORDER ADDITIONAL LENGTH AS NECESSARY.
- ALL STORMWATER PIPES IN EXCESS OF 20% SLOPE SHALL BE KEYS.
- UTILITIES MAY BE EXISTING THAT ARE NOT DEPICTED ON THIS PLAN. CONTRACTOR SHALL LOCATE AND FIELD VERIFY ALL EXISTING UTILITIES WITHIN PROJECT AREA.
- ALL STORMWATER STRUCTURES OVER 4' IN DEPTH SHALL HAVE ACCESS TO STEPS INSTALLED 16" ON CENTER.
- NO PERSON MAY INITIATE LAND-DISTURBING ACTIVITY BEFORE NOTIFYING THE AGENCY (HENDERSON COUNTY SOIL EROSION AT PHONE NUMBER (828) 694-6251) THAT ISSUED THE EROSION AND SEDIMENTATION PLAN APPROVAL OF THE DATE THAT LAND DISTURBING ACTIVITY WILL BEGIN. THIS NOTIFICATION MUST HAPPEN 48 HOURS PRIOR TO COMMENCEMENT OF LAND DISTURBING ACTIVITIES.
- A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO LAND DISTURBING ACTIVITY BEGINNING. CONTACT HENDERSON COUNTY SOIL EROSION AT (828) 694-6521.
- ANY BORROW OR WASTE SITE USED SHALL BE PROPERLY PERMITTED.
- WHENEVER THE SOIL EROSION AND SEDIMENTATION CONTROL ADMINISTRATOR DETERMINES THAT SIGNIFICANT EROSION AND SEDIMENTATION IS OCCURRING AS A RESULT OF LAND-DISTURBING ACTIVITY, DESPITE APPLICATION AND MAINTENANCE OF PROTECTIVE PRACTICES, THE PERSON CONDUCTING THE LAND DISTURBING ACTIVITY WILL BE REQUIRED TO AND SHALL TAKE ADDITIONAL PROTECTIVE ACTION.
- NO SLOPES SHALL BE CONSTRUCTED STEEPER THAN A 2:1 AND SLOPES STEEPER THAN A 4:1 SHALL BE SEEDED AND MATTED WITH NORTH AMERICAN GREEN SC-150 OR APPROVED EQUAL.

Structure #	Top Elevation (ft)	Invert Elevation (ft)	Structure Depth (ft)	Type
1	2192.18	2192.18	0.00	PIPE
2	2191.33	2191.33	0.00	PIPE
3	2188.00	2188.00	0.00	PIPE
4	2186.79	2186.79	0.00	PIPE
5	SEE DETAIL			HW
6	SEE DETAIL			HW

Pipe Segment	Upstream Structure	Downstream Structure	Length (LF)	Slope	Material	Diameter (in)
A	1	2	32.97	2.58%	HDPE	18
B	3	4	39.4	3.07%	HDPE	18
C	5	6	61.63	0.68%	HDPE	36



Vicinity Map

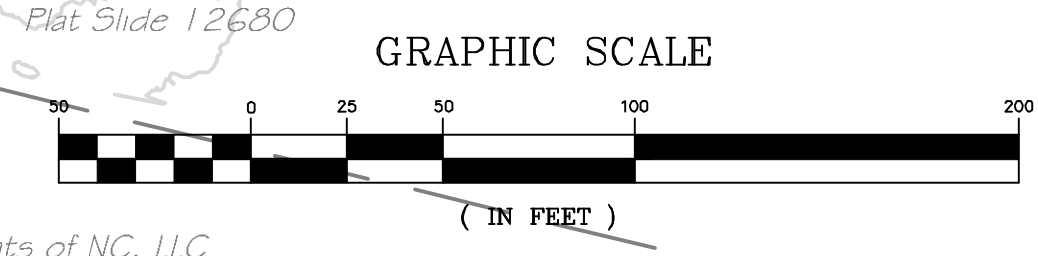
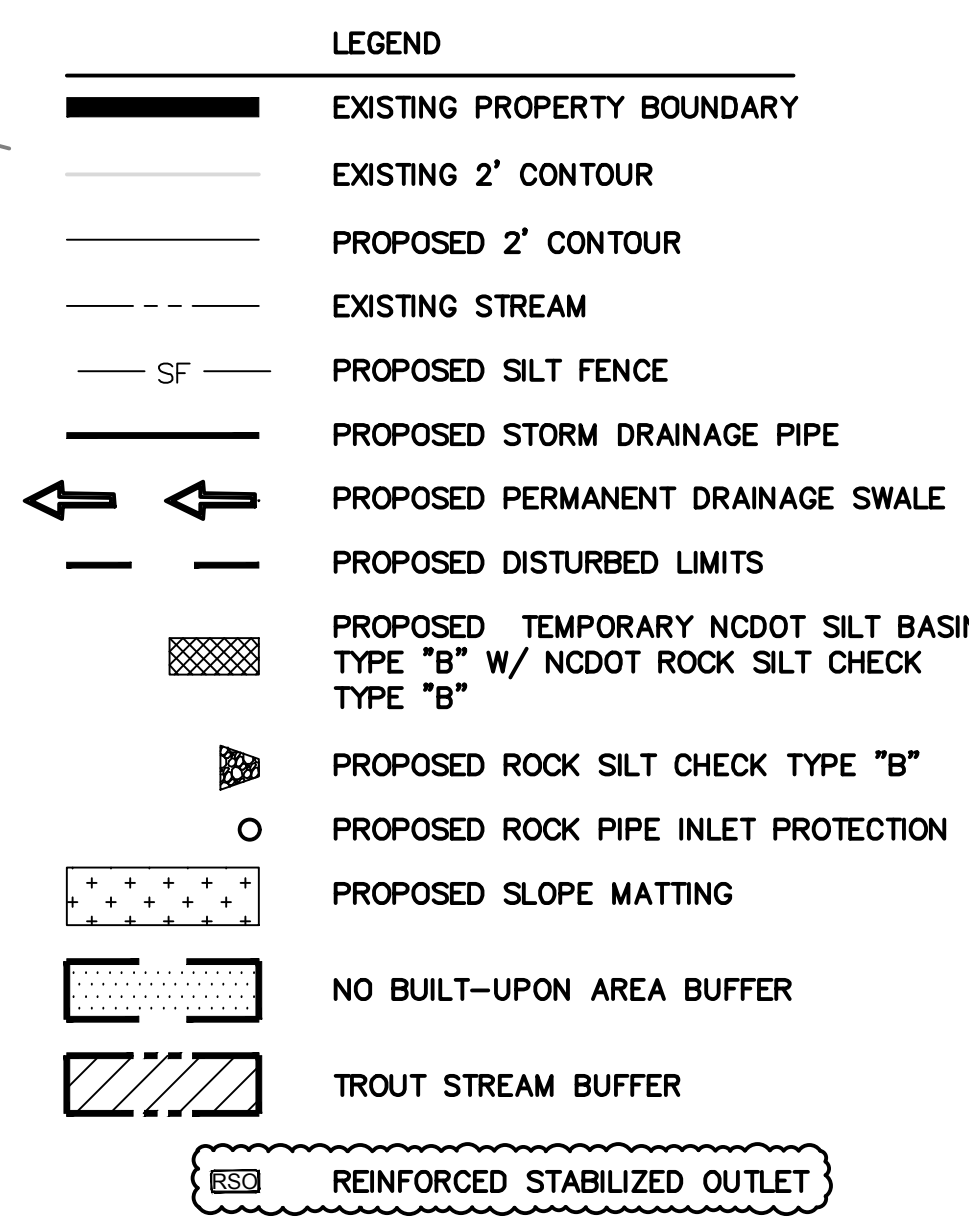


- CONSTRUCTION SEQUENCE**
- OBTAIN PLAN APPROVAL AND APPLICABLE PERMITS
  - HOLD PRE CONSTRUCTION CONFERENCE.
  - INSTALL RAIN GAUGE.
  - INSTALL PERMIT BOX (INSPECTOR REPORTS AND PERMITS TO BE PLACED IN BOX).
  - INSTALL EROSION CONTROL MEASURES AS SHOWN ON APPROVED PLANS FOR PHASE 1.
  - CLEAR AND GRUB AREA FOR STORM DRAINAGE INSTALLATION.
  - CONSTRUCT PHASE 1 STORM DRAINAGE SYSTEM.
  - INSTALL ROCK PIPE INLET PROTECTION AROUND EACH CATCH BASIN AND PIPE INLET.
  - FINE GRADE PHASE 1 AREA OF SITE.
  - AFTER SITE IS FINE GRADED, PERMANENT VEGETATION SHALL BE INSTALLED WITHIN 15 WORKING DAYS OR 90 CALENDAR (WHICHEVER IS SHORTER) DAYS ON ALL DISTURBED AREAS AND REMOVE TEMPORARY EROSION CONTROL DEVICES ONCE SITE HAS STABILIZED & APPROVAL HAS BEEN GRANTED BY THE APPROPRIATE AGENCIES.
  - NOTIFY EROSION CONTROL INSPECTOR FOR WRITTEN PERMISSION PRIOR TO BEGINNING PHASE 2
  - REPEAT STEPS 1 THROUGH 10 FOR PHASE 2 EROSION CONTROL.

- NOTES**
- 0.62% OF THIS PROPERTY HAS A SLOPE OF 60% OR GREATER.
  - SUBJECT PROPERTY IS ADJACENT TO A LAND IN A FARMLAND PRESERVATION DISTRICT.
  - THIS PROPERTY IS NOT LOCATED IN THE 100-YEAR FLOODPLAIN.
  - CONTRACTOR TO ENSURE THAT ALL EXISTING AND PROPOSED STORM DRAINAGE STRUCTURES, PIPES AND GRADES WILL PROVIDE POSITIVE DRAINAGE PRIOR TO INSTALLATION.
  - 30' STREAM BUFFER MEASURED FROM THE WATERS EDGE SHALL HAVE NO BUILT UPON AREA AS DEFINED IN HENDERSON COUNTY LAND DEVELOPMENT CODE.
  - 25' TROUT STREAM BUFFER MEASURED FROM THE TOP OF BANK SHALL REMAIN UNDISTURBED.
  - 9.8% OF BUFFER LENGTH PLANNED TO BE IMPACTED

**DISTURBED AREA**  
1.87 AC ±

**MAXIMUM ALLOWABLE BUILT UPON AREA PER LOT**  
8,500 SF



**WGLA Engineering**

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NC LICENSE P-1342

**LORENA WOODS SUBDIVISION**

EDNEYVILLE  
HENDERSON COUNTY  
NORTH CAROLINA

Jared DeRidder

12/9/2021

**REVISIONS**

DATE	DESCRIPTION
11/30/21	HC EROSION CONTROL
12/9/21	MINOR

**811**

Know what's below.  
Call before you dig.

PROJECT NUMBER: 21169  
DATE: 12/9/21  
DRAWN BY: TJV  
CHECKED BY: JLD

**GRADING, DRAINAGE, AND EROSION CONTROL PLAN**

**C-301**

SCALE: 1"=50'



**GENERAL CONSTRUCTION NOTES**

- All work and construction activities on the project site shall comply with all applicable OSHA regulations and requirements. It is the Contractor's responsibility to maintain a safe work site.
- The Engineer and Owner reserve the right to modify project work items (including grading) as deemed necessary for the successful completion of the project. The Contractor may suggest adjustments to grading or other work items to be approved by the Engineer or Owner.
- The Contractor shall comply with the Geotechnical Report for the placement of fill and compaction requirements, if no report is available, the following minimum standards shall apply:  
Placement of fill:  
A. Place the material in successive horizontal layers not exceeding 8" for the full width of the cross section.  
B. Fill shall be placed only when it is within 3% of its optimum moisture content as determined by a Standard Proctor ASTM D 698.  
C. Each layer of fill shall be spread evenly and shall be compacted to its specified density as determined by Standard Proctor ASTM D 698 before new layers are placed and compacted.  
D. Sloped ground surfaces steeper than one vertical to four horizontal, on which fill is to be placed, shall be stepped or benched such that fill material will bond to the existing surfaces.  
E. Embankment slopes shall be constructed by filling one (1) foot beyond the proposed finished slope surface for each lift. Compaction equipment shall work to the edge of each lift. After the entire fill is placed and compacted, the outside foot of the slope shall be trimmed to the design slope with a dozer. Unless indicated on the drawings, no fill slopes shall be steeper than 2 horizontal to 1 vertical.  
Compaction:  
A. Structural Fill Under Buildings and Within 10' of Building Perimeter: 100% of Standard Proctor the entire depth of fill.  
B. Under Walks, Drives, Pads, and Paved Areas: 95% of Standard Proctor except 100% of Standard Proctor in the upper 2'.  
C. Under Lawns and Planting Areas Beyond 10' from Building: 95% of Standard Proctor  
D. Backfill in Trenches: Comply with compaction requirements for the area through which the trench runs.
- All erosion control devices such as silt fences, diversions, sediment traps, etc. shall be maintained in workable conditions for the life of the project and shall be removed at the completion of the project only with the engineer's approval. See the NPDES requirements on this plan sheet for more detail. If during the life of the project a storm causes soil erosion which changes the finished grades or creates gullies and washed areas, these shall be repaired by the Contractor at no extra cost. The Contractor shall adhere to the approved erosion control plan and take any additional measures necessary to prevent sediment from leaving the site.

- Disposable Materials:  
A. Clearing and grubbing wastes shall be removed from the site and properly disposed of by the contractor at their expense, unless otherwise specified.  
B. Solid wastes to be removed such as sidewalks, curbs, pavement, etc. may be placed in specified disposal areas if permitted by the appropriate agencies and approved by the Owner. This material shall be spread and mixed with dirt eliminating all voids. This material shall have a minimum cover of 2'. The Contractor shall maintain specified compaction requirements in these areas. When disposal sites are not provided, the Contractor shall remove this waste from the site and properly dispose of it at their expense.  
C. Abandoned utilities such as culverts, water pipe, hydrants, casting, pipe appurtenances, utility poles, etc. shall be the property of the specified utility agency or company having jurisdiction. Before the Contractor can remove, destroy, salvage, re-use, sell or store for their own use any abandoned utility, they must present to the owner written permission from the utility involved.  
D. Unless otherwise noted on the plans, burning will not be allowed on this project. Should burning be allowed by the owner, it is the Contractor's responsibility to obtain all necessary permits (at their expense) and follow all applicable rules and regulations.
- Unless otherwise specified, all base, paving, curbing and other concrete work shall conform to the local municipality or NCDOT specifications for construction. All water and sewer construction shall conform to the local utility requirements and/or the NCDENR minimum standards.
- In the event excessive ground water or springs are encountered within the limits of construction, the Contractor shall install necessary underdrains and stone as directed by the Engineer. All work shall be paid based upon the unit prices unless otherwise specified.
- The Contractor is responsible for the coordination of adjustment of all utility surface accesses (including manhole covers, valve boxes, etc.) whether he performs the work or the utility company performs the work.
- The Contractor shall control all "dust" by periodic watering and shall provide access at all times for property owners within the project and for emergency vehicles. All open ditches and hazardous areas shall be clearly marked in accordance with OSHA regulations.
- All areas of exposed soil shall be seeded, fertilized and mulched according to the specifications. The finished surface shall be to grade and smooth, free of all rocks larger than 3", equipment tracks, dirt clods, bumps, ripples, and gouges prior to seeding. The surface shall be loosened to a depth of 1 1/2" to accept seed. The Contractor shall not proceed with seeding operations without first obtaining the Engineer's approval of the graded surface. All seeding shall be performed by a mechanical "hydro-seeder". The Engineer prior to seeding must approve hand seeding on any area.
- Graded slopes and fills shall be protected with rolled erosion control product if completed outside of optimum germination season when unfavorable weather conditions prevent establishment of vegetative ground cover.

**6.06 TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT**

**Definition**  
A gravelled area or pad located at points where vehicles enter and leave a construction site.

**Purpose**  
To provide a buffer area where vehicles can drop their mud and sediment to avoid transporting it onto public roads, to control erosion from surface runoff, and to help control dust.

**Conditions Where Practice Applies**  
Whenever traffic will be leaving a construction site and moving directly onto a public road or other paved off-site area. Construction plans should limit traffic to properly constructed entrances.

**Design Criteria**  
Aggregate Size—Use 2-3 inch washed stone.  
Dimensions of gravel pad—  
Thickness: 6 inches minimum  
Width: 12-ft minimum or full width at all points of the vehicular entrance and exit area, whichever is greater  
Length: 50-ft minimum  
Location—Locate construction entrances and exits to limit sediment from leaving the site and to provide for maximum utility by all construction vehicles (Figure 6.06a). Avoid steep grades and entrances at curves in public roads.

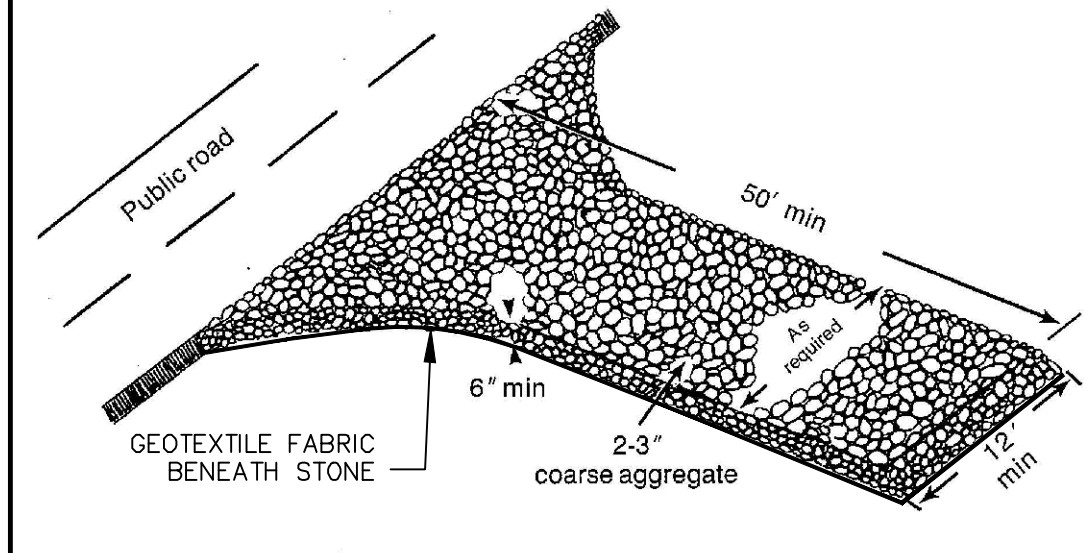
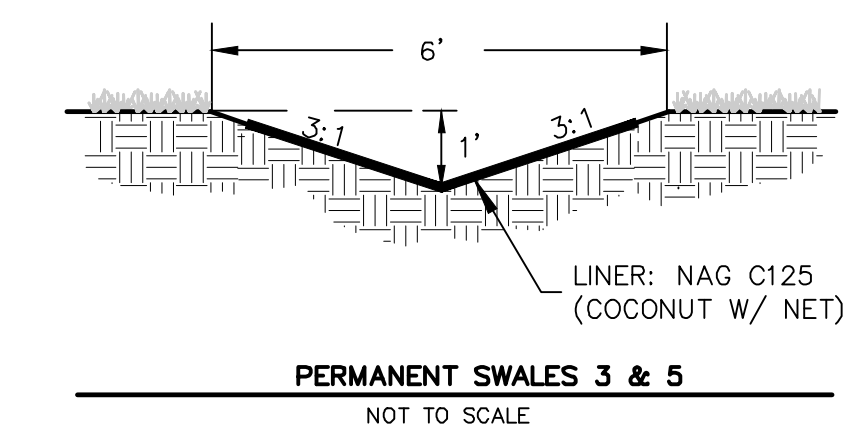
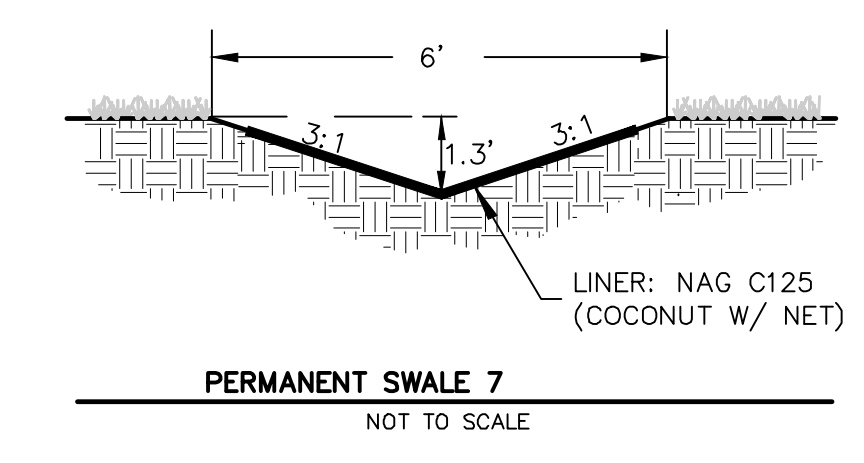
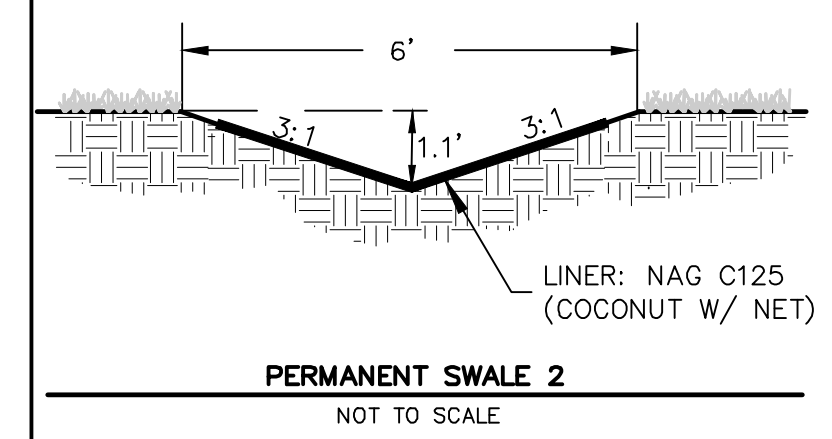
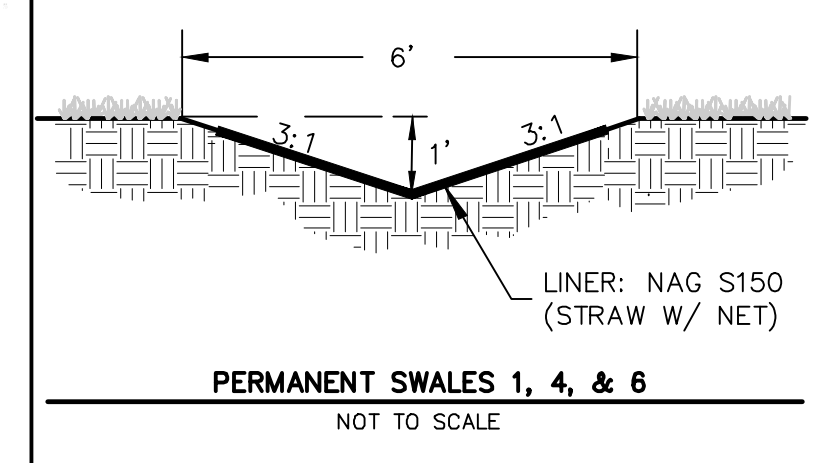
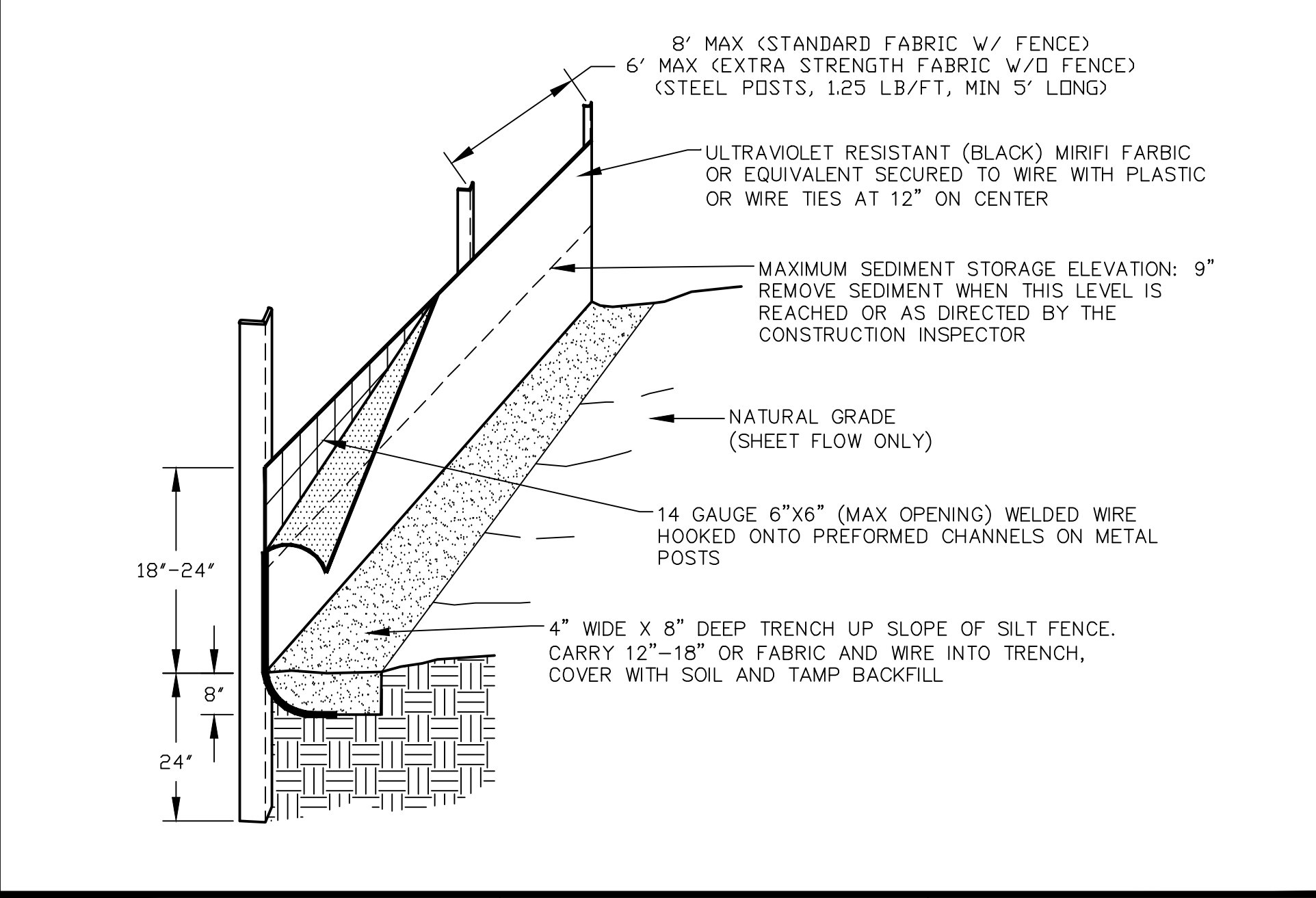


Figure 6.06a Gravel entrance/exit traps sediment from leaving the construction site (modified from Va SWDC).  
MAINTENANCE:  
MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 2 INCH STONE. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.



NOTE:  
ALL SWALES TO BE SEEDDED PRIOR TO PLACEMENT OF MATTING. SWALE WILL BE CONSIDERED STABILIZED ONCE GRASS IS ESTABLISHED IN SWALE.

**TEMPORARY DIVERSION MAINTENANCE (PER NCDENR SPECIFICATIONS)**  
INSPECT TEMPORARY DIVERSIONS ONCE A WEEK AND AFTER EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE. CAREFULLY CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED. WHEN THE AREA PROTECTED IS PERMANENTLY STABILIZED, REMOVE THE RIDGE AND THE CHANNEL TO BLEND WITH THE NATURAL GROUND LEVEL AND APPROPRIATELY STABILIZE IT.



**MATERIALS**  
1. USE A SYNTHETIC FILTER FABRIC OF AT LEAST 95% BY WEIGHT OF POLYOLEFINS OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS IN ASTM D 6461, WHICH IS SHOWN IN PART IN TABLE 6.62B.  
2. ENSURE THAT POSTS FOR SEDIMENT FENCES ARE 1.25 LB/LINEAR FT MINIMUM STEEL WITH A MINIMUM LENGTH OF 5 FEET. 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 24 INCHES ABOVE THE GROUND SURFACE.  
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 4 FEET MINIMUM OVERLAP TO THE NEXT POST.  
4. SUPPORT STANDARD STRENGTH FILTER FABRIC BY WIRE MESH FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS. EXTEND THE WIRE MESH SUPPORT TO THE BOTTOM OF THE TRENCH. FASTEN THE WIRE REINFORCEMENT, THEN FABRIC ON THE UPSLOPE SIDE OF THE FENCE POST. WIRE OR PLASTIC ZIP TIES SHOULD HAVE MINIMUM 50 POUND TENSILE STRENGTH.  
5. WHEN A WIRE MESH SUPPORT FENCE IS USED, SPACE POSTS A MAXIMUM OF 8 FEET APART. SUPPORT POSTS SHOULD BE DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 24 INCHES.  
6. EXTRA STRENGTH FILTER FABRIC WITH 6 FEET POST SPACING DOES NOT REQUIRE WIRE MESH SUPPORT FENCE. SECURELY FASTEN THE FILTER FABRIC DIRECTLY TO POSTS. WIRE OR PLASTIC ZIP TIES SHOULD HAVE MINIMUM 50 POUND TENSILE STRENGTH.  
7. EXCAVATE A TRENCH APPROXIMATELY 4 INCHES WIDE AND 8 INCHES DEEP ALONG THE PROPOSED LINE OF POSTS AND UPSLOPE FROM THE BARRIER.  
8. PLACE 12 INCHES OF THE FABRIC ALONG THE BOTTOM AND SIDE OF THE TRENCH.  
9. BACKFILL THE TRENCH WITH SOIL PLACED OVER THE FILTER FABRIC AND COMPACT. THOROUGH COMPACTION OF THE BACKFILL IS CRITICAL TO SILT FENCE PERFORMANCE.  
10. DO NOT ATTACH FILTER FABRIC TO EXISTING TREES.

TEMPORARY SILT FENCE MATERIAL PROPERTY REQUIREMENTS 6.62b

TEST MATERIAL	UNITS	SUPPORTED SILT FENCE	UN-SUPPORTED SILT FENCE (1)	TYPE OF VALUE
GRAB STRENGTH	ASTM D 4632	N (LBS)		
MACHINE DIRECTION		400	550	MARV
		(90)	(90)	
X-MACHINE DIRECTION		400	450	MARV
		(90)	(90)	
PERMITTIVITY (2)	ASTM D 4491	sec-1	0.05	MARV
APPARENT OPENING SIZE (2)	ASTM D 4751	MM	0.60	MAX ARV (3)
	(US SIEVE #)	(30)	(30)	
ULTRAVIOLET STABILITY	ASTM D 4355	% RETAINED STRENGTH	70% AFTER 500H OF EXPOSURE	TYPICAL
			70% AFTER 500H OF EXPOSURE	

(1) SILT FENCE SUPPORT SHALL CONSIST OF 14 GAUGE STEEL WIRE WITH A MESH SPACING OF 10 MM (3/8 INCHES), OR PREFABRICATED POLYMER MESH OF EQUIVALENT STRENGTH.  
(2) THESE DEFAULT VALUES ARE BASED UPON FABRIC ALIGNED WITH A VARIETY OF SEDIMENT FOR ENVIRONMENTALLY SENSITIVE AREAS. A REVIEW OF PREVIOUS EXPERIENCE, LOCAL USE, OR REGIONALLY SPECIFIC CONSTRUCTION TESTS IN ACCORDANCE WITH TEST METHOD D 514 SHOULD BE PERFORMED BY THE AGENCY TO CONFIRM SUITABILITY OF THESE REQUIREMENTS.  
(3) AS MEASURED IN ACCORDANCE WITH TEST METHOD D 442.

**INSTALLATION**  
1. THE BASE OF BOTH END POSTS SHOULD BE AT LEAST ONE FOOT HIGHER THAN THE MIDDLE OF THE FENCE. CHECK WITH A LEVEL IF NECESSARY.  
2. INSTALL POSTS 4 FEET APART IN CRITICAL AREAS AND 6 FEET APART ON STANDARD APPLICATIONS.  
3. INSTALL POSTS 2 FEET DEEP ON THE DOWNSTREAM SIDE OF THE SILT FENCE, AND AS CLOSE AS POSSIBLE TO THE FABRIC, ENABLING POSTS TO SUPPORT THE FABRIC FROM UPSTREAM WATER PRESSURE.  
4. INSTALL POSTS WITH THE NIPPLES FACING AWAY FROM THE SILT FABRIC.  
5. ATTACH THE FABRIC TO EACH POST WITH THREE TIES, ALL SPACED WITHIN THE TOP 8 INCHES OF THE FABRIC. ATTACH EACH TIE DIAGONALLY 45 DEGREES THROUGH THE FABRIC, WITH EACH PUNCTURE AT LEAST 1 INCH VERTICALLY APART. ALSO, EACH TIE SHOULD BE POSITIONED TO HANG ON A POST NIPPLE WHEN TIGHTENED TO PREVENT SAGGING.  
6. WRAP APPROXIMATELY 6 INCHES OF FABRIC AROUND THE END POSTS AND SECURE WITH 3 TIES.  
7. NO MORE THAN 24 INCHES OF A 36 INCH FABRIC IS ALLOWED ABOVE GROUND LEVEL.  
8. THE INSTALLATION SHOULD BE CHECKED AND CORRECTED FOR ANY DEVIATIONS BEFORE COMPACTION.  
9. COMPACTION IS VITALLY IMPORTANT FOR EFFECTIVE RESULTS. COMPACT THE SOIL IMMEDIATELY NEXT TO THE SILT FENCE FABRIC WITH THE FRONT WHEEL OF THE TRACTOR, SKID STEER, OR ROLLER EXERTING AT LEAST 60 POUNDS PER SQUARE INCH. COMPACT THE UPSLOPE SIDE FIRST, AND THEN EACH SIDE TWICE FOR A TOTAL OF 4 TRIPS.

**MAINTENANCE**  
1. INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.  
2. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.  
3. 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.  
4. 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.

**SILT FENCE**  
NOT TO SCALE  
1 OF 3

**SILT FENCE**  
NOT TO SCALE  
2 OF 3

**SILT FENCE**  
NOT TO SCALE  
3 OF 3

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**LORENA WOODS SUBDIVISION**  
EDNEYVILLE  
HENDERSON COUNTY  
NORTH CAROLINA

Jared B. Ritter  
NORTH CAROLINA PROFESSIONAL ENGINEER  
SEAL 041349  
JARED L. RITTER  
11/30/2021

**REVISIONS**

DATE	DESCRIPTION
11/30/21	HC EROSION CONTROL

**811**  
Know what's below.  
Call before you dig.

PROJECT NUMBER: 21169  
DATE: 11/30/21  
DRAWN BY: TJV  
CHECKED BY: JLD

**GRADING, DRAINAGE, AND EROSION CONTROL DETAILS**

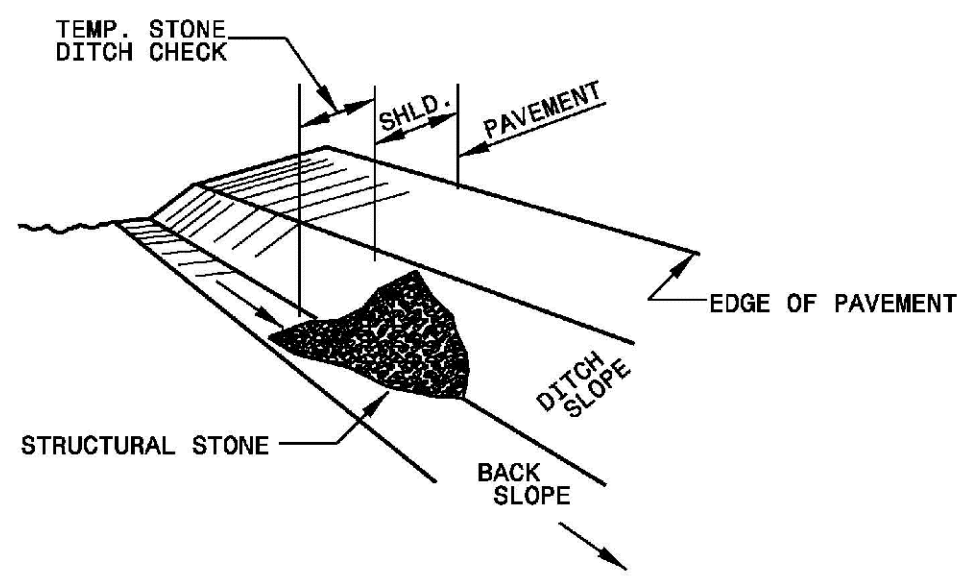
**C-302**

SCALE: AS NOTED

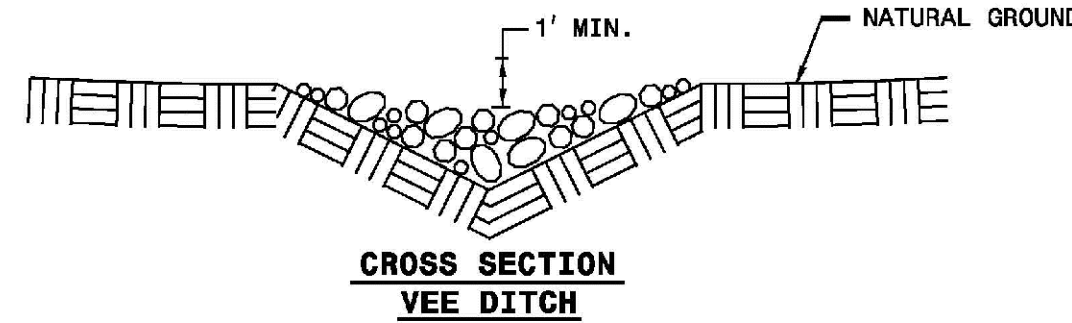




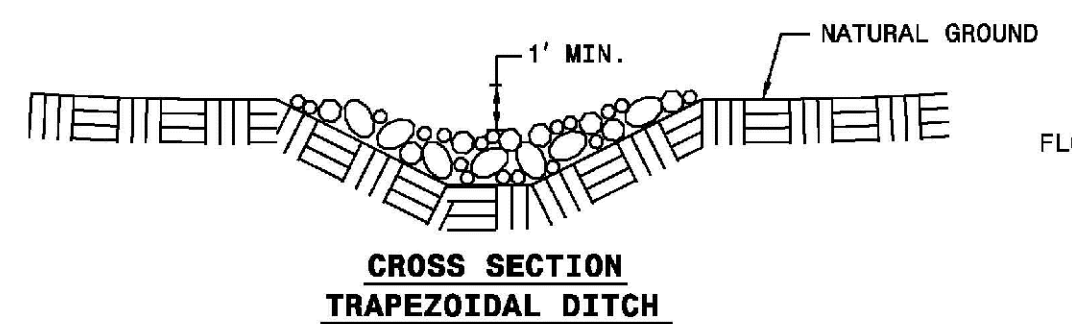




ISOMETRIC VIEW

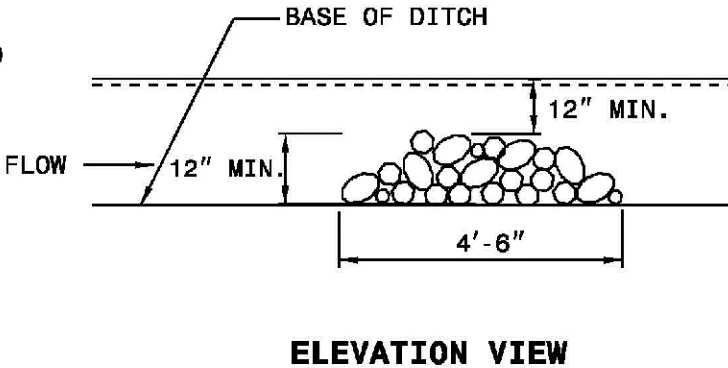


CROSS SECTION VEE DITCH

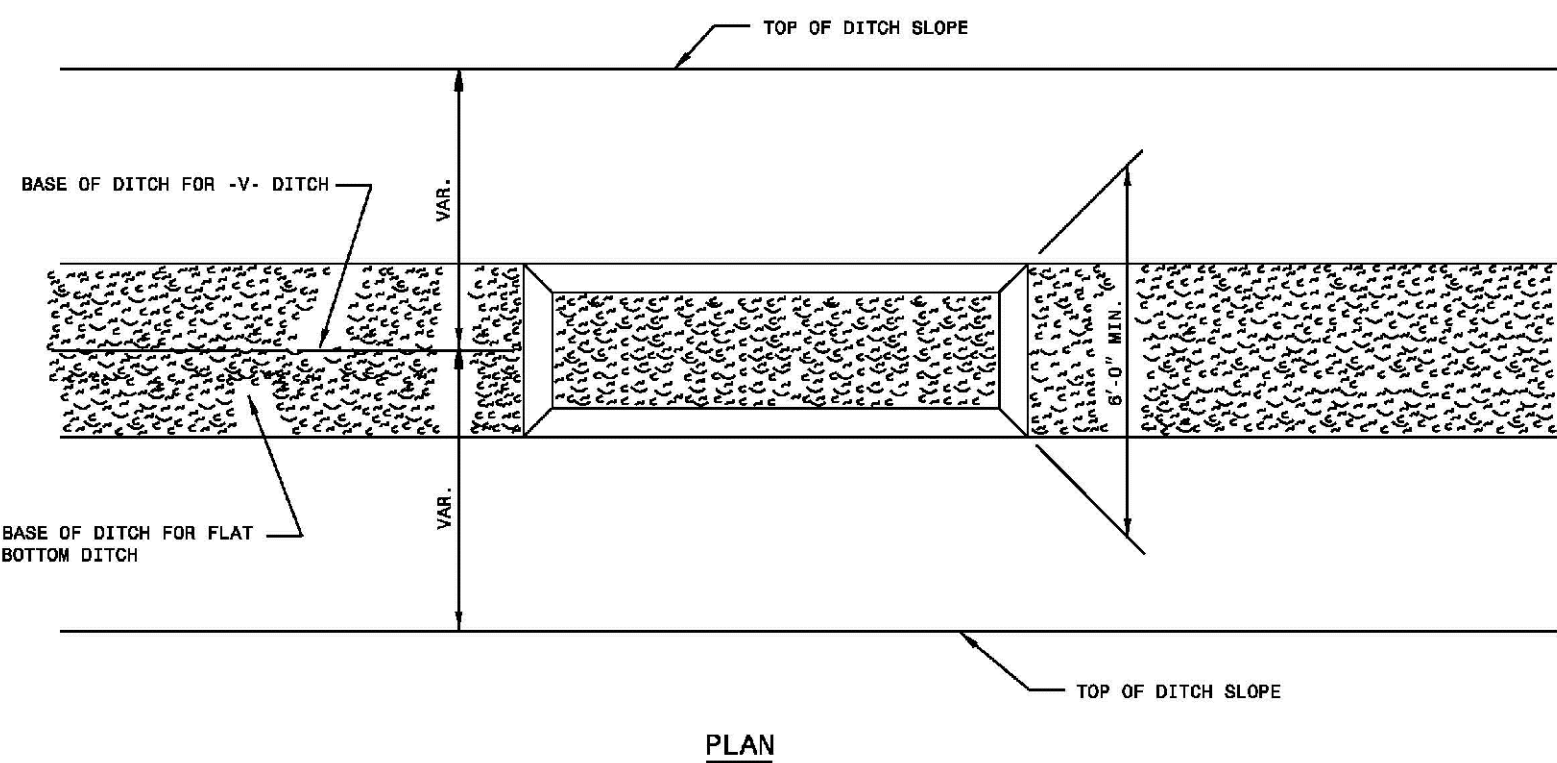


CROSS SECTION TRAPEZOIDAL DITCH

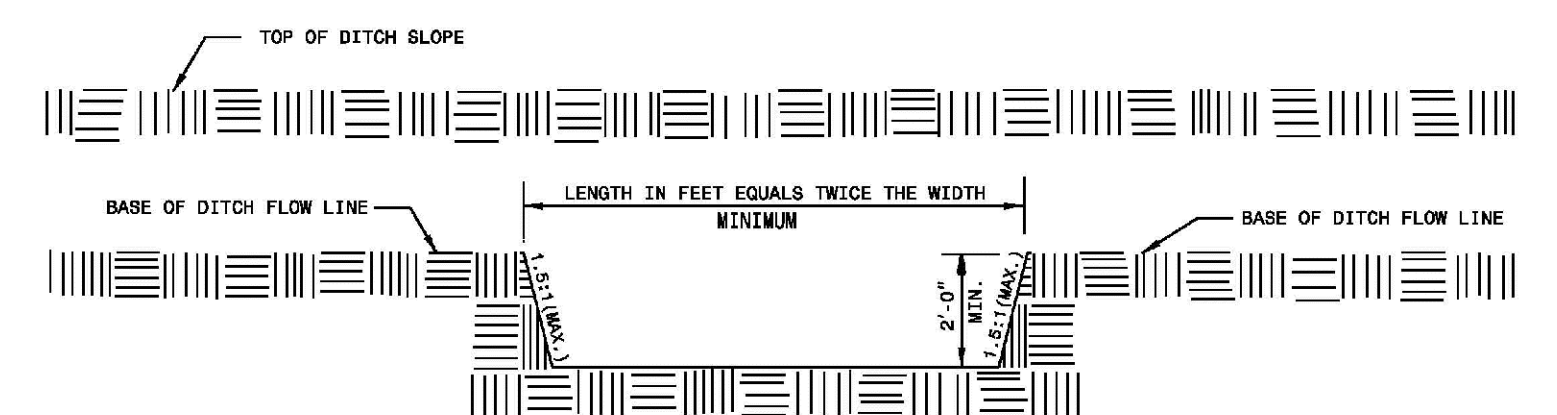
**NOTES**  
 USE CLASS B EROSION CONTROL STONE FOR STRUCTURAL STONE.  
 THE ENGINEER MAY DIRECT THE OPTION OF CLASS A STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



ELEVATION VIEW

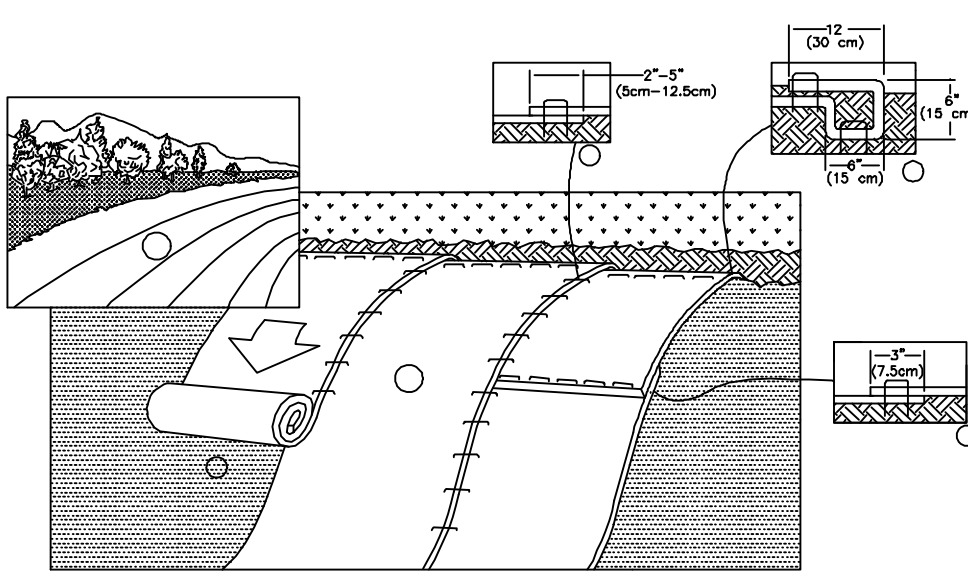


PLAN



ELEVATION

**NOTES**  
 INSTALL COIR FIBER BAFFLES IN ACCORDANCE WITH STANDARD DRAWING NO. 1640.01 FOR SILT BASINS AT OUTLETS OR ADJACENT TO DRAINAGE INLETS.



MATTING ON SLOPES

Not To Scale

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIMF, FERTILIZER, AND SFD.
  2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30CM) OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP'S.
  3. ROLL THE RECP'S (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
  4. THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP'S TYPE.
  5. CONSECUTIVE RECP'S SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP'S WIDTH.
- NOTE:  
 \*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.

STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR  
**TEMPORARY ROCK SILT CHECK TYPE B**

SHEET 1 OF 1  
**1633.02**

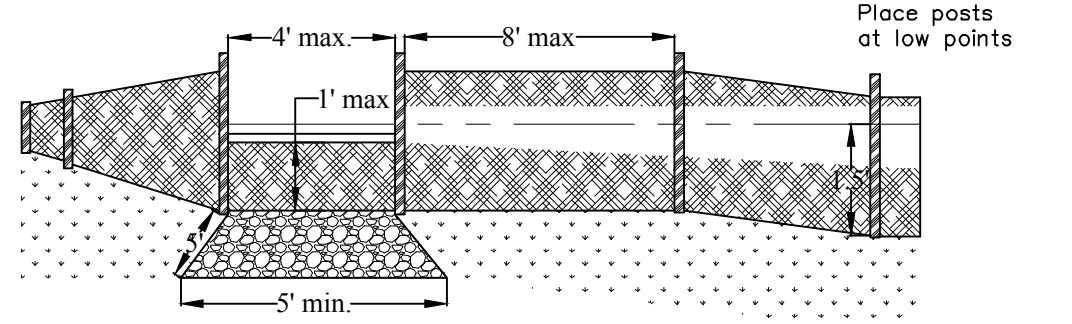
STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR  
**SILT BASIN TYPE B**

SHEET 1 OF 1  
**1630.02**

Sediment Fence (Silt Fence)

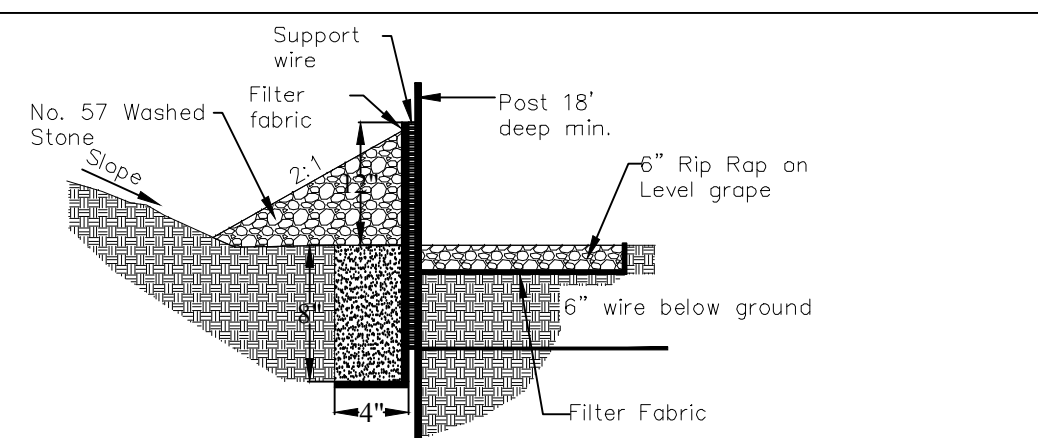
**Reinforced, Stabilized Outlets**  
 Any outlet where storm flow bypass occurs must be stabilized against erosion.  
 Set outlet elevation so that water depth cannot exceed 1.5 ft at the lowest point along the fence line.  
 Set fabric height at 1 ft maximum between support posts spaced no more than 3 ft apart. Install a horizontal brace between the support posts to serve as an overflow and to support top of fabric. Provide a riprap splash pad.  
 Excavate foundation for the splash pad a minimum 5 ft wide, 1 ft deep, and 5 ft long on level grade. The finished surface of the riprap should blend with surrounding area, allowing no overfall. The area around the pad must be stable.



Perspective of reinforced stabilized outlet for sediment fence.

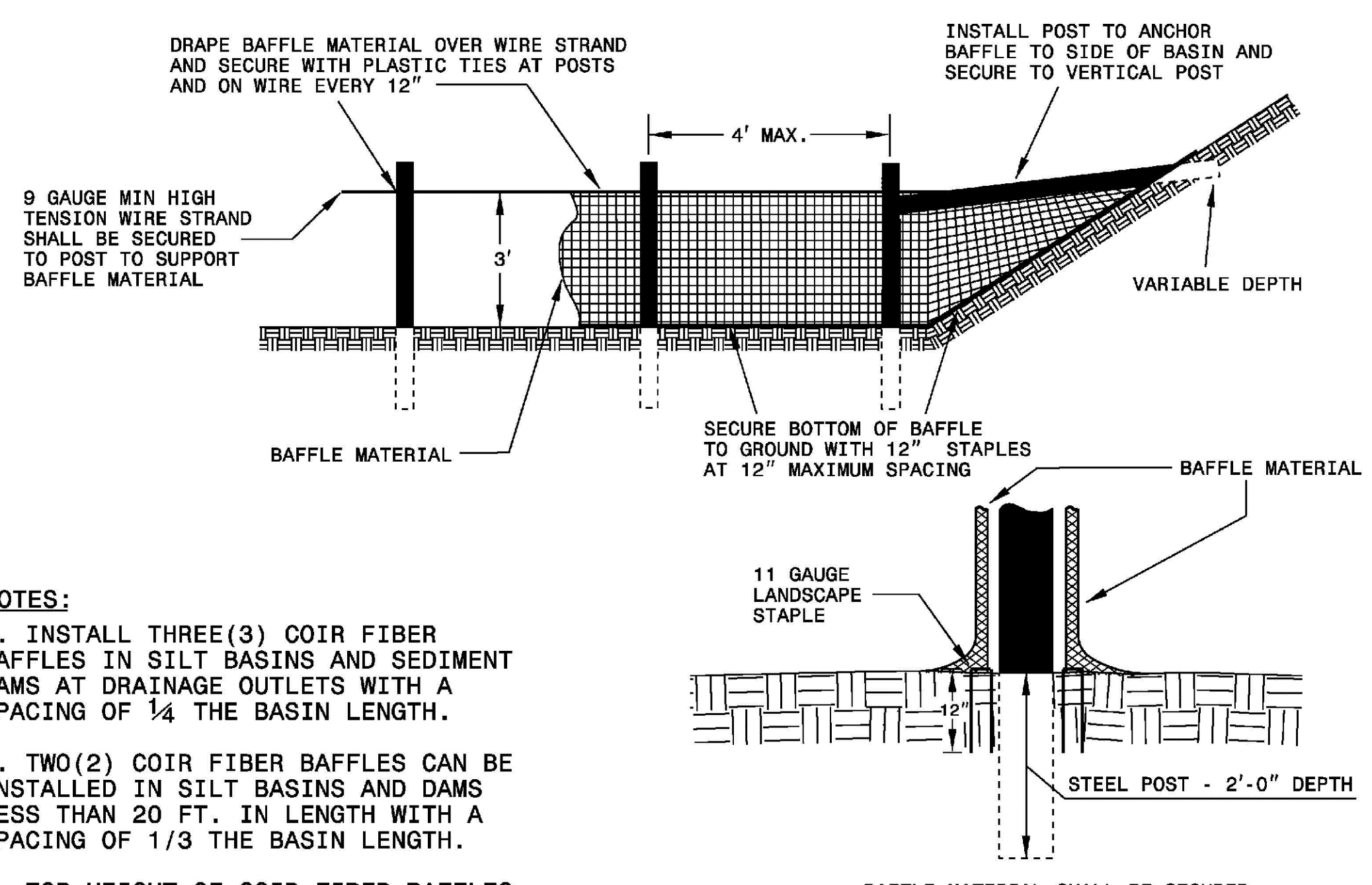
**Construction**  
 Dig a trench approximate 8 inches deep and 4 inches wide, or a V-trench, in the line of the fence.  
 Drive posts securely, at least 18 inches into the ground, on the down slope side of the trench. Space posts a maximum of 3 ft without support wire. Adjust spacing to place posts at low points along the fence line.  
 Fasten support wire fence to upslope side of posts, extending 6 inches into the trench.  
 Attach continuous length of fabric to upslope side of fence posts. Avoid joints, particularly at low points in the fence line. Where joints are necessary, fasten fabric securely to support posts and overlap to the next post.

**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. REMOVE SEDIMENT DEPOSIT 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.



Detail of sediment fence installation

Place the bottom 1 ft of fabric in 8-inch deep trench lapping toward the upslope side. Backfill with compacted earth or gravel as shown in Figure 6.62d.  
 To reduce maintenance, excavate a shallow sediment storage area on upslope side of fence where sedimentation is expected. Provide good access to deposition areas for cleanout and maintenance.  
 Allow for safe bypass of storm flow to prevent overlapping failure of fence.  
 DO NOT install sediment fence across intermittent or permanent streams, channels, or any location where concentrated flow is anticipated.

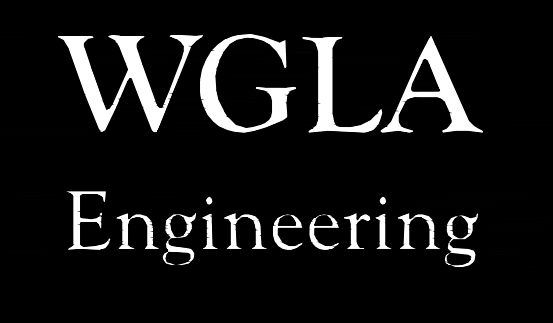


- NOTES:**
1. INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF 1/4 THE BASIN LENGTH.
  2. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF 1/3 THE BASIN LENGTH.
  3. TOP HEIGHT OF COIR FIBER BAFFLES SHALL NOT BE BELOW BASE OF SPILLWAY ELEVATION.

STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR  
**COIR FIBER BAFFLE**

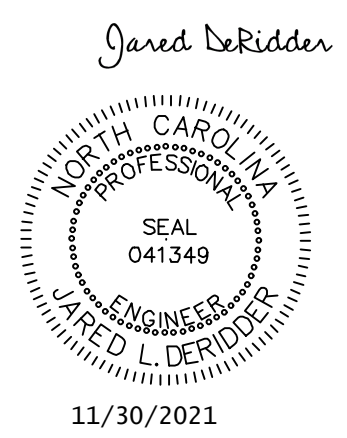
SHEET 1 OF 1  
**1640.01**



WGLA ENGINEERING, PLLC  
 724 5th AVENUE WEST  
 HENDERSONVILLE, NC 28739  
 (828) 687-7177  
 WGLA.COM  
 NC LICENSE P-1342

LORENA WOODS  
 SUBDIVISION

EDNEYVILLE  
 HENDERSON COUNTY  
 NORTH CAROLINA



REVISIONS	
DATE	DESCRIPTION
11/30/21	HC EROSION CONTROL



Know what's below.  
 Call before you dig.

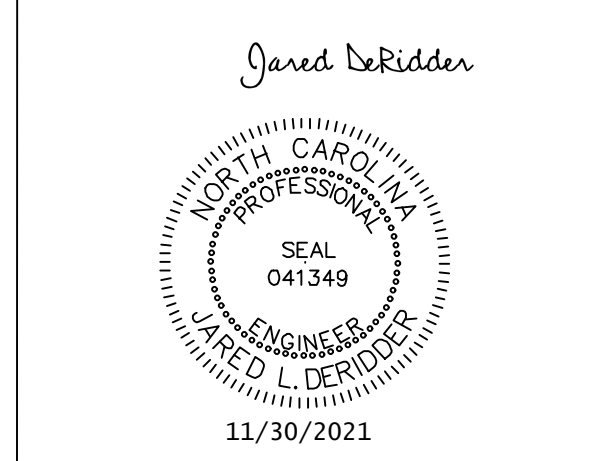
PROJECT NUMBER: 21169  
 DATE: 11/30/21  
 DRAWN BY: TJV  
 CHECKED BY: JLD

GRADING,  
 DRAINAGE,  
 AND EROSION  
 CONTROL DETAILS

C-304

SCALE: AS NOTED





REVISIONS	
DATE	DESCRIPTION



PROJECT NUMBER:	21169
DATE:	11/30/21
DRAWN BY:	TJIV
CHECKED BY:	JLD

**GRADING,  
DRAINAGE,  
AND EROSION  
CONTROL DETAILS**

**C-305**

SCALE: AS NOTED

**PART III  
SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION C: REPORTING**

**1. Occurrences that Must be Reported**

Permittees shall report the following occurrences:

- (a) Visible sediment deposition in a stream or wetland.
- (b) Oil spills if:
  - They are 25 gallons or more,
  - They are less than 25 gallons but cannot be cleaned up within 24 hours,
  - They cause sheen on surface waters (regardless of volume), or
  - They are within 100 feet of surface waters (regardless of volume).
- (c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- (d) Anticipated bypasses and unanticipated bypasses.
- (e) Noncompliance with the conditions of this permit that may endanger health or the environment.

**2. Reporting Timeframes and Other Requirements**

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	<ul style="list-style-type: none"> <li>• <b>Within 24 hours</b>, an oral or electronic notification.</li> <li>• <b>Within 7 calendar days</b>, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis.</li> <li>• If the stream is named on the <a href="#">NC 303(d) list</a> as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.</li> </ul>
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	<ul style="list-style-type: none"> <li>• <b>Within 24 hours</b>, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.</li> </ul>
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> <li>• <b>A report at least ten days before the date of the bypass, if possible.</b> The report shall include an evaluation of the anticipated quality and effect of the bypass.</li> </ul>
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> <li>• <b>Within 24 hours</b>, an oral or electronic notification.</li> <li>• <b>Within 7 calendar days</b>, a report that includes an evaluation of the quality and effect of the bypass.</li> </ul>
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(l)(7)]	<ul style="list-style-type: none"> <li>• <b>Within 24 hours</b>, an oral or electronic notification.</li> <li>• <b>Within 7 calendar days</b>, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6).</li> <li>• Division staff may waive the requirement for a written report on a case-by-case basis.</li> </ul>

**PART III  
SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION B: RECORDKEEPING**

**1. E&SC Plan Documentation**

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

**2. Additional Documentation to be Kept on Site**

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- (a) This General Permit as well as the Certificate of Coverage, after it is received.
- (b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

**3. Documentation to be Retained for Three Years**

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

**PART III  
SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION A: SELF-INSPECTION**

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	<ol style="list-style-type: none"> <li>1. Identification of the measures inspected,</li> <li>2. Date and time of the inspection,</li> <li>3. Name of the person performing the inspection,</li> <li>4. Indication of whether the measures were operating properly,</li> <li>5. Description of maintenance needs for the measure,</li> <li>6. Description, evidence, and date of corrective actions taken.</li> </ol>
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	<ol style="list-style-type: none"> <li>1. Identification of the discharge outfalls inspected,</li> <li>2. Date and time of the inspection,</li> <li>3. Name of the person performing the inspection,</li> <li>4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration,</li> <li>5. Indication of visible sediment leaving the site,</li> <li>6. Description, evidence, and date of corrective actions taken.</li> </ol>
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	<p>If visible sedimentation is found outside site limits, then a record of the following shall be made:</p> <ol style="list-style-type: none"> <li>1. Actions taken to clean up or stabilize the sediment that has left the site limits,</li> <li>2. Description, evidence, and date of corrective actions taken, and</li> <li>3. An explanation as to the actions taken to control future releases.</li> </ol>
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	<p>If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made:</p> <ol style="list-style-type: none"> <li>1. Description, evidence and date of corrective actions taken, and</li> <li>2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.</li> </ol>
(6) Ground stabilization measures	After each phase of grading	<ol style="list-style-type: none"> <li>1. The phase of grading (installation of perimeter E&amp;SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover).</li> <li>2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.</li> </ol>

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

**PART II, SECTION G, ITEM (4)  
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT**

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- (a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
- (b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
- (c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
- (d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
- (e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
- (f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.



**GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT**

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

**SECTION E: GROUND STABILIZATION**

Required Ground Stabilization Timeframes		
Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

**Note:** After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

**GROUND STABILIZATION SPECIFICATION**

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none"> <li>Temporary grass seed covered with straw or other mulches and tackifiers</li> <li>Hydroseeding</li> <li>Rolled erosion control products with or without temporary grass seed</li> <li>Appropriately applied straw or other mulch</li> <li>Plastic sheeting</li> </ul>	<ul style="list-style-type: none"> <li>Permanent grass seed covered with straw or other mulches and tackifiers</li> <li>Geotextile fabrics such as permanent soil reinforcement matting</li> <li>Hydroseeding</li> <li>Shrubs or other permanent plantings covered with mulch</li> <li>Uniform and evenly distributed ground cover sufficient to restrain erosion</li> <li>Structural methods such as concrete, asphalt or retaining walls</li> <li>Rolled erosion control products with grass seed</li> </ul>

**POLYACRYLAMIDES (PAMS) AND FLOCCULANTS**

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated Stormwater before discharging offsite.
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

**EQUIPMENT AND VEHICLE MAINTENANCE**

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

**LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE**

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

**PAINT AND OTHER LIQUID WASTE**

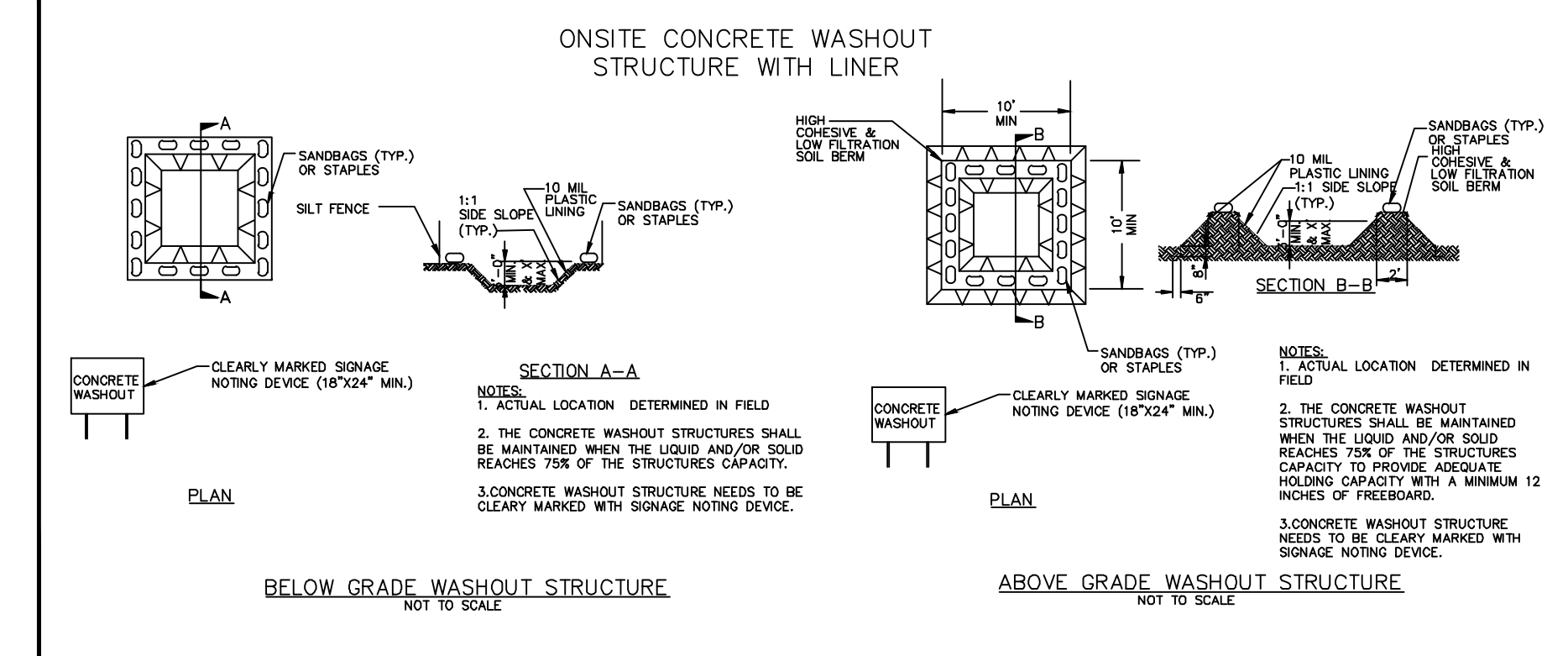
- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

**PORTABLE TOILETS**

- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

**EARTHEN STOCKPILE MANAGEMENT**

- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



**CONCRETE WASHOUTS**

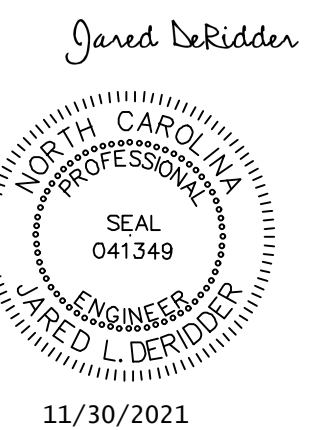
- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
- Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

**HERBICIDES, PESTICIDES AND RODENTICIDES**

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- Do not stockpile these materials onsite.

**HAZARDOUS AND TOXIC WASTE**

- Create designated hazardous waste collection areas on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.



REVISIONS	
DATE	DESCRIPTION



Know what's below.  
Call before you dig.

PROJECT NUMBER: 21169  
DATE: 11/30/21  
DRAWN BY: TJV  
CHECKED BY: JLD

**GRADING,  
DRAINAGE,  
AND EROSION  
CONTROL DETAILS**

**C-306**

SCALE: AS NOTED





## HENDERSON COUNTY MASTER PLAN REQUIREMENTS

A Professional Engineer, Land Surveyor, Architect, Landscape Architect, or Professional Planner may prepare the Master Plan. The following information shall be shown on the plan for information and discussion purposes unless not applicable or specifically waived by the Subdivision Administrator\*. **If the Master Plan does not contain the required items by the submittal deadline, the application will be considered incomplete and the plan will not be presented to the Planning Board.** Combined Master and Development Plans must be prepared in accordance with the Development Plan Requirements provided by the Planning Department. More information about Master Plans can be found in Chapter 200A, §200A-309. For each item below, please indicate whether the requested information has been provided.

### GENERAL LEGEND

Yes	No	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Scale (written and graphic): Scale for full-sized and reduced copies should be appropriate to clearly depict property
<input checked="" type="checkbox"/>	<input type="checkbox"/>	North arrow
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Owner's and applicant's name(s) and address (es)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vicinity map

If no was checked for any above, please explain: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### TITLE BLOCK

Yes	No	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Project name
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Title of map (must state "Master Plan")
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Date
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Name, title, address, and phone number of individual, firm, or corporation preparing the plan

If no was checked for any above, please explain: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### PLAN DETAILS

Yes	No	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Boundaries of the proposed project
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Contours at maximum of twenty (20) foot intervals
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location of existing ponds, lakes or watercourses with direction of flow
<input type="checkbox"/>	<u>N/A</u>	Approximate location of the 100-year flood hazard line, if applicable
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location of existing street/roads, bridges, culverts, utilities, or other major elements affecting the property
<input type="checkbox"/>	<u>N/A</u>	Water supply watershed boundaries, zoning district lines, fire district boundaries and municipal, county, state boundaries (except townships lines), if applicable
<input checked="" type="checkbox"/>	<input type="checkbox"/>	General layout of proposed road system
<input checked="" type="checkbox"/>	<input type="checkbox"/>	General lot layout
<input type="checkbox"/>	<u>N/A</u>	Location of utility sites (if known)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Adjoining property owners, subdivisions and farmland preservations districts clearly indicated
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Proposed project phasing lines, if applicable
<input type="checkbox"/>	<u>N/A</u>	All land with slopes of 60 percent or greater clearly shown



**PROJECT SUMMARY** (Must contain the following)

- | Yes                                 | No                       |   |
|-------------------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Total project area in acres   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Density of proposed project (units/acres)                                   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Number of proposed lots/units by type                                       |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Approximate length of road system (public; private)                         |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Type of Water system <u>well</u> (public/ <del>private</del> /individual)   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Type of Sewer system <u>septic</u> (public/ <del>private</del> /individual) |

If no was checked for any above, please explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**CONSERVATION SUBDIVISION (OPTION)**

- | Yes                      | No                       |  |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | Percentage of total acreage in open space (must be in project summary) |
| <input type="checkbox"/> | <input type="checkbox"/> | Primary conservation areas clearly identified on plan                  |
| <input type="checkbox"/> | <input type="checkbox"/> | Secondary conservation areas clearly identified on plan                |

**OTHER MASTER PLAN APPLICATION REQUIREMENTS**

The following information or other items shall be provided or otherwise addressed in writing by the submittal deadline of the application for Master Plan approval unless not applicable or specifically waived by the Subdivision Administrator\*, otherwise the application will be considered incomplete and will not be presented to the Planning Board.

- | Yes                                 | No                       |   |
|-------------------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Application Form  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Fee   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Master Plan (4 full-sized copies and 1 reduced copy). Additionally, please submit digital copies of plans to Planning Staff, if possible. |

If no was checked for any above, please explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Application Completed and Submitted by: JARED DERLODER, PE  
Jared Derloder  
(Owner/Applicant/Agent) 5/2/2022  
(Date)

**County Use Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\* Any waived item(s) must be documented on a waiver form provided by Staff

## DEVELOPMENT PLAN REQUIREMENTS

A Professional Engineer, Land Surveyor, Architect, Landscape Architect, or Professional Planner may prepare the Development Plan. The following information shall be shown on the plan for information and discussion purposes unless not applicable or specifically waived by the Subdivision Administrator\*. **If the Development Plan does not contain the required items by the submittal deadline, the application will be considered incomplete and the plan will not be presented to the Planning Board.** Combined Master and Development Plans must also be prepared in accordance with Master Plan Requirements provided by the Planning Department. More information about Development Plans can be found in Section 200A-310 in the Land Development Code. For each item below, please indicate whether the requested information has been provided.

### General Legend

Yes	No	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Scale (written and graphic): Scale for full-sized and reduced copies should be appropriate to clearly depict property
<input checked="" type="checkbox"/>	<input type="checkbox"/>	North arrow
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Owner's and applicant's names and addresses
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Legend provide appropriate symbols
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vicinity map
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Phase map showing location of phase in the entire development (if applicable)

If no was checked for any above, please explain: \_\_\_\_\_

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### Title Block

Yes	No	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Project name (include phase number, if applicable)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Title of map (must state "Development Plan" or "Combined Master & Development Plan," as applicable)
<input type="checkbox"/>	<input checked="" type="checkbox"/> N/A	When using the conservation subdivision option must also be labeled as "Conservation Subdivision"
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Name, address, and phone number of individual or firm preparing the various elements of the plan
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Date and revision date(s), if required

If no was checked for any above, please explain: \_\_\_\_\_

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### Project Summary

Yes	No	
<b>Project summary containing the following information:</b>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Total project (or phase) area in acres
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Number of proposed lots/units by type
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Proposed density (units/acres)
<input type="checkbox"/>	<input checked="" type="checkbox"/> N/A	Total acreage of land that have slopes of 60 percent or greater
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Minimum lot size in square feet (excluding road right-of-way if in the R-40 and WR zoning districts)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Length of proposed public roads (must meet NCDOT minimum road standards)



- \_\_\_ Length of proposed private roads (must meet Henderson County minimum roads standards Section 280A-81 C)
- \_\_\_ Water system well (public/~~private~~/individual)
- \_\_\_ Sewer system septic (public/~~private~~/individual)
- \_\_\_ N/A Distance to public water system
- \_\_\_ N/A Distance to public sewer system

If no was checked for any above, please explain: \_\_\_\_\_

**Plan Details**

- | Yes                                 | No                                  |   |
|-------------------------------------|-------------------------------------|---|
| <input checked="" type="checkbox"/> | ___                                 | Contours at no more than five foot (5') intervals   |
| <input checked="" type="checkbox"/> | ___                                 | Location of existing ponds, lakes or watercourses and directions of flow  |
| <input checked="" type="checkbox"/> | ___                                 | Outside boundaries of the proposed project with bearings and distances  |
| ___                                 | <u>N/A</u>                          | Approximate location of the 100-year flood hazard line, if applicable   |
| <input checked="" type="checkbox"/> | ___                                 | Location of existing roads with rights-of-way, easements, bridges, water features, culverts, utilities, structures, etc.  |
| ___                                 | <u>N/A</u>                          | Location of proposed ponds and lakes shown with approximate elevation, and proposed alterations to existing water courses, if applicable                                      |
| <input checked="" type="checkbox"/> | ___                                 | Names of adjoining property owners or subdivisions  |
| ___                                 | <u>N/A</u>                          | Proposed locations of multi-family units shown, if applicable   |
| <input checked="" type="checkbox"/> | ___                                 | Proposed lot lines and approximate length   |
| <input checked="" type="checkbox"/> | ___                                 | Proposed lot numbers shown  |
| <input checked="" type="checkbox"/> | ___                                 | Size of lots to 0.1 acres (not including road right-of-way for property zoned R-40 and WR)  |
| ___                                 | <u>N/A</u>                          | Proposed open space or common area clearly shown and labeled  |
| <input checked="" type="checkbox"/> | ___                                 | Proposed water system (public/ <del>private</del> ) improvements including approximate location of proposed waterlines  |
| <input checked="" type="checkbox"/> | ___                                 | Proposed sewer system (public/ <del>private</del> ) improvements including approximate location of proposed sewerlines, pump stations, wastewater treatment plants, etc.      |
| ___                                 | <u>N/A</u>                          | Fire hydrants spaced one hydrant per 1,000 feet of linear road, if applicable   |
| <input checked="" type="checkbox"/> | ___                                 | Location of nearest water supply point for fire protection and location of proposed dry hydrants as described in Section 200A-81 B(3), if not served by a public water system |
| <input checked="" type="checkbox"/> | ___                                 | Location of proposed project sign(s) and easement for sign, if applicable   |
| ___                                 | <u>N/A</u>                          | Water supply watershed boundaries, zoning district lines, fire district lines and municipal, county, or state boundaries, if applicable                                       |
| <input checked="" type="checkbox"/> | ___                                 | Location and approximate layout of recreation areas, club houses, mail delivery points or other project features  |
| <input checked="" type="checkbox"/> | ___                                 | Proposed buffers (location and type), if applicable   |
| <input checked="" type="checkbox"/> | ___                                 | Proposed drainage improvements (designed according to NCDOT standards) including  |
|                                     | <input checked="" type="checkbox"/> | Culvert locations   |
|                                     | <input checked="" type="checkbox"/> | Length  |
|                                     | <input checked="" type="checkbox"/> | Diameter (minimum 18 inches)  |
|                                     | <input checked="" type="checkbox"/> | Type  |
|                                     | <u>N/A</u>                          | Drainage easements  |
| ___                                 | <u>N/A</u>                          | Location of lots or parcels reserved for future development, utility stations, public parks, schools, churches and etc., if applicable  |

- Current zoning and proposed or required building setbacks shown or labeled
- 100-foot farmland preservation district setback, if applicable (see Section 200A-81 O)
- Setback from perennial stream(s), if applicable (see Section 200A-81 S)
- N/A Location, design and materials of all proposed sidewalks and/or walking trails as described in Section 200A-81 Q, if applicable
- N/A Arrangement of plant material and description of plant material clearly indicated on plan in accordance with Article V (Landscape Design Standards) Subpart C (Street Tree Requirements) of the Land Development Code
- N/A All land with a slope of 60 percent or greater clearly shown on plan, if applicable

**Road Details**

- | Yes                                 | No                                      |   |
|-------------------------------------|---|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/>                | Location of proposed streets/roads showing:   |
|                                     | <input checked="" type="checkbox"/>     | Rights-of-way   |
|                                     | <input checked="" type="checkbox"/>     | Approximate finished road grades  |
|                                     | <input checked="" type="checkbox"/>     | Approximate centerline curve radii (see Section 200A-81 C)  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>                | Cross-section of typical street for each proposed road classification used (collector, local, etc.) with indication of design standards of paving/base to be met, road width, right-of-way width, shoulder width, cut and fill slope, and ditch slope |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>                | Cross-section or plan view of cul-de-sac and/or alternate turnarounds with indication of design standards of paving/base to be met, road width, right-of-way width, shoulder width, cut and fill slope, and ditch slope                               |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>                | All roads or sections thereof with dead-ends or culs-de-sac no more than 2,500 feet in length   |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> N/A | Location and design of proposed entry gates   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>                | Intersections at 60 degree angles or greater  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>                | Site triangles conforming to Section 200A-81C   |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> N/A | Bridges and easements   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>                | Proposed road(s) named and received name(s) approval from Henderson County Property Addressing and are designated as public/private   |

**Conservation Subdivision (Option)**

- | Yes                      | No                                      |  |
|--------------------------|---|--|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> N/A | Percentage of total acreage in open space                                    |
| <input type="checkbox"/> | <input type="checkbox"/>                | Primary conservation areas clearly identified                                |
| <input type="checkbox"/> | <input type="checkbox"/>                | Secondary conservation areas clearly identified                              |
| <input type="checkbox"/> | <input type="checkbox"/>                | Uses of open space clearly indicated on plan                                 |
| <input type="checkbox"/> | <input type="checkbox"/>                | Bona fide agricultural operations on site                                    |
| <input type="checkbox"/> | <input type="checkbox"/>                | Driveway easements clearly shown with right-of-way width and driveway length |
| <input type="checkbox"/> | <input type="checkbox"/>                | Setbacks and separation of all structures labeled or shown                   |
| <input type="checkbox"/> | <input type="checkbox"/>                | 50 percent of proposed open space in a contiguous tract                      |
| <input type="checkbox"/> | <input checked="" type="checkbox"/>     | Management Open Space Plan submitted with Development Plan                   |



**Other Development Plan Application Requirements**

The following information and/or other items shall be provided or otherwise addressed in writing by the submittal deadline of the application for Development Plan approval unless not applicable or specifically waived by the Subdivision Administrator\*, otherwise the application will be considered incomplete and will not be presented to the Planning Board.

Yes	No	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Application Form: Filled-out and signed by property owner
<input type="checkbox"/>	<u>N/A</u>	Agent Form: Filled-out and signed by property owner, if applicable
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fee
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Development Plan (or Combined Master and Development Plan [4 full-sized copies & 1 reduced copy per Section 200A-310]). Please submit digital copies to the planning staff.
<input type="checkbox"/>	<u>N/A</u>	Where connection to a public or community water and/or sewer system is required or otherwise proposed, the applicant shall submit a letter from the appropriate review authorities for the water and/or sewer system indicating that water and/or sewer system has sufficient capacity for the proposed development.
<input type="checkbox"/>	<u>N/A</u>	Traffic Impact Study (TIS) (Section 200-81 S(5)), if applicable
<input type="checkbox"/>	<u>N/A</u>	Emergency Services Impact Report (ESIR) (Section 200-81 S(5)), if applicable
<input type="checkbox"/>	<u>N/A</u>	List any additional attachment(s) below: (if applicable) _____

If no was checked for any above, please explain: \_\_\_\_\_

The following information shall be provided or otherwise addressed in writing by submittal deadline of the application for Development Plan approval; however, the Planning Board may conditionally approve the Development Plan subject to receipt of such information if it is not available at the time of the Planning Board review:

Yes	No	
<input type="checkbox"/>	<u>N/A</u>	Additional information as required to adequately explain the character or services of the proposed development
<input type="checkbox"/>	<u>N/A</u>	Approval of intermediate water and sewer systems to be used, if applicable
<input type="checkbox"/>	<u>N/A</u>	Final Approval of plans for proposed water and sewer systems
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Erosion and sedimentation control plan approval from Henderson County Erosion Control Division, evidence of submission from the Henderson County Erosion Control Division, or certification that no plan is required in accordance with Section 200A-224
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Any other approvals as required by Federal, State, or Local agencies
<input type="checkbox"/>	<u>N/A</u>	Bridge design plans in accordance with Section 200A-81 D, if applicable
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Affidavit of Understanding of Farmland Preservation District (if applicable)

If no was checked for any above, please explain: \_\_\_\_\_

\* Any waived item(s) must be documented on a waiver form provided by Staff

Application completed and submitted by: Jared DeZurker  
JARED DEZURKER, PE

Date: 5/2/2022

.....  
**COUNTY USE ONLY**  
.....

Received by: \_\_\_\_\_

Date: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**AFFIDAVIT OF UNDERSTANDING OF  
FARMLAND PRESERVATION DISTRICT**

I hereby certify that I acknowledge that the Henderson County Board of Commissioners on December 18, 1991, did adopt the HENDERSON COUNTY VOLUNTARY FARMLAND PRESERVATION PROGRAM ORDINANCE whose purpose is to establish and identify designated agricultural districts to encourage the economic and financial well being of farming areas, to increase protection from nuisance suits, undesirable non-farm development and other negative impacts on participating farms, and to increase the identity and pride in the agricultural community and its way of life.

I further certify that the property I intend to develop is within 0 feet of Farmland listed in the Farmland Preservation Program and is identified as the Fruitland district on maps provided by the Henderson County Office of the Natural Resources Conservation Service.

CALL MCCRAE AND SMITH LLC (Scott E. McElrath)

x [Signature]  
Name of Owner

10/5/21  
Date

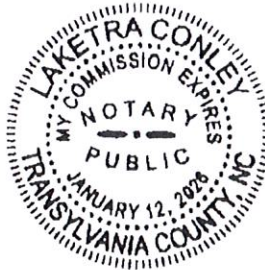
STATE OF NORTH CAROLINA  
COUNTY OF ~~HENDERSON~~ Transylvania

I, Laketra Conley, a Notary Public for said County and State, do hereby certify that Scott E. McElrath personally appeared before me this date and acknowledged the due execution of the foregoing instrument.

Witness by hand and official seal, this the 5<sup>th</sup> day of October, 2021.

[Signature]  
Notary Public

My Commission Expires: 1/12/2026



COPY