



# City of Cartersville

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PLANNING AND DEVELOPMENT

P.O. Box 1390 • 10 North Public Square • Cartersville, Georgia 30120  
Telephone: 770-387-5600 • Fax: 770-387-5605 • www.cityofcartersville.org

## MEMO

To: BZA  
From: Randy Mannino/David Hardegree/Zack Arnold  
CC: David Archer  
Date: August 31, 2022  
Re: File # V22-18

**Summary: To allow encroachment into the undisturbed stream bank buffer**

### **Section 1: Project Summary**

Variance application by Ladd Floyd, for property located 15 Galway Drive and zoned R-20 (Single Family residential). Said property contains approximately 0.77 +/- acres. This lot was purchased in 2021 according to the County tax records and is currently undeveloped.

The applicant wishes to conduct a streambank stabilization project in conjunction with construction of a viewing platform along the river bank. The proposed viewing platform is approximately 256 square feet, with the entirety of the structure encroaching into the 50ft undisturbed buffer. Twenty-five feet of the fifty-foot stream buffer closest to the river is the State buffer. There is also a proposed 5ft concrete walkway that is to be constructed within the 25ft State undisturbed buffer. The total area of disturbance within the State buffer is .05 acres. This project has already been approved by the Army Corps of Engineers as well the Georgia Environmental Protection Agency.

The mitigation plan required by the City ordinance is satisfied by the plans for bank stabilization.

The development regulation for which relief is sought is 7.5-205 (a)(2).

### **The variance request is for the following:**

1. To allow a streambank stabilization project to include constructing a viewing platform within the 50ft undisturbed stream bank buffer.

## **Section 2. Department Comments**

**Electric Department:** CES takes no exception.

**Fibercom:** Cartersville FiberCom has no comment regarding the stream buffer variance request for 15 Galway Drive.

**Fire Department:** The Cartersville Fire Department takes no exception to the V22-18 stream buffer variance at 15 Galway Dr

**Gas Department:** The Gas System takes no exceptions to the following as shown in the attachments.

### **Water Department: WATER SERVICE COMMENTS:**

This property is located in the City of Cartersville Water Department's water service area. The requested variance will have no [affect] on water service to this site.

### **SEWER SERVICE COMMENTS:**

This property is located in the City of Cartersville Water Department's sewer service area. The requested variance will have no [affect] on sewer service to this site.

**Public Works Department:** We cannot issue a permit that shows the buffer encroachment unless a variance has been granted.

## **Section 3. Public Comments Received by Staff**

8/25 – Bill Gamble. 495 Waterford Dr. General Inquiry

## **Section 4. Variance Justification**

*Please review the following findings, as stated in the Development Regulations, that are to be utilized in determining justification for approval or denial of variance request(s).*

### **A. Sec. 7.5-205. - Land development requirements.**

(a) *Buffer and setback requirements.* All land development activity subject to this article shall meet the following requirements:

- (1) An undisturbed natural vegetative buffer shall be maintained for fifty (50) feet, measured horizontally, on both banks (as applicable) of the stream as measured from the top of the stream bank.
- (2) An additional setback shall be maintained for twenty-five (25) feet, measured horizontally, beyond the undisturbed natural vegetative buffer, in which all impervious cover shall be prohibited. Grading, filling and earthmoving shall be minimized within the setback.
- (3) No septic tanks or septic tank drain fields shall be permitted within the buffer or the setback.

(b) *Variance procedures.* Variances from the above buffer and setback requirements may be granted in accordance with the following provisions:

- (1) Where a parcel was platted prior to the effective date of this article, and its shape, topography or other existing physical condition prevents land development consistent with this article, and the City of Cartersville finds and determines that the requirements of this article prohibit the otherwise lawful use of the property by the owner, the board of appeals (BA) of the City of Cartersville may grant a variance from the buffer and setback requirements hereunder, provided such variance require mitigation measures to offset the effects of any proposed land development on the parcel.
- (2) Except as provided above, the BA of the City of Cartersville shall grant no variance from any provision of this article without first conducting a public hearing on the application for variance and authorizing the granting of the variance by an affirmative vote of the BA. The City of Cartersville shall give public notice of each such public hearing in a newspaper of general circulation within the city. The City of Cartersville shall require that the applicant post a sign giving notice of the proposed variance and the public hearing. The sign shall be of a size and posted in such a location on the property as to be clearly visible from the primary adjacent road right-of-way.

Variances will be considered only in the following cases:

- a. When a property's shape, topography or other physical conditions existing at the time of the adoption of this article prevents land development unless a buffer variance is granted.
- b. Unusual circumstances when strict adherence to the minimal buffer requirements in the ordinance would create an extreme hardship.

Variances will not be considered when, following adoption of this article, actions of any property owner of a given property have created conditions of a hardship on that property.

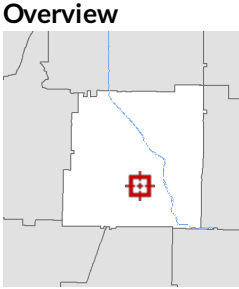
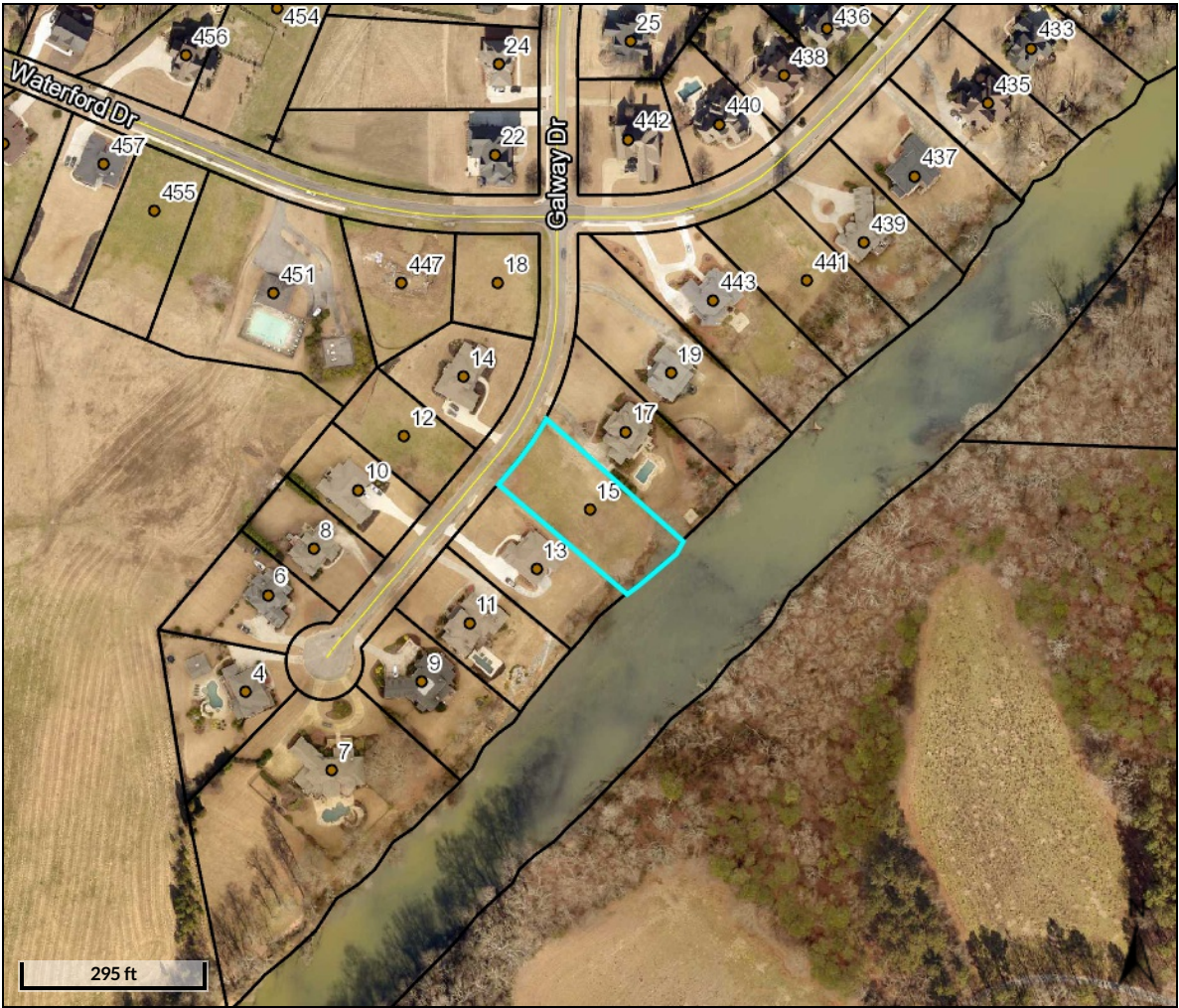
(3) At a minimum, a variance request shall include the following information:

- a. A site map that includes locations of all streams, wetlands, floodplain boundaries and other natural features, as determined by field survey;
- b. A description of the shape, size, topography, slope, soils, vegetation and other physical characteristics of the property;
- c. A detailed site plan that shows the locations of all existing and proposed structures and other impervious cover, the limits of all existing and proposed land disturbance, both inside and outside the buffer and setback. The exact area of the buffer to be affected shall be accurately and clearly indicated;
- d. Documentation of unusual hardship should the buffer be maintained;
- e. At least one (1) alternative plan, which does not include a buffer or setback intrusion, or an explanation of why such a site plan is not possible;
- f. A calculation of the total area and length of the proposed intrusion;
- g. A stormwater management site plan, if applicable; and
- h. Proposed mitigation, if any, for the intrusion. If no mitigation is proposed, the request must include an explanation of why none is being proposed.

(4) The following factors will be considered in determining whether to issue a variance:

- a. The shape, size, topography, slope, soils, vegetation and other physical characteristics of the property;
- b. The locations of all streams on the property, including along property boundaries;
- c. The location and extent of the proposed buffer or setback intrusion; and
- d. Whether alternative designs are possible which require less intrusion or no intrusion;
- e. The long-term and construction water-quality impacts of the proposed variance;
- f. Whether issuance of the variance is at least as protective of natural resources and the environment.

(Ord. No. 52-06, 8-3-06)



- Legend**
- Parcels
  - Structural Numbers**
  - <all other values>
  - Abandoned or Inactive
  - Active
  - Proposed
  - Roads

|                              |   |                     |             |                      |                            |
|------------------------------|---|---------------------|-------------|----------------------|----------------------------|
| <b>Parcel ID</b>             | C073-0001-018                             | <b>Alternate ID</b> | 37074       | <b>Owner Address</b> | FLOYD LADD                 |
| <b>Sec/Twp/Rng</b>           | n/a                                       | <b>Class</b>        | Residential |                      | 148 W MAIN ST STE 200      |
| <b>Property Address</b>      | 15 GALWAY DR                              | <b>Acreeage</b>     | 0.77        |                      | CARTERSVILLE, GA 301203568 |
| <b>District</b>              | Cartersville                              |                     |             |                      |                            |
| <b>Brief Tax Description</b> | LT 524 WATERFORD UT 8 PH3                 |                     |             |                      |                            |
|                              | (Note: Not to be used on legal documents) |                     |             |                      |                            |

Date created: 7/28/2022  
 Last Data Uploaded: 7/27/2022 10:09:56 PM

Developed by **Schneider**  
 GEOSPATIAL

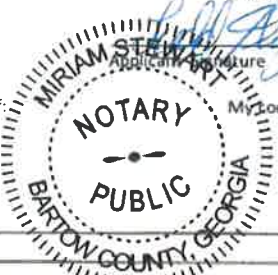
City of Cartersville  
Application for Variance  
Board of Zoning Appeals

Hearing Date: 9/8/22 5:30pm


Application Number: V22-10

Date Received: 7/28/22

Applicant Ladd Floyd Office Phone 678-619-7802  
(printed name)  
Address 148 W. Main St. Suite 200 Mobile/ Other Phone 678-619-7802  
City Cartersville State GA Zip 30120 Email Laddfloyd@gmail.com  
Lauren Noll [Southland Engineering] Phone (Rep) 770-387-0440  
Representative's printed name (if other than applicant) Email (Rep) lsimonson@southlandengineers.com  
Lauren Noll Ladd Floyd  
Representative Signature Applicant Signature  
Signed, sealed and delivered in presence of: My Commission expires: 10/11/2025  
Miriam Stewart  
Notary Public



\* Titleholder Ladd Floyd Phone 678-619-7802  
(titleholder's printed name)  
Address 148 W. Main St. Suite 200  
Cartersville GA 30120 Email Laddfloyd@gmail.com  
Signature Ladd Floyd  
Signed, sealed, delivered in presence of: My Commission expires: 10/11/2025  
Miriam Stewart  
Notary Public



Present Zoning District R-20  
Acreage 0.77 Land Lot(s) TU9 District(s) 4 Section(s) 3  
Location of Property: 15 Galway Drive, Cartersville, GA 30120  
(street address, nearest intersections, etc.)  
Zoning Section(s) for which a variance is being requested: Sec. 7.5-205 - Land Dev. Requirements <sup>Buffer &</sup> Setback Req.  
Summary Description of Variance Request: Owner stabilizing bank along Etowah River & want to install a viewing platform. Portion of viewing platform within 50ft buffer & can't shift down any further.  
(Additional detail can be provided on Justification Letter)

\* Attach additional notarized signatures as needed on separate application pages.

City of Cartersville • Planning and Development Department • 2<sup>nd</sup> Floor • 10 N. Public Square  
Cartersville, GA 30120 • 770-387-5600 • www.cityofcartersville.org

## CONDITIONS VERIFICATION

List the Article(s), Section(s) and Subsection(s) of the Zoning Ordinance for which a variance is requested.

Article VIII Section 7.5 - 205 Subsection a

Article \_\_\_\_\_ Section \_\_\_\_\_ Subsection \_\_\_\_\_

Article \_\_\_\_\_ Section \_\_\_\_\_ Subsection \_\_\_\_\_

The Board of Zoning Appeals was established to hear and decide appeals where it is alleged there is error in any order, requirement, decision, or determination made by the zoning administrator in the enforcement of the zoning ordinance. The Board has the power to hear requests for variances from the provisions of the zoning ordinance, Article XXI APPEALS. See Section 21.3 for additional information pertaining to conditions.

To assist staff and the Board of Zoning Appeals in the analysis of the variance application, please check all of the following conditions that apply to your variance request:

1. \_\_\_\_\_ The property is exceptionally narrow, shallow or unusually shaped,
2.  The property contains exceptional topographic conditions,
3. \_\_\_\_\_ The property contains other extraordinary or exceptional conditions; and
4. \_\_\_\_\_ There are other existing extraordinary or exceptional circumstances; and
5.  The strict application of the requirements of this ordinance would result in practical difficulties to, or undue hardship upon, the owner of this property;
6.  The requested variance relief may be granted without substantially impairing the intent and purpose of this ordinance

Additional Comments by Applicant: The owner's stream bank along the Etowah River is eroding at more than a natural pace due to the frequent river action caused by generation of the Allatoona Dam. The owner has the approval from the Environmental Protection Division & US Corps to restabilize the bank and install a viewing platform. The viewing platform is positioned where a portion is within the City's 50ft Undisturbed Buffer. The owner is requesting a variance for the installation of the viewing platform.

**NOTICE OF PUBLIC HEARING**

The City of Cartersville Board of Zoning Appeals will hold a public meeting on \_\_\_\_\_ at 4:30 p.m. in the City Hall Council Chambers, 3rd Floor, City Hall at 10 North Public Square, Cartersville, Georgia, 30120.

The Board of Zoning Appeals will review an application by Ladd Floyd (name of applicant) of 148 W. Main St. Suite 200 (applicant address) for property located at 15 Galway Drive in Land Lot(s) 769 of the 4 District, 3 Section, in the R-20 zoning district. Property contains approximately 0.77 acres.

Applicant requests a variance to install a viewing platform within the City's 50ft Undisturbed Buffer. Installation will occur simultaneously with stream stabilization.

Please contact the City of Cartersville Planning & Development Department at City Hall, 2nd Floor, 10 North Public Square, Cartersville, Georgia 30120 or (770) 387-5600 to receive information on the filing.

If you have interest in the proposed variance as stated above, you are encouraged to attend the meeting as stated herein.

CITY OF CARTERSVILLE

Case # \_\_\_\_\_



**LIST OF ADJACENT PROPERTY OWNERS**  
**(Not required if City mails public notices)**

The following are all of the individuals, firms, or corporations owning property on the sides, rear, and in front of (across street from) the subject property:

|     | <u>NAME</u>             | <u>ADDRESS</u>                          |
|-----|-------------------------|---|
| 1.  | Steve Cowart            | 13 Galway Drive, Cartersville, GA 30120 |
| 2.  | Robert & Judy Benowitz  | 17 Galway Drive, Cartersville, GA 30120 |
| 3.  | Karl & Jennifer Gross   | 14 Galway Drive, Cartersville, GA 30120 |
| 4.  | Chase & Barrette Lackey | 402 West Avenue, Cartersville, GA 30120 |
| 5.  |                         |   |
| 6.  |                         |   |
| 7.  |                         |   |
| 8.  |                         |   |
| 9.  |                         |   |
| 10. |                         |   |
| 11. |                         |   |
| 12. |                         |   |
| 13. |                         |   |
| 14. |                         |   |
| 15. |                         |   |

Attach additional names if necessary.

(Indicate property owned by the above persons on plat accompanying this application.)

**STATE WATER /WETLAND**  
THERE ARE STATE WATERS LOCATED ON OR WITHIN 200 FEET OF THE PROJECT SITE. THERE ARE NO TROUT STREAMS LOCATED ON OR WITHIN 200 FEET OF THE PROJECT SITE.

**RECEIVING WATER**  
THE PROJECT'S INITIAL RECEIVING WATER IS THE ETOWAH RIVER A WARM WATER STREAM. IT IS AN IMPAIRED STREAM SEGMENT WITH AN APPROVED TMDL.

**OFFSITE VEHICLE TRACKING**  
A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. THE PAVED STREET ADJACENT TO THE SITE ENTRANCE WILL BE SWEEPED DAILY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED. IF DURING CONSTRUCTION THE GENERATION OF DUST BECOMES AN ISSUE THE CONTRACTOR IS TO PROVIDE "DU" DUST CONTROL.

**STATE STREAM BUFFERS**  
NON-EXEMPT ACTIVITIES WILL BE CONDUCTED WITHIN A 25' FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION HOWEVER A VARIANCE IS BEING APPLIED FOR AND WILL ONLY OCCUR AFTER ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

**TIMELINE**  
1) 1-DAY FOR INITIAL BMP(CONSTRUCTION ENTRANCE)  
2) 1-WEEK FOR CONSTRUCTION OF BANK WITH ROCK STABILIZATION(INTERMEDIATE/FINAL)  
3) 3- WEEKS FOR CONSTRUCTION OF DECK AND PATIO.

**SEDIMENT STORAGE JUSTIFICATION**  
SEDIMENT STORAGE IS NOT OBTAINABLE ON THIS SITE DUE TO THE NATURE AND LOCATION OF CONSTRUCTION. THE CONSTRUCTION IS STABILIZATION OF AN ERODING EMBANKMENT THAT EMBODIES THE ETOWAH RIVER. THE LOCATION FOR SEDIMENT STORAGE WOULD NEED TO BE PLACED IN THE RIVER AND THIS IS NOT POSSIBLE.

**ESTIMATED RUNOFF COEFFICIENT**

ONSITE DRAINAGE BASIN IS 0.13 AC IN REAR YARD

PRE-DEVELOPED 63  
POST-DEVELOPED 63

| SITE LEGEND |                       |
|-------------|-----------------------|
|             | 1' EXISTING CONTOUR   |
|             | 5' EXISTING CONTOUR   |
|             | STATE WATERS          |
|             | HIGHWATER ELEVATION   |
|             | 25' STATE BUFFER      |
|             | LIMITS OF DISTURBANCE |
|             | RIPRAP (SEE PLAN)     |
|             | PROPERTY LINE         |
|             | FLOODPLAIN            |
|             | RIVER BANK FAILURE    |

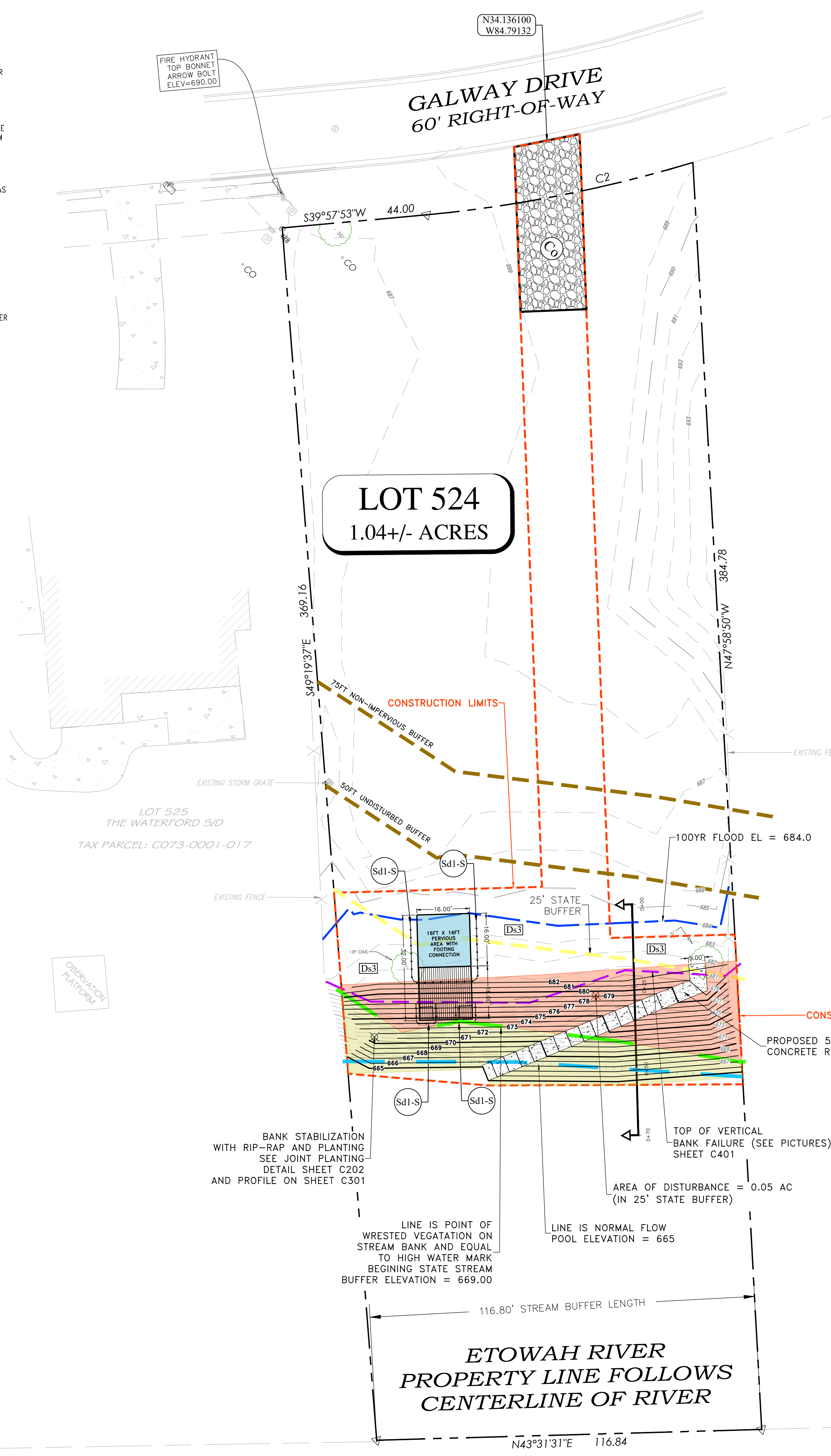
**GENERAL EROSION NOTES**

THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO LAND DISTURBING ACTIVITIES.

EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.

ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.

**24 HOUR CONTACT**  
**LADD FLOYD**  
**678-618-7802**



| Curve Table |        |         |         |
|-------------|--------|---------|---------|
| Curve #     | Length | Radius  | Delta   |
| C2          | 82.433 | 415.300 | 11.3726 |

- BUFFER IMPACT NOTES AND MEASUREMENTS**
1. WETLANDS AREA - AREA BELOW NORMAL WATER LINE ONLY.
  2. FLOODPLAIN - FLOODPLAIN HAS BEEN DELINEATED ON SITE PLAN.
  3. AREA OF BUFFER TO BE IMPACTED AND DISTURBED= 0.05 ACRES
  4. LENGTH OF BUFFER DISTURBANCE = 116.80 LF
  5. TOTAL AREA OF DISTURBANCE = 0.27 ACRES

**SITE DESCRIPTION**  
THE ENTIRE AREA, THAT IS SHOWN TO BE DISTURBED, IS WITHIN STATE WATERS AND FLOODPLAIN. THE TOPO AND SLOPE OF THE TERRAIN IS SHOWN ON THE PROPOSED PLAN.  
ALL OF THE SOILS ON SITE ARE TOCCOA FINE SANDY LOAM.  
THE PROJECT LENGTH OF TIME SHALL BE 1 (ONE) MONTH.

**BUFFER JUSTIFICATION**  
THE FOLLOWING BUFFER IMPACT IS NECESSARY TO HELP STABILIZE BANK ERODING THAT HAS BEEN CAUSED BY THE ETOWAH RIVER. THE CONSTRUCTION OF A RECREATIONAL VIEWING AREA WILL BE CONSTRUCTED DURING THE STABILIZATION PROCESS THAT WILL BE USED TO OVERLOOK THE ETOWAH RIVER.

**STAKING SPECIES AND SPACING:**  
LIVESTAKES SPECIES TO BE USED ARE BLACK WILLOW.

**SPACING FOR TREES ARE AS FOLLOW:**  
LIVESTAKES ARE TO BE PLANTED AT A DENSITY OF 2 FEET ON CENTER (FT O.C.).

LIVESTAKES ARE TO BE PLANTED INSIDE BUFFER WITHIN THE STONE RIPRAP. SEE NOTE ABOVE FOR SPECIES AND PLANTING REQUIREMENTS

**UNDERBRUSH AND SOME TREES ARE TO BE REMOVED AND/OR CLEANED UP TO ALLOW FOR PROPER INSTALLATION OF EROSION STABILIZATION MEASURES AND OVERLOOK AREA.**  
**NEW VEGETATION, AS SHOWN, IS TO BE INSTALLED FOR PROPER GROWTH WITHIN THE BUFFER.**

*The TMDL Implementation Plans for Fish Consumption Guidelines (PCBs), Dissolved Oxygen and Fecal Coliform were finalized in April 2006, March 2001 and April 2006, respectively, for the Etowah River (Lake Allatoona to the Ichland Creek) in Bartow County. Compliance with the Georgia Erosion and Sedimentation Act (GESA) will ensure that pollutant loadings from the construction site will be at or below applicable TMDL Implementation Plan targets for the criteria, Fish Consumption Guidelines (PCBs), Dissolved Oxygen and Fecal Coliform."*



**LOCATION MAP**  
NOT TO SCALE

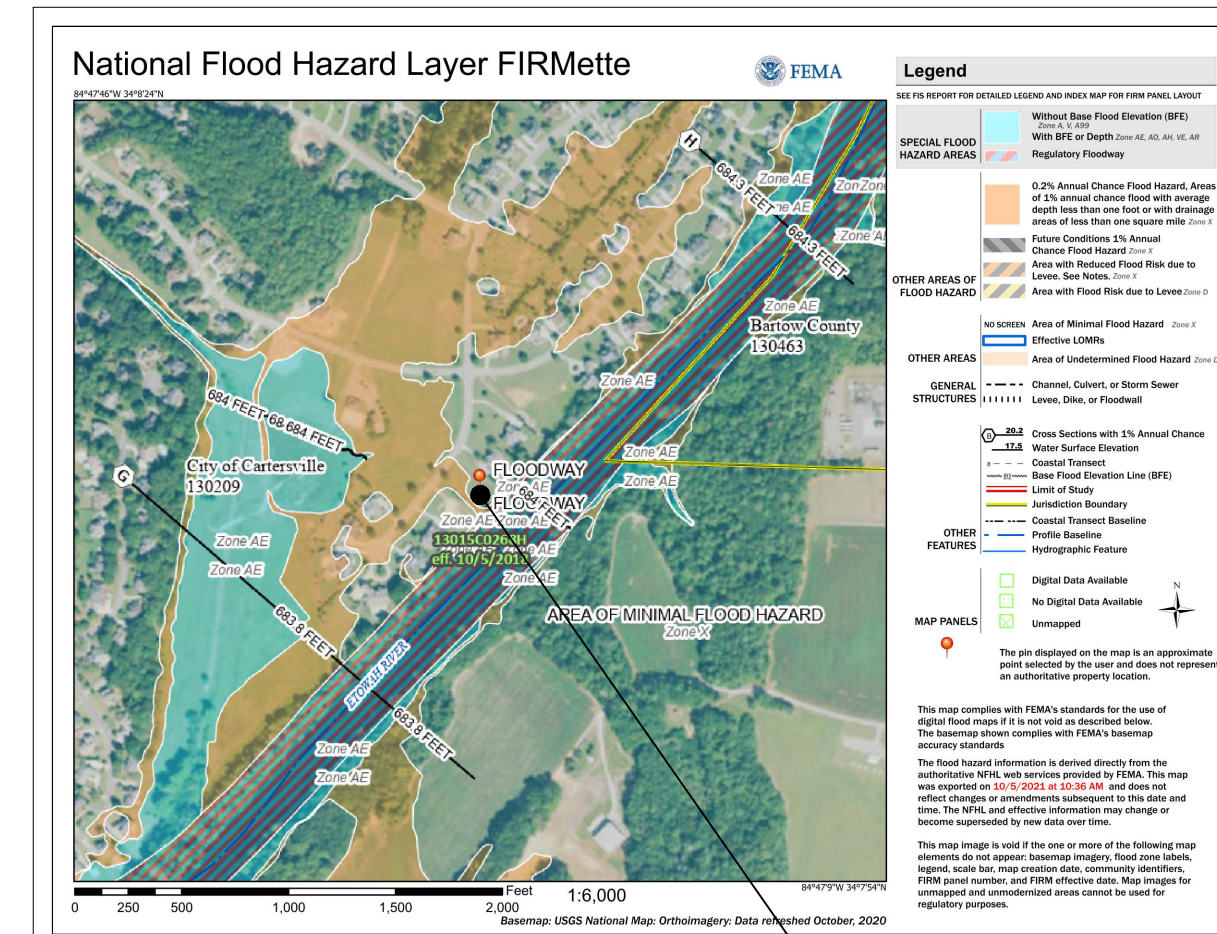
**SOILS LEGEND**  
ALL SOILS ARE:  
91 A - TOCCOA FINE SANDY LOAM

**Ds3** DISTURBED AREA STABILIZATION (WITH PERM LIVE STAKES)

**Co** CONSTRUCTION EXIT

"I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY DIRECT SUPERVISION."

SIGNED: DATE: 1-11-22



**FLOOD MAP**  
NOT TO SCALE

NOTE: THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN AS PER FEMA FLOOD INSURANCE MAP 13015 C 0268 H, DATED OCT. 5 2018.

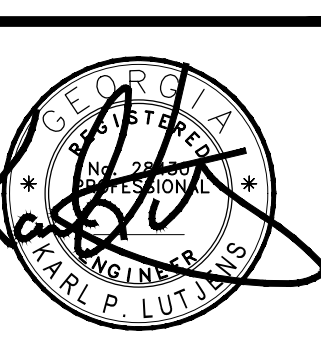
PROJECT NO.: 21164

DATE: 1/24/22

| REVISIONS: | DATE   | DESCRIPTION           |
|------------|--------|-----------------------|
| 1          | 4/7/22 | PUBLIC WORKS COMMENTS |
| 2          |        |                       |
| 3          |        |                       |
| 4          |        |                       |
| 5          |        |                       |
| 6          |        |                       |

**SOUTHLAND ENGINEERING**  
CIVIL ENGINEERS - LAND SURVEYORS - LAND PLANNERS  
114 OLD MILL ROAD, CARTERSVILLE, GA 30120 PH: 770.387.0440 FAX: 770.607.5151

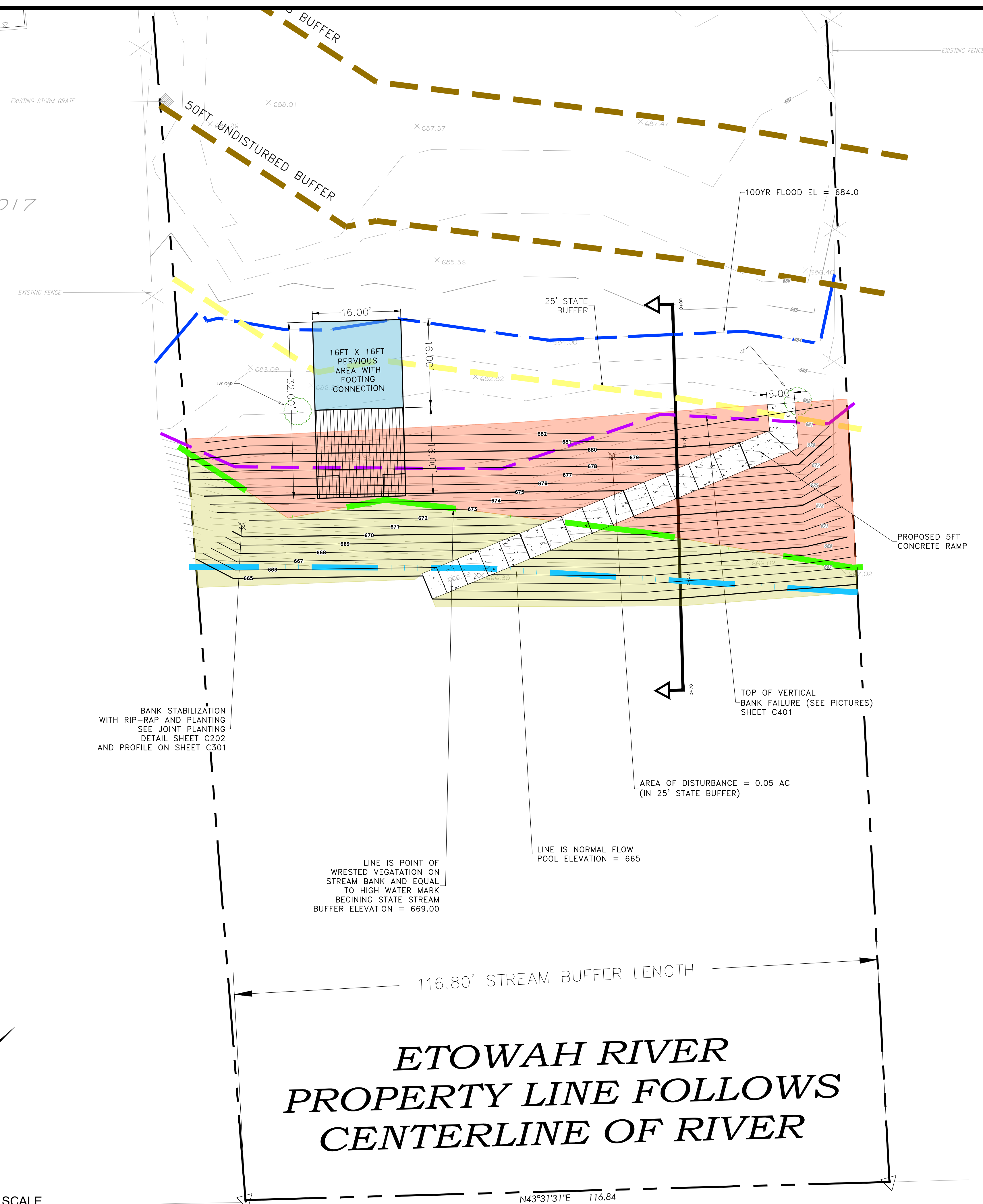
**15 GALWAY DR STREAM BANK STABILIZATION**  
LOCATED IN LAND LOTS 769  
4TH DISTRICT, 3RD SECTION  
CITY OF CARTERSVILLE, GEORGIA



SHEET TITLE: **SITE-EROSION CONTROL PLAN**

SHEET NO.: C201

LOT 525  
WATERFORD S/D  
EL: C073-0001-017



BANK STABILIZATION WITH RIP-RAP AND PLANTING SEE JOINT PLANTING DETAIL SHEET C202 AND PROFILE ON SHEET C301

LINE IS POINT OF WRESTED VEGETATION ON STREAM BANK AND EQUAL TO HIGH WATER MARK BEGINNING STATE STREAM BUFFER ELEVATION = 669.00

LINE IS NORMAL FLOW POOL ELEVATION = 665

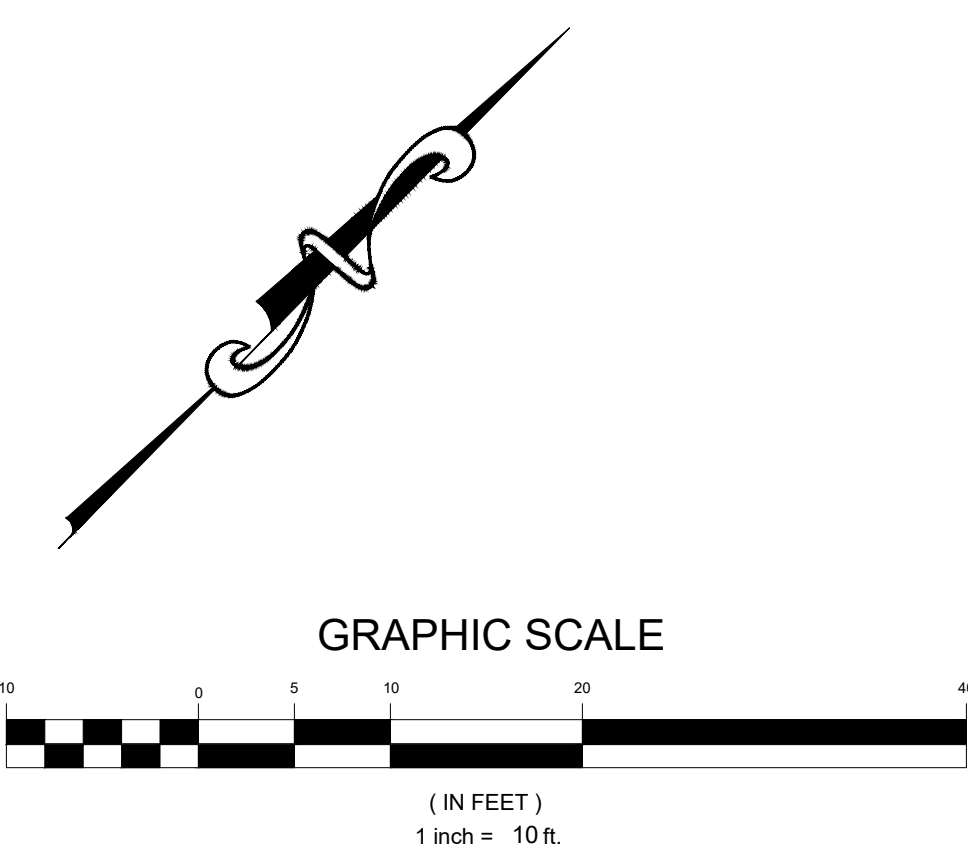
AREA OF DISTURBANCE = 0.05 AC (IN 25' STATE BUFFER)

TOP OF VERTICAL BANK FAILURE (SEE PICTURES) SHEET C401

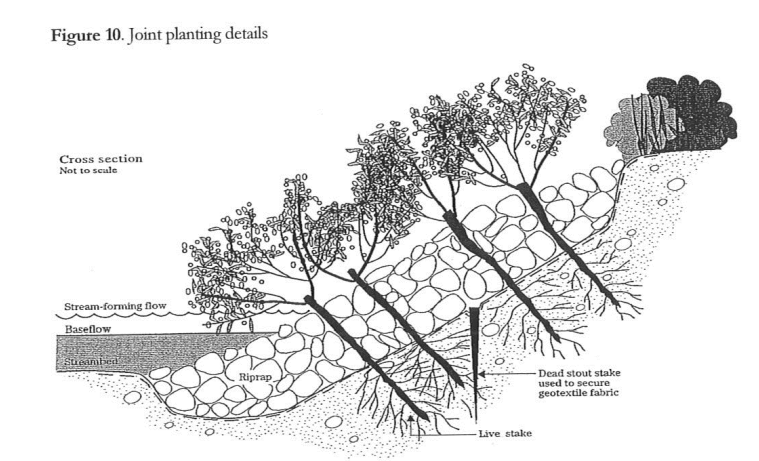
**ETOWAH RIVER  
PROPERTY LINE FOLLOWS  
CENTERLINE OF RIVER**

116.80' STREAM BUFFER LENGTH

N43°31'31"E 116.84



**Acceptable Practices**  
**Integrated Bioengineering Practices**  
Acceptable stabilization methods are integrated bioengineering with one or more structural component useful in areas with higher velocity flows and/or wave action. This is most often appropriate at the "toe" of the bank or shoreline to prevent additional bank slumping. Structural components should be minimal and only used when necessary to ensure long-term success of the stabilization efforts.  
**Joint Planting**  
Joint planting or vegetated riprap involves tamping live stakes into joints or open spaces in rocks that have been placed on a slope. Vegetation, especially deep rooting species, planted above and immediately behind the rock will greatly increase the stability of the slope.



| SITE LEGEND |                       |
|-------------|-----------------------|
|             | 1' EXISTING CONTOUR   |
|             | 5' EXISTING CONTOUR   |
|             | STATE WATERS          |
|             | HIGHWATER ELEVATION   |
|             | 25' STATE BUFFER      |
|             | LIMITS OF DISTURBANCE |
|             | RIPRAP (SEE PLAN)     |
|             | PROPERTY LINE         |
|             | FLOODPLAIN            |
|             | RIVER BANK FAILURE    |

| RIP-RAP STABILIZATION LEGEND |   |
|------------------------------|---|
|                              | RIP-RAP STABILIZATION BELOW POINT OF WRESTED VEGETATION 1,479 S.F.              |
|                              | RIP-RAP STABILIZATION ABOVE POINT OF WRESTED VEGETATION 1,957 S.F.              |
|                              | AREA OUTSIDE RIP-RAP STABILIZATION BUT INSIDE BUFFER TO BE DISTURBED = 277 S.F. |

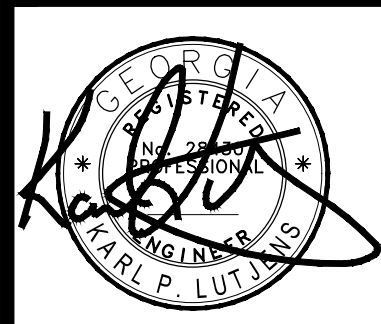
TOTAL DISTURBANCE IN BUFFER= 2,234 S.F. (0.05 AC)  
**PROPOSED RAMP:**  
 AREA OF RAMP BELOW WRESTED VEGETATION = 148 S.F. (0.003 AC)  
 LENGTH OF RAMP BELOW THE POINT OF WRESTED VEGETATION = 29.7 LF  
 WIDTH OF RAMP = 5 LF

PROJECT NO.: 21164  
DATE: 1/24/22

| REVISIONS: | DATE   | DESCRIPTION           |
|------------|--------|-----------------------|
| 1          | 4/1/22 | PUBLIC WORKS COMMENTS |
| 2          |        |                       |
| 3          |        |                       |
| 4          |        |                       |
| 5          |        |                       |
| 6          |        |                       |

**SOUTHLAND ENGINEERING**  
 CIVIL ENGINEERS - LAND SURVEYORS - LAND PLANNERS  
 114 OLD MILL ROAD, CARTERSVILLE, GA 30120 PH: 770.387.0440 FAX: 770.607.5151

**15 GALWAY DR STREAM BANK STABILIZATION**  
 LOCATED IN LAND LOTS 769  
 4TH DISTRICT, 3RD SECTION  
 CITY OF CARTERSVILLE, GEORGIA



SHEET TITLE:  
**BUFFER MITIGATION PLAN**

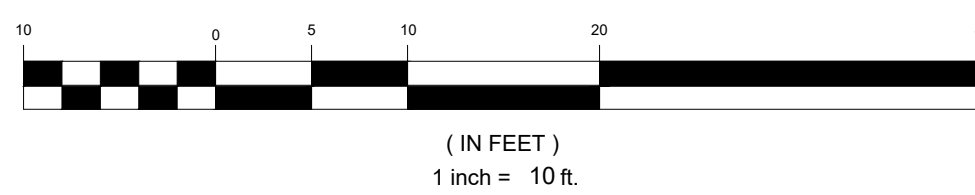
SHEET NO.:  
**C202**

GSWCC LEVEL II CERTIFICATION NUMBER  
 GEORGIA REGISTRATION NO. #3422

24 HOUR CONTACT  
**LADD FLOYD**  
 678-618-7802

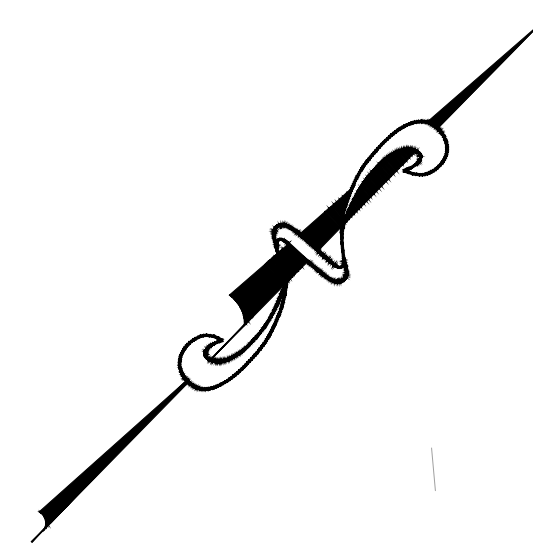


GRAPHIC SCALE



| SITE LEGEND |                       |
|-------------|-----------------------|
|             | 1' EXISTING CONTOUR   |
|             | 5' EXISTING CONTOUR   |
|             | STATE WATERS          |
|             | HIGHWATER ELEVATION   |
|             | 25' STATE BUFFER      |
|             | LIMITS OF DISTURBANCE |
|             | RIPRAP (SEE PLAN)     |
|             | PROPERTY LINE         |
|             | FLOODPLAIN            |
|             | RIVER BANK FAILURE    |

GSWCC LEVEL II  
CERTIFICATION NUMBER  
GEORGIA REGISTRATION NO.  
GA #3422



LOT 525  
THE WATERFORD S/D  
TAX PARCEL: C073-0001-017

OBERVATION  
PLATFORM

BANK STABILIZATION  
WITH RIP-RAP AND PLANTING  
SEE JOINT PLANTING  
DETAIL SHEET C202  
AND PROFILE ON SHEET C301

LINE IS POINT OF  
WRESTED VEGETATION ON  
STREAM BANK AND EQUAL  
TO HIGH WATER MARK  
BEGINNING STATE STREAM  
BUFFER ELEVATION = 669.00

LINE IS NORMAL FLOW  
POOL ELEVATION = 665

AREA OF DISTURBANCE = 0.05 AC  
(IN 25' STATE BUFFER)

TOP OF VERTICAL  
BANK FAILURE (SEE PICTURES)  
SHEET C401

116.80' STREAM BUFFER LENGTH

**ETOWAH RIVER  
PROPERTY LINE FOLLOWS  
CENTERLINE OF RIVER**

N43°31'31"E 116.84

24 HOUR CONTACT  
LADD FLOYD  
678-618-7802



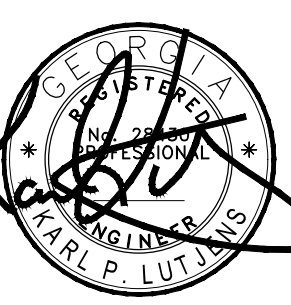
PROJECT NO.:  
21164

DATE:  
1/24/22

| REVISIONS: | DATE   | DESCRIPTION           |
|------------|--------|-----------------------|
| 1          | 4/1/22 | PUBLIC WORKS COMMENTS |
| 2          |        |                       |
| 3          |        |                       |
| 4          |        |                       |
| 5          |        |                       |
| 6          |        |                       |

**SOUTHLAND**  
**ENGINEERING**  
CIVIL ENGINEERS - LAND SURVEYORS - LAND PLANNERS  
114 OLD MILL ROAD, CARTERSVILLE, GA 30120 PH: 770.387.0440 FAX: 770.607.5151

**15 GALWAY DR STREAM  
BANK STABILIZATION**  
LOCATED IN LAND LOTS 769  
4TH DISTRICT, 3RD SECTION  
CITY OF CARTERSVILLE, GEORGIA



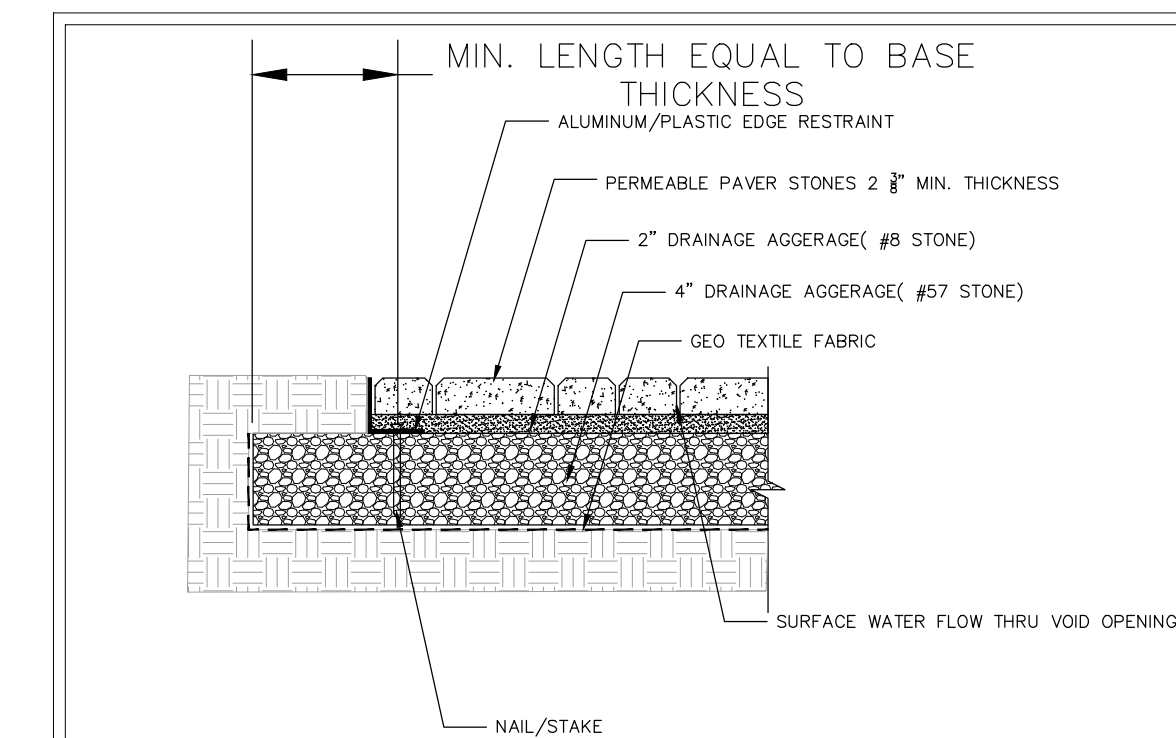
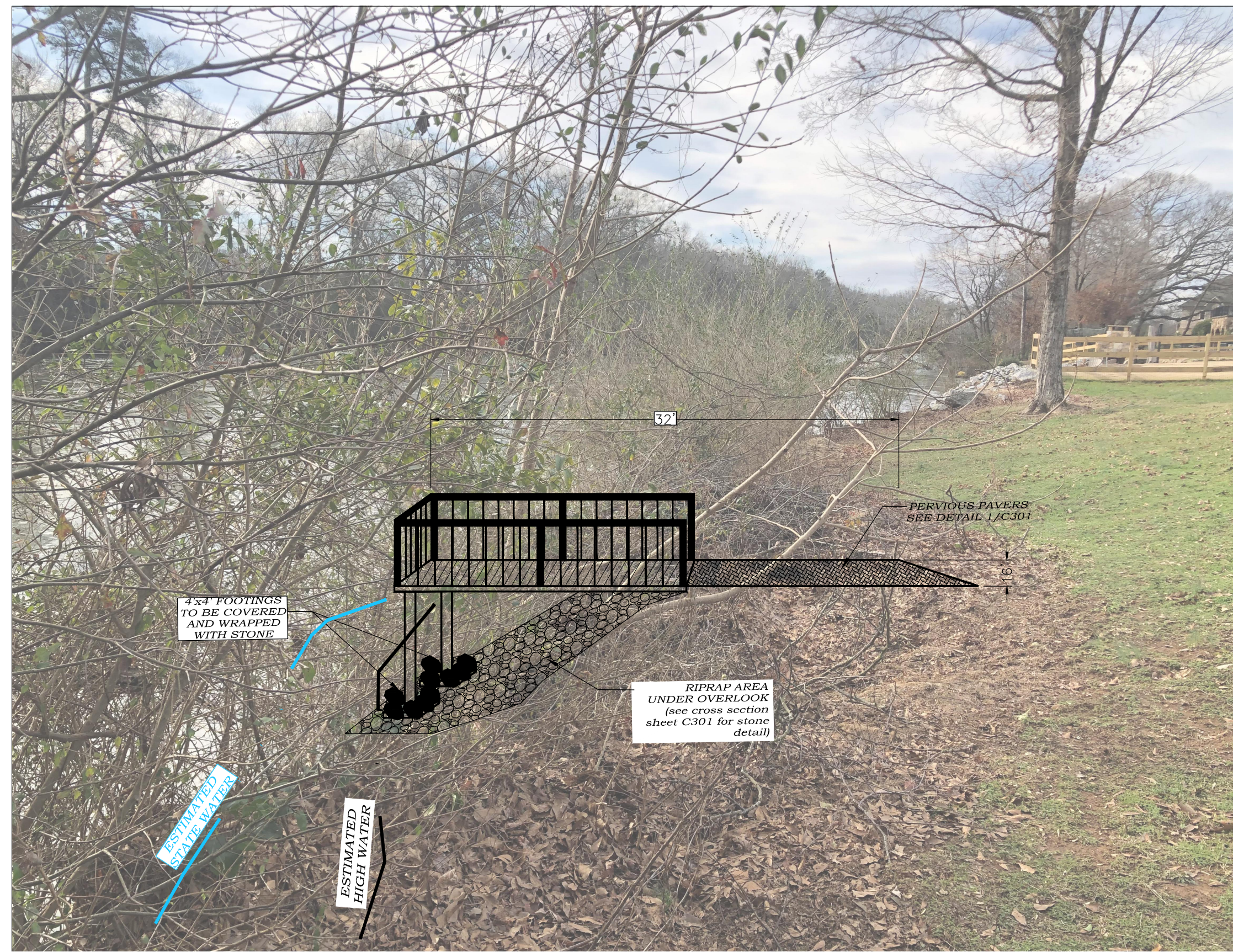
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GRADING  
PLAN

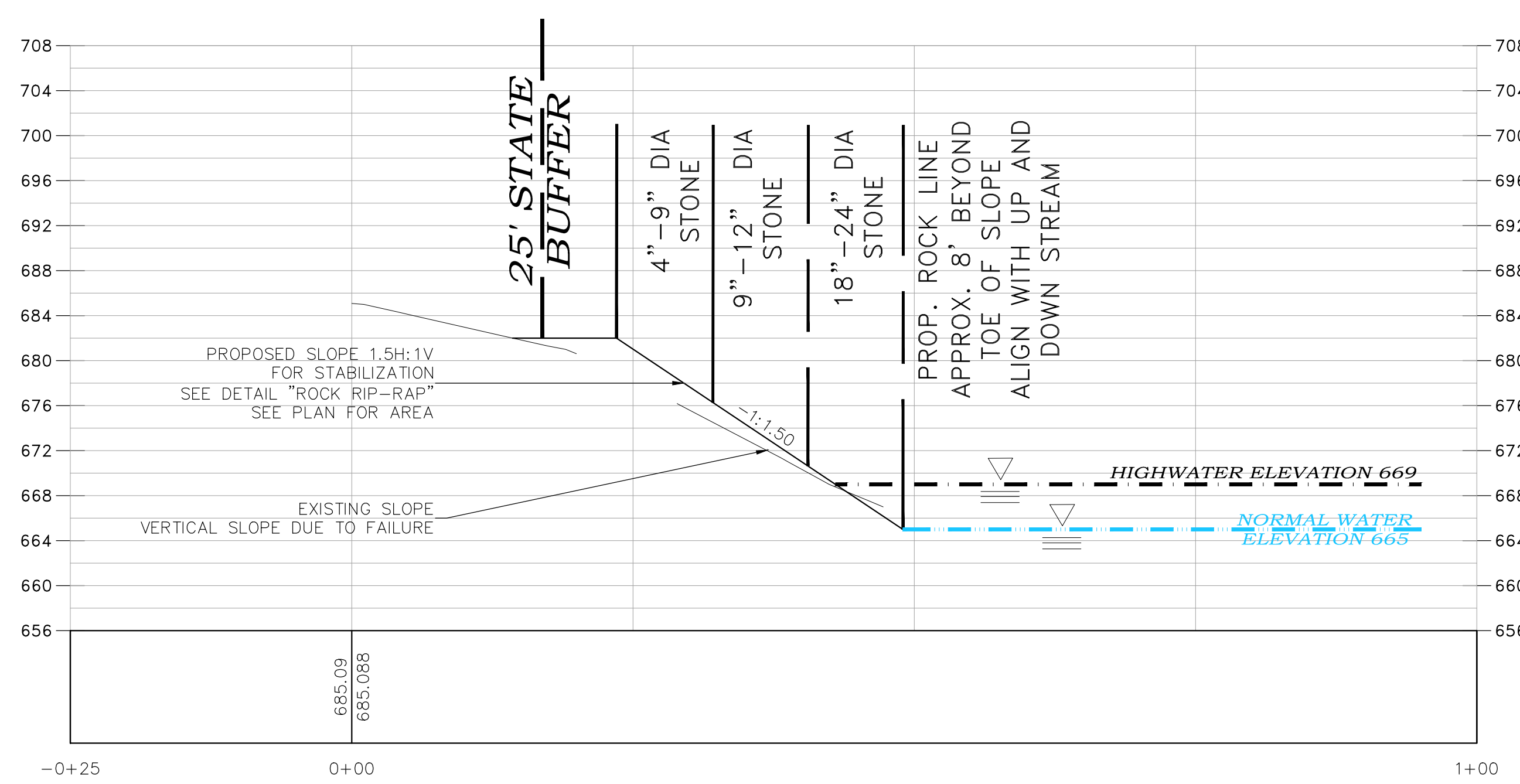
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C203

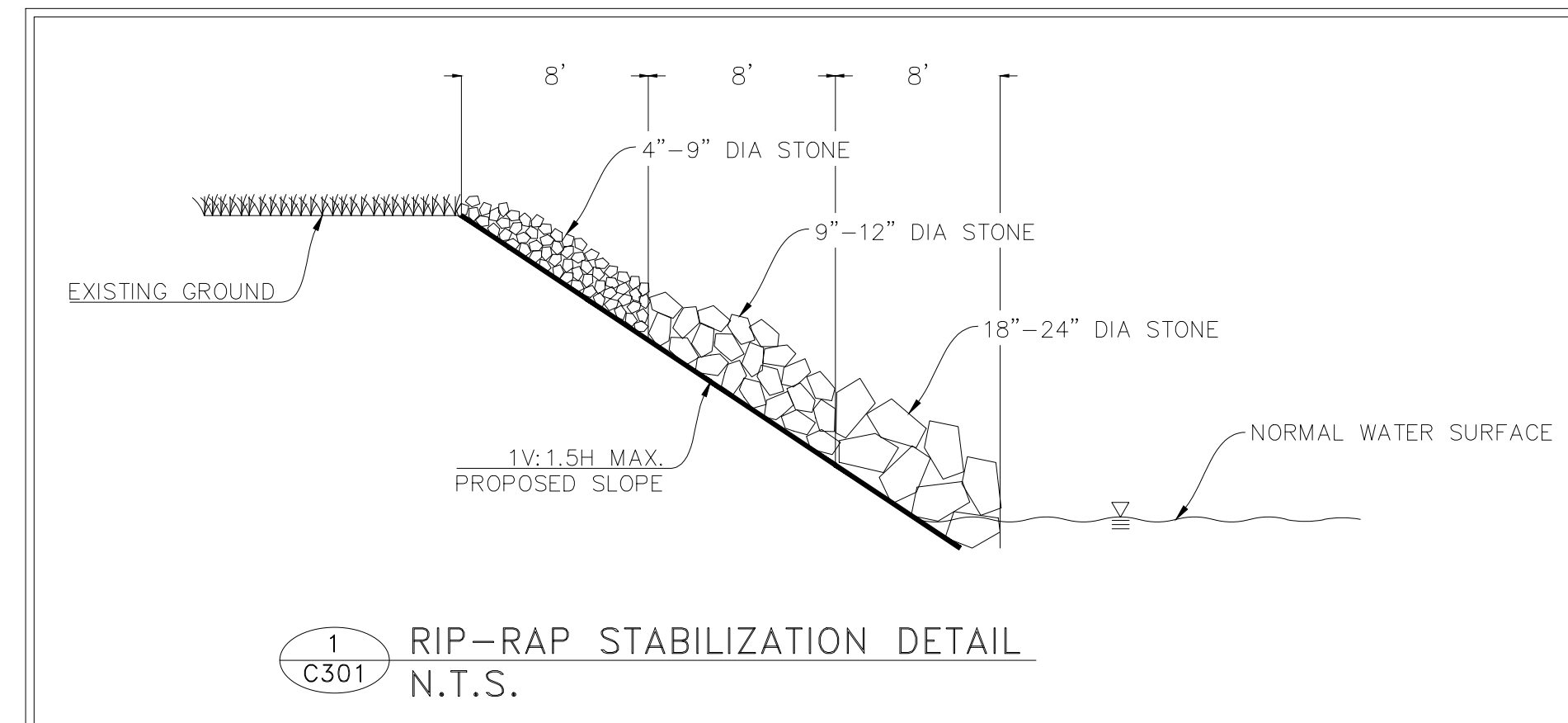
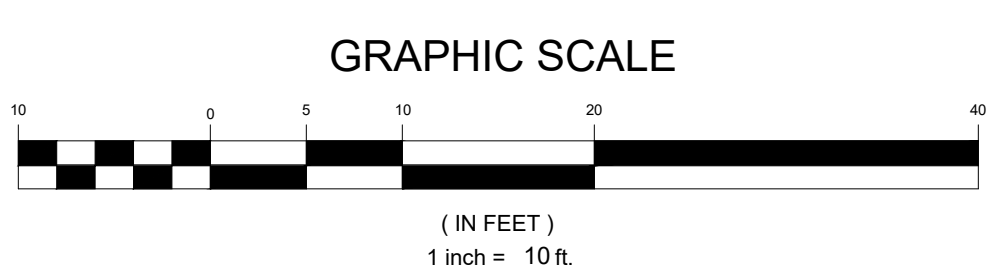
| REVISIONS: | DATE   | DESCRIPTION           |
|------------|--------|-----------------------|
| 1          | 4/1/22 | PUBLIC WORKS COMMENTS |
| 2          |        |                       |
| 3          |        |                       |
| 4          |        |                       |
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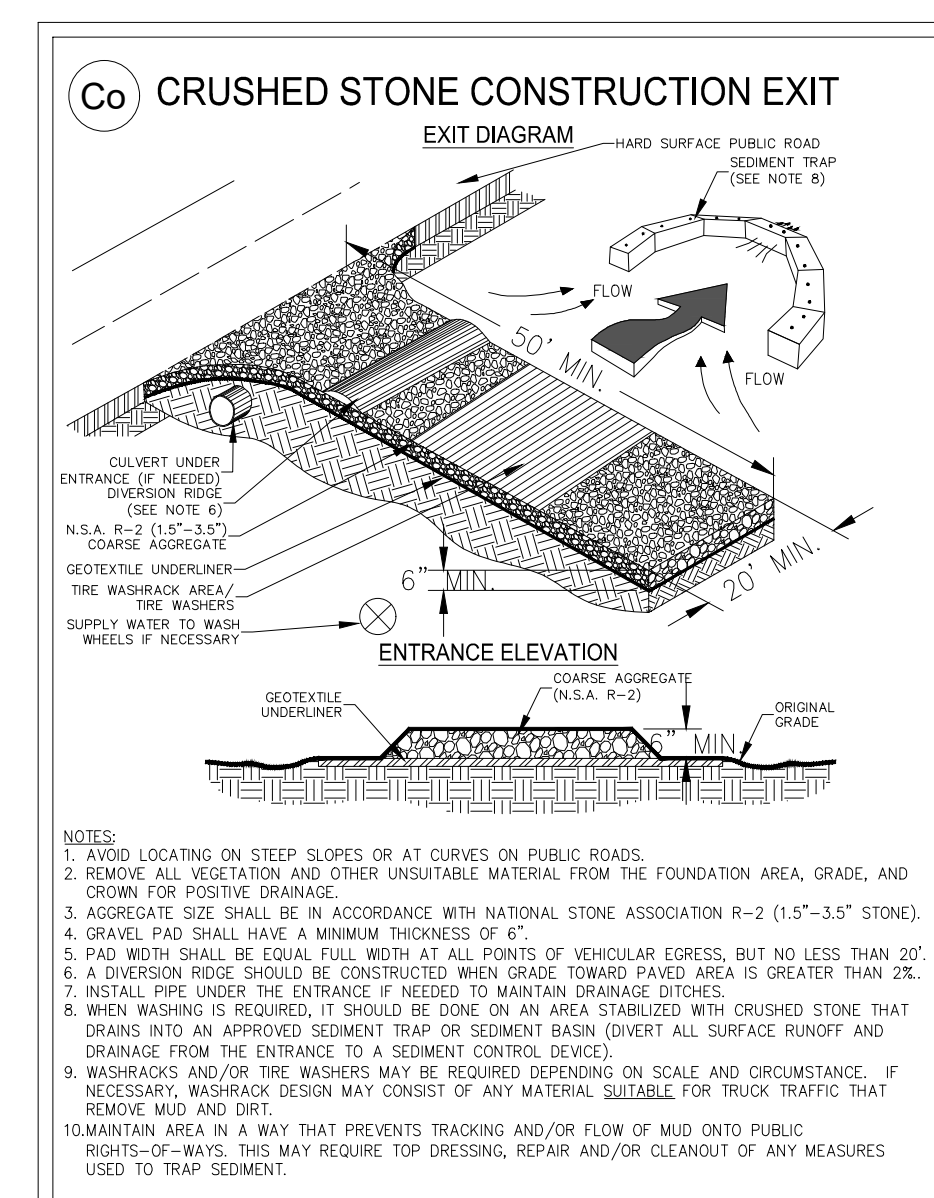
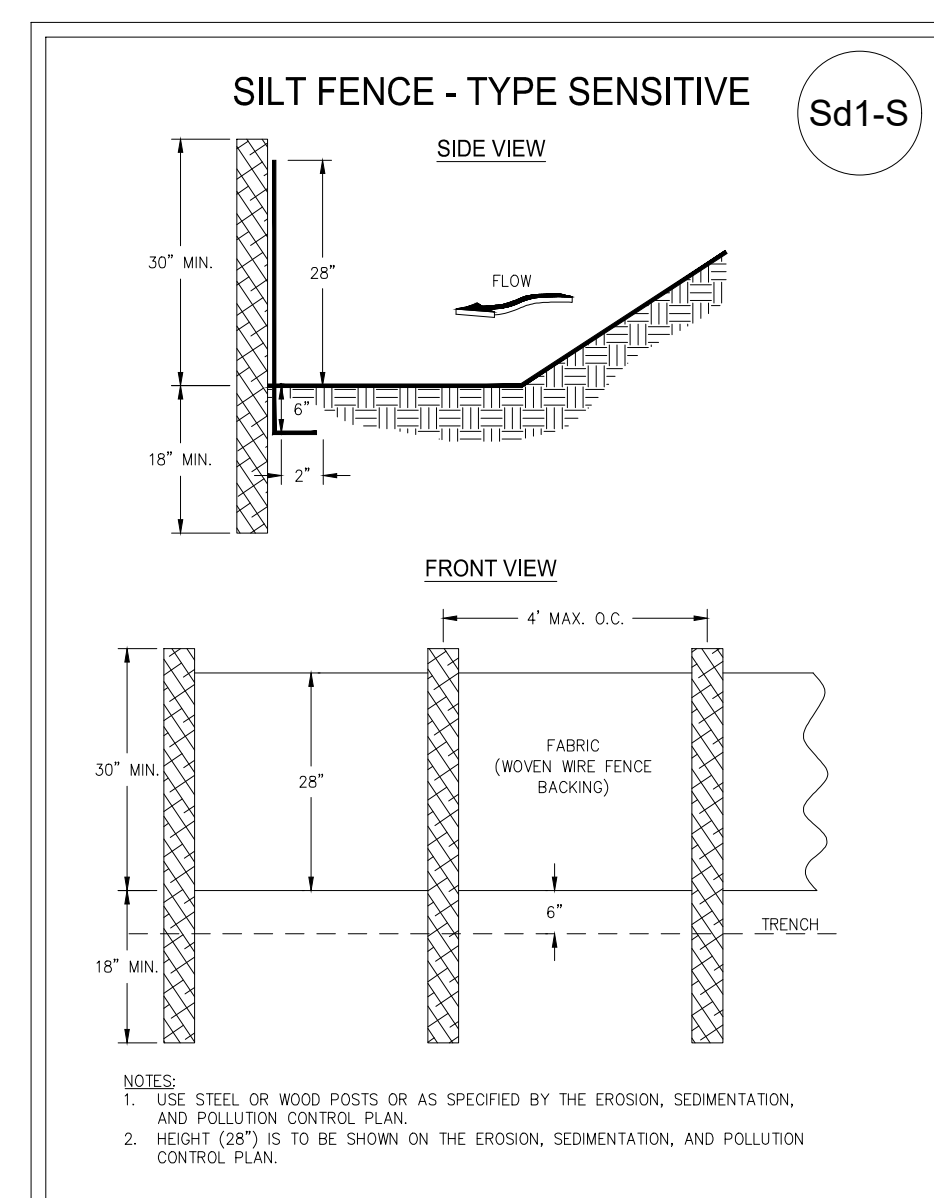
**1 PERMEABLE PAVER DETAIL**  
Scale: NTS



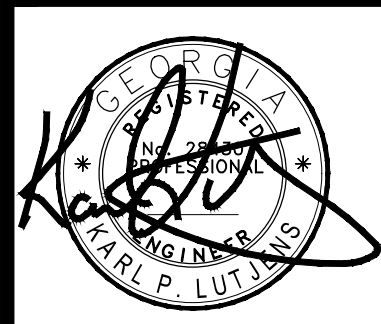
15 GALWAY DR BANK  
VERTICAL SCALE: 10.00  
HORIZONTAL SCALE: 10.00



**1 RIP-RAP STABILIZATION DETAIL**  
N.T.S.



**15 GALWAY DR STREAM BANK STABILIZATION**  
LOCATED IN LAND LOTS 769  
4TH DISTRICT, 3RD SECTION  
CITY OF CARTERSVILLE, GEORGIA



SHEET TITLE:  
**BANK ELEVATION AND DETAIL**

SHEET NO.:  
**C301**



PICTURE "1"  
RIVER BANK ERODING



PICTURE "2"  
RIVER BANK ERODING



PICTURE "3"  
RIVER BANK ERODING



PICTURE "4"  
RIVER BANK ERODING

G:\21000\21164 - 15 GALWAY DRIVE - LADD\_FLOYD\CIVIL\DESIGN\21164\_DESIGN\_4.dwg 7/5/2022 11:51 AM

24 HOUR CONTACT  
LADD FLOYD  
678-618-7802



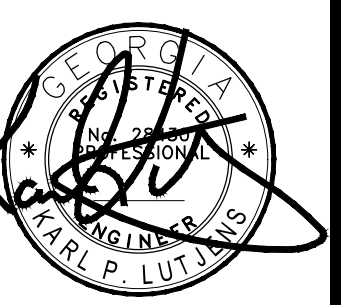
PROJECT NO.:  
21164

DATE:  
1/24/22

| REVISIONS: | DATE   | DESCRIPTION<br>PUBLIC WORKS<br>COMMENTS |
|------------|--------|---|
| 1          | 4/1/22 |   |
| 2          |        |   |
| 3          |        |   |
| 4          |        |   |
| 5          |        |   |
| 6          |        |   |

**SOUTHLAND**  
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**15 GALWAY DR STREAM  
BANK STABILIZATION**  
LOCATED IN LAND LOTS 769  
4TH DISTRICT, 3RD SECTION  
CITY OF CARTERSVILLE, GEORGIA



SHEET TITLE:

SITE  
PICTURES

SHEET NO.:

C401

**DEFINITION**  
 APPLYING PLANT RESIDUES OR OTHER SUITABLE MATERIALS, PRODUCED ON THE SITE IF POSSIBLE, TO THE SOIL SURFACE.  
**CONDITIONS**  
 MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTURBANCE. MULCH CAN BE USED AS A SINGULAR EROSION CONTROL DEVICE FOR UP TO SIX MONTHS, BUT IT SHALL BE APPLIED AT THE APPROPRIATE DEPTH, DEPENDING ON THE MATERIAL USED, ANCHORED, AND HAVE A CONTINUOUS 90% COVER OR GREATER OF THE SOIL SURFACE. MAINTENANCE SHALL BE REQUIRED TO MAINTAIN APPROPRIATE DEPTH AND 90 % COVER. TEMPORARY VEGETATION MAY BE EMPLOYED INSTEAD OF MULCH IF THE AREA WILL REMAIN UNDISTURBED FOR LESS THAN SIX MONTHS. IF AN AREA WILL REMAIN UNDISTURBED FOR GREATER THAN SIX MONTHS, PERMANENT VEGETATIVE TECHNIQUES SHALL BE EMPLOYED.

**SPECIFICATIONS**  
 MULCHING WITHOUT SEEDING  
 THIS STANDARD APPLIED TO GRADES OR CLEARED AREAS WHERE SEEDINGS MAY NOT HAVE A SUITABLE GROWING SEASON TO PRODUCE AN EROSION RETARDANT COVER, BUT CAN BE STABILIZED WITH A MULCH COVER.

**SITE PREPARATION**  
 1. GRADE TO PERMIT THE USE OF EQUIPMENT FOR APPLYING AND ANCHORING MULCH.  
 2. INSTALL NEEDED EROSION CONTROL MEASURES AS REQUIRED SUCH AS DIKES, DIVERSIONS, BERMS, TERRACES AND SEDIMENT BARRIERS.  
 3. LOOSEN COMPACT SOIL TO A MINIMUM DEPTH OF 3 INCHES.

**MULCHING MATERIALS**  
 SELECT ONE OF THE FOLLOWING MATERIALS AND APPLYING AT THE DEPTH INDICATED:  
 1. DRY STRAW OR HAY SHALL BE APPLIED AT A DEPTH OF 2 TO 4 INCHES PROVIDING COMPLETE SOIL COVERAGE. ONE ADVANTAGE OF THIS MATERIAL IS EASY APPLICATION.  
 2. WOOD WASTE (CHIPS, SAWDUST OR BARK) SHALL BE APPLIED AT A DEPTH OF 2 TO 3 INCHES. ORGANIC MATERIAL FROM THE CLEARING STAGE OF DEVELOPMENT SHOULD REMAIN ON SITE, BE CHIPPED, AND APPLIED AS MULCH. THIS METHOD OF MULCHING CAN GREATLY REDUCE EROSION CONTROL COSTS.  
 3. POLYETHYLENE FILM SHALL BE SECURED OVER BANKS OF STOCKPILED SOIL MATERIAL FOR TEMPORARY PROTECTION. THIS MATERIAL CAN BE SALVAGED AND REUSED.

**APPLYING MULCH**  
 WHEN MULCH IS USED WITHOUT SEEDING, MULCH SHALL BE APPLIED TO PROVIDE FULL COVERAGE OF THE EXPOSED AREA.  
 1. DRY STRAW OR HAY MULCH AND WOOD CHIPS SHALL BE APPLIED UNIFORMLY BY HAND OR BY MECHANICAL EQUIPMENT.  
 2. IF THE AREA WILL EVENTUALLY BE COVERED WITH PERENNIAL VEGETATION, 20-30 POUNDS OF NITROGEN PER ACRE IN ADDITION TO THE NORMAL AMOUNT SHALL BE APPLIED TO OFFSET THE UPTAKE OF NITROGEN CAUSED BY THE DECOMPOSITION OF THE ORGANIC MULCHES.  
 3. APPLY POLYETHYLENE FILM ON EXPOSED AREAS.

**ANCHORING MULCH**  
 1. STRAW OR HAY MULCH CAN BE PRESSED INTO THE SOIL WITH A DISK HARROW WITH THE DISK SET STRAIGHT OR WITH A SPECIAL "PACKER DISK." DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISK SHOULD BE DULL ENOUGH NOT TO CUT THE MULCH BUT TO PRESS IT INTO THE SOIL LEAVING MUCH OF IT IN AN ERRECT POSITION. STRAW OR HAY MULCH SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION. TACKIFIERS AND BINDERS CAN BE USED. PLEASE REFER TO SPECIFICATION TB-TACKIFIERS AND BINDERS.  
 PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.  
 2. NETTING OF THE APPROPRIATE SIZE SHALL BE USED TO ANCHOR WOOD WASTE. OPENINGS OF THE NETTING SHALL NOT BE LARGER THAN THE AVERAGE SIZE OF THE WOOD WASTE CHIPS.  
 3. POLYETHYLENE FILM SHALL BE ANCHOR TRENCHED AT THE TOP AS WELL AS INCREMENTALLY AS NECESSARY.

## Ds1 DISTURBED AREA STABILIZATION WITH MULCHING

**DEFINITION**  
 THE ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDINGS FOR SEASONAL PROTECTION ON DISTURBED OR DENUDDED AREA.

**CONDITIONS**  
 TEMPORARY GRASSING, INSTEAD OF MULCH, CAN BE APPLIED TO ROUGH GRADED AREAS THAT WILL BE EXPOSED FOR LESS THAN SIX MONTHS. TEMPORARY VEGETATIVE MEASURES SHOULD BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMIC AND EFFECTIVE STABILIZATION. MOST TYPES OF TEMPORARY VEGETATION ARE IDEAL TO USE AS COMPANION CROPS UNTIL THE PERMANENT VEGETATION IS ESTABLISHED.

### SEEDING RATES FOR TEMPORARY SEEDING

| SPECIES           | BROADCAST RATES              |                                    | PLANTING DATES BY RESOURCE AREA | REMARKS  |
|-------------------|------------------------------|------------------------------------|---------------------------------|--|
|                   | RATE PER ACRE <sup>1/2</sup> | PURE LIVE SEED (PLS) PER 1000 S.F. |                                 |  |
| BARLEY            | 3.80 (104 LBS)               | 3.3 LBS                            | 8/15 - 12/15                    | 14,000 SEED PER POUND. WINTER HARDY. USE ON PRODUCTIVE SOILS   |
| LESPEDEZA SERICEA | 40 LBS                       | 0.9 LBS                            | 2/1 - 5/1                       | 200,000 SEED PER POUND. MAY VOLUNTEER FOR WINTER. YEAR. USE INDICATED EL.  |
| LOVEGRASS WEERING | 4 LBS                        | 0.1 LBS                            | 5/15 - 6/15                     | 1,500,000 SEED PER POUND. MAY LAST FOR SEVERAL YEARS. MIX WITH SERICEA LESPEDEZA.                                |
| MILLET BROWN TOP  | 40 LBS                       | 0.9 LBS                            | 4/1 - 7/1                       | 170,000 SEED PER POUND. QUICK ERUPE COVER. WILL PROVIDE EXCESSIVE COMPETION IN MIXTURES IF SEEDED AT HIGH RATES. |
| MILLET, PEARL     | 50 LBS                       | 1.1 LBS                            | 4/1 - 5/1                       | 88,000 SEED PER POUND. QUICK ERUPE COVER. MAY BEACH OPT IN HEIGHT. NOT RECOMMENDED FOR MIXTURES.                 |
| OATS              | 4.80 (128 LBS)               | 2.9 LBS                            | 9/1 - 12/1                      | 13,000 SEED PER POUND. USE ON PRODUCTIVE SOILS. NOT AS WINTER HARDY AS RYE OR BARNY.                             |
| RYE               | 3.80 (108 LBS)               | 3.0 LBS                            | 7/15 - 12/1                     | 18,000 SEED PER POUND. QUICK COVER. DROUGHT TOLERANT AND WINTER HARDY.   |
| RYEGRASS, ANNUAL  | 40 LBS                       | 0.9 LBS                            | 8/1 - 5/1                       | 277,000 SEED PER POUND. SENE COVER. VERY COMPETIVE AND RYE. NOT COVER IN MIXTURES.                               |
| SUDANGRASS        | 60 LBS                       | 1.4 LBS                            | 4/1 - 5/1                       | 15,000 SEED PER POUND. GOOD ON BROOKLYN SITES. NOT RECOMMENDED FOR MIXTURES.                                     |
| WHEAT             | 3.80 (100 LBS)               | 4.1 LBS                            | 9/15 - 1/1                      | 15,000 SEED PER POUND. WINTER HARDY.   |

<sup>1</sup>UNUSUAL SITE CONDITIONS MAY REQUIRE HEAVIER SEEDING RATES  
<sup>2</sup>SEEDING DATES MAY NEED TO BE ALTERED TO FIT TEMPERATURE VARIATIONS AND CONDITIONS

**SPECIFICATIONS**  
**GRADING AND SHAPING**  
 EXCESSIVE WATER RUN-OFF SHALL BE REDUCED BY PROPERLY DESIGNED AND INSTALLED EROSION CONTROL PRACTICES SUCH AS CLOSED DRAINS, DITCHES, DIKES, DIVERSIONS, SEDIMENT BARRIERS AND OTHERS.  
 NO SHAPING OR GRADING IS REQUIRED IF SLOPES CAN BE STABILIZED BY HAND-SEEDED VEGETATION OR IF HYDRAULIC SEEDING EQUIPMENT IS TO BE USED.

**SEEDBED PREPARATION**  
 WHEN A HYDRAULIC SEEDER IS USED, SEEDBED PREPARATION IS NOT REQUIRED. WHEN USING CONVENTIONAL OR HANDSEEDING, SEEDBED PREPARATION IS NOT REQUIRED IF THE SOIL MATERIAL IS LOOSE AND NOT SEALED BY RAINFALL. WHEN SOIL HAS BEEN SEALED BY RAINFALL OR CONSISTS OF SMOOTH CUT SLOPES, THE SOIL SHALL BE PITTED, TRENCHED OR OTHERWISE SCARIFIED TO PROVIDE A PLACE FOR SEED TO LODGE AND GERMINATE.

**LIME AND FERTILIZER**  
 AGRICULTURAL LIME IS REQUIRED UNLESS SOIL TESTS INDICATE OTHERWISE. APPLY AGRICULTURAL LIME AT A RATE OF ONE TON PER ACRE. GRADED AREAS REQUIRE LIME APPLICATION. SOILS CAN BE TESTED TO DETERMINE IF FERTILIZER IS NEEDED. ON REASONABLY FERTILE SOILS OR SOIL MATERIAL, FERTILIZER IS NOT REQUIRED. FOR SOILS WITH VERY LOW FERTILITY, 500 TO 700 POUNDS OF 10-10-10 FERTILIZER OF THE EQUIVALENT PER ACRE (12-16 LBS./1,000 SQ. FT.) SHALL BE APPLIED. FERTILIZER SHOULD BE APPLIED BEFORE LAND PREPARATION AND INCORPORATED WITH A DISK, RIPPER OR CHISEL.

**SEEDING**  
 SELECT A GRASS OR GRASS-LEGUME MIXTURE SUITABLE TO THE AREA AND SEASON OF THE YEAR. SEED SHALL BE APPLIED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDRAULIC SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). DRILL OR CULTIPACKER SEEDERS SHOULD NORMALLY PLACE SEED ONE-QUARTER TO ONE-HALF INCH DEEP. APPROPRIATE DEPTH OF PLANTING IS TEN TIMES THE SEED DIAMETER. SOIL SHOULD BE "RAKEED" LIGHTLY TO COVER SEED WITH SOIL IF SEEDING BY HAND.

**MULCHING**  
 TEMPORARY VEGETATION CAN, IN MOST CASES, BE ESTABLISHED WITHOUT THE USE OF MULCH. MULCH WITHOUT SEEDING SHOULD BE CONSIDERED FOR SHORT TERM PROTECTION. REFER TO DS1 - DISTURBED AREA STABILIZATION (WITHOUT MULCHING ONLY).

**IRRIGATION**  
 DURING TIMES OF DROUGHT, WATER SHALL BE APPLIED AT A RATE NOT CAUSING RUNOFF AND EROSION. THE SOIL SHALL BE THOROUGHLY WETTED TO A DEPTH THAT WILL INSURE GERMINATION OF THE SEED. SUBSEQUENT APPLICATIONS SHOULD BE MADE WHEN NEEDED.

## Ds2 DISTURBED AREA STABILIZATION WITH TEMPORARY SEEDING

**DEFINITION**  
 THE PLANTING OF PERENNIAL VEGETATION SUCH AS TREES, SHRUBS, VINES, GRASSES, OR LEGUMES ON EXPOSED AREAS FOR FINAL PERMANENT STABILIZATION. PERMANENT PERENNIAL VEGETATION SHALL BE USED TO ACHIEVE FINAL STABILIZATION.

**CONDITIONS**  
 PERMANENT PERENNIAL VEGETATION IS USED TO PROVIDE A PROTECTIVE COVER FOR EXPOSED AREAS INCLUDING CUTS, FILLS, DAMS, AND OTHER DENUDDED AREAS.

**SPECIFICATIONS**  
**GRADING AND SHAPING**  
 GRADING AND SHAPING MAY NOT BE REQUIRED WHERE HYDRAULIC SEEDING AND FERTILIZER EQUIPMENT IS TO BE USED. VERTICAL BANKS SHALL BE SLOPED TO ENABLE PLANT ESTABLISHMENT.  
 WHEN CONVENTIONAL SEEDING AND FERTILIZING ARE TO BE DONE GRADE AND SHAPE WHERE FEASIBLE AND PRACTICAL, SO THAT EQUIPMENT CAN BE USED SAFELY AND EFFICIENTLY DURING SEEDBED PREPARATION, SEEDING, MULCHING AND MAINTENANCE OF THE VEGETATION.  
 CONCENTRATIONS OF WATER THAT WILL CAUSE EXCESSIVE SOIL EROSION SHALL BE DIVERTED TO A SAFE OUTLET. DIVERSIONS AND OTHER TREATMENT PRACTICES SHALL CONFORM WITH THE APPROPRIATE STANDARDS AND SPECIFICATIONS.

**SEEDBED PREPARATION**  
 SEEDBED PREPARATION MAY NOT BE REQUIRED WHERE HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS TO BE USED. WHEN CONVENTIONAL SEEDING IS TO BE USED, SEEDBED PREPARATION WILL BE DONE AS FOLLOWS:  
 BROADCAST PLANTINGS  
 1. TILLAGE AT A MINIMUM. SHALL ADEQUATELY LOOSEN THE SOIL TO A DEPTH OF 4 TO 6 INCHES; ALLEVIATE COMPACTION; INCORPORATE LIME AND FERTILIZER. SMOOTH AND FIRM THE SOIL. ALLOW FOR THE PROPER PLACEMENT OF SEED, SPRIGS, OR PLANTS; AND ALLOW FOR THE ANCHORING OF STRAW OR HAY MULCH IF A DISK IS TO BE USED.  
 2. TILLAGE MAY BE DONE WITH ANY SUITABLE EQUIPMENT.  
 3. TILLAGE SHOULD BE DONE ON THE CONTOUR WHERE FEASIBLE.  
 4. ON SLOPES TOO STEEP FOR THE SAFE OPERATION OF TILLAGE EQUIPMENT, THE SOIL SURFACE SHALL BE PITTED OR TRENCHED ACROSS THE SLOPE WITH APPROPRIATE HAND TOOLS TO PROVIDE TWO PLACES 6 TO 8 INCHES APART IN WHICH SEED MAY LODGE AND GERMINATE. HYDRAULIC SEEDING MAY ALSO BE USED.

**INDIVIDUAL PLANTS**  
 1. WHERE INDIVIDUAL PLANTS ARE TO BE SET, THE SOIL SHALL BE PREPARED BY EXCAVATING HOLES, OPENING FURROWS, OR DIBBLE PLANTING.  
 2. FOR NURSERY STOCK PLANTS, HOLES SHALL BE LARGE ENOUGH TO ACCOMMODATE ROOTS WITHOUT CROWDING.  
 3. WHERE PINE SEEDLINGS ARE TO BE PLANTED, SUBSOIL UNDER THE ROW 36 INCHES DEEP ON THE CONTOUR. FOUR TO SIX MONTHS PRIOR TO PLANTING. SUBSOILING SHOULD BE DONE WHEN THE SOIL IS DRY, PREFERABLY IN AUGUST OR SEPTEMBER.

**PLANTING**  
**HYDRAULIC SEEDING**  
 MIX THE SEED (INOCULATED IF NEEDED), FERTILIZER, AND WOOD CELLULOSE OR WOOD PULP FIBER MULCH WITH WATER AND APPLY IN A SLURRY UNIFORMLY OVER THE AREA TO BE TREATED. APPLY WITHIN ONE HOUR AFTER THE MIXTURE IS MADE.

**CONVENTIONAL SEEDING**  
 SEEDING WILL BE DONE ON A FRESHLY PREPARED AND FIRMED SEEDBED. FOR BROADCAST PLANTING, USE A CULTIPACKER SEEDER, DRILL, ROTARY SEEDER, OTHER MECHANICAL SEEDER, OR HAND SEEDING TO DISTRIBUTE THE SEED UNIFORMLY OVER THE AREA TO BE TREATED. COVER THE SEED LIGHTLY WITH 1/8 TO 1/4 INCH OF SOIL FOR SMALL SEED AND 1/2 TO 1 INCH FOR LARGE SEED WHEN USING A CULTIPACKER OR OTHER SUITABLE EQUIPMENT.

**NO-TILL SEEDING**  
 NO-TILL SEEDING IS A PERMISSIBLE INTO ANNUAL COVER CROPS WHEN PLANTING IS DONE FOLLOWING MATURITY OF THE COVER CROP OR IF THE TEMPORARY COVER STAND IS SPARSE ENOUGH TO ALLOW ADEQUATE GROWTH OF THE PERMANENT (PERENNIAL) SPECIES. NO-TILL SEEDING SHALL BE DONE WITH APPROPRIATE NO-TILL SEEDING EQUIPMENT. THE SEED MUST BE UNIFORMLY DISTRIBUTED AND PLANTED AT THE PROPER DEPTH.

**INDIVIDUAL PLANTS**  
 SHRUBS, VINES AND SPRIGS MAY BE PLANTED WITH APPROPRIATE PLANTERS OR HAND TOOLS. PINE TREES SHALL BE PLANTED MANUALLY IN THE SUBSOIL FURROW. EACH PLANT SHALL BE SET IN A MANNER THAT WILL AVOID CROWDING THE ROOTS. NURSERY STOCK PLANTS SHALL BE PLANTED AT THE SAME DEPTH OR SLIGHTLY DEEPER THAN THEY GREW AT THE NURSERY. THE TIPS OF VINES AND SPRIGS MUST BE AT OR SLIGHTLY ABOVE THE GROUND SURFACE. WHERE INDIVIDUAL HOLES ARE DUG, FERTILIZER SHALL BE PLACED IN THE BOTTOM OF THE HOLE, TWO INCHES OF SOIL SHALL BE ADDED AND THE PLANT SHALL BE SET IN THE HOLE.

**MULCHING**  
 MULCH IS REQUIRED FOR ALL PERMANENT VEGETATION APPLICATIONS. MULCH APPLIED TO SEEDDED AREAS SHALL ACHIEVE 75% SOIL COVER. SELECT THE MULCHING MATERIAL FROM THE FOLLOWING AND APPLY AS INDICATED:  
 1. DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEED SEEDS CAN BE USED. DRY STRAW SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. DRY HAY SHALL BE APPLIED AT A RATE OF 2 1/2 TONS PER ACRE.  
 2. WOOD CELLULOSE MULCH OR WOOD PULP FIBER SHALL BE USED WITH HYDRAULIC SEEDING. IT SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE. DRY STRAW OR DRY HAY SHALL BE APPLIED (AT THE RATE INDICATED ABOVE) AFTER HYDRAULIC SEEDING.  
 3. ONE THOUSAND POUNDS OF WOOD CELLULOSE OR WOOD PULP FIBER, WHICH INCLUDES A TACKIFIER, SHALL BE USED WITH HYDRAULIC SEEDING ON SLOPES OF 3/4 - 1 OR STEEPER.  
 4. SERICEA LESPEDEZA HAY CONTAINING MATURE SEED SHALL BE APPLIED AT A RATE OF THREE TONS PER ACRE.  
 5. PINE STRAW OR PINE BARK SHALL BE APPLIED AT A THICKNESS OF 3 INCHES FOR BEDDING PURPOSES. OTHER SUITABLE MATERIALS IN SUFFICIENT QUANTITY MAY BE USED WHERE ORNAMENTALS OR OTHER GROUND COVERS ARE PLANTED. THIS IS NOT APPROPRIATE FOR SEEDDED AREAS.  
 6. WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLOCK SOD, MULCH IS NOT REQUIRED.  
 7. BITUMINOUS TREATED ROVING MAY BE APPLIED ON PLANTED AREAS ON SLOPES, IN DITCHES OR DRY WATERWAYS TO PREVENT EROSION. BITUMINOUS TREATED ROVING SHALL BE APPLIED WITHIN 24 HOURS AFTER AN AREA HAS BEEN PLANTED. APPLICATION RATES AND MATERIALS MUST MEET GEORGIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.

**WOOD CELLULOSE AND WOOD PULP FIBERS SHALL NOT CONTAIN GERMINATION OR GROWTH INHIBITING FACTORS. THEY SHALL BE EVENLY DISPERSED WHEN AGITATED IN WATER. THE FIBERS SHALL CONTAIN A DYE TO ALLOW VISUAL METERING AND AID IN UNIFORM APPLICATION DURING SEEDING.**

**APPLY MULCH**  
 STRAW OR HAY MULCH WILL BE SPREAD UNIFORMLY WITHIN 24 HOURS AFTER SEEDING AND/OR PLANTING. THE MULCH MAY BE SPREAD BY BLOWER-TYPE SPREADING EQUIPMENT, OTHER SPREADING EQUIPMENT OR BY HAND. MULCH SHALL BE APPLIED TO COVER 75% OF THE SOIL SURFACE.  
 WOOD CELLULOSE OR WOOD FIBER MULCH SHALL BE APPLIED UNIFORMLY WITH HYDRAULIC SEEDING EQUIPMENT.

**ANCHORING MULCH**  
 ANCHOR STRAW OR HAY MULCH IMMEDIATELY AFTER APPLICATION BY ONE OF THE FOLLOWING METHODS:  
 1. HAY AND STRAW MULCH SHALL BE PRESSED INTO THE SOIL IMMEDIATELY AFTER THE MULCH IS SPREAD. A SPECIAL "PACKER DISK" OR DISK HARROW WITH THE DISKS SET STRAIGHT MAYBE USED. THE DISKS MAYBE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISKS SHALL BE DULL ENOUGH TO PRESS THE MULCH INTO THE GROUND WITHOUT CUTTING IT. LEAVING MUCH OF IT IN AN ERRECT POSITION. MULCH SHALL NOT BE PLOWED INTO THE SOIL.  
 2. SYNTHETIC TACKIFIERS OR BINDERS APPROVED BY GDOT SHALL BE USED IN CONJUNCTION WITH OR IMMEDIATELY AFTER THE MULCH IS PREAD. SYNTHETIC TACKIFIERS SHALL BE MIXED AND APPLIED ACCORDING TO MANUFACTURER'S SPECIFICATIONS. REFER TO TB-TACKIFIERS AND BINDERS.  
 3. RYE OR WHEAT CAN BE INCLUDED WITH FALL AND WINTER PLANTINGS TO STABILIZE THE MULCH. THEY SHALL BE APPLIED AT A RATE OF ONE QUARTER TO ONE HALF BUSHEL PER ACRE.  
 4. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH MAY BE NEEDED TO ANCHOR STRAW OR HAY MULCH ON UNSTABLE SOILS AND CONCENTRATED FLOW AREAS. THESE MATERIALS SHALL BE INSTALLED AND ANCHORED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

**SEEDING RATE FOR PERMANENT SEEDING**

| SPECIES            | BROADCAST RATES                  |                                    | PLANTING DATES BY RESOURCE AREA | REMARKS   |
|--------------------|----------------------------------|------------------------------------|---------------------------------|---|
|                    | RATE PER ACRE <sup>1/2</sup>     | PURE LIVE SEED (PLS) PER 1000 S.F. |                                 |   |
| BAHIA, WILMINGTON  | 60 LBS                           | 1.4 LBS                            | 1/1 - 12/31                     | 186,000 SEED PER POUND. LOW GROWING. SOD FORMING. SLOW TO ESTABLISH. PLANT WITH A COMPANION CROP. WILL SPREAD INTO BERMUDA PASTURES AND LAWNS. MIX WITH SERICEA LESPEDEZA OR WEERING LOVEGRASS.   |
| BERMUDA            | 40 DLI, FT. OR 500 PLS/3FT X 3FT | 0.9 DLI, FT. OR 500 PLS/3FT X 3FT  | 5/15 - 7/15                     | 1. CUBIC FOOT CONTAINS APPROXIMATELY 600 SPRIGS. A BUSHEL CONTAINS 1.25 CUBIC FEET OR APPROXIMATELY 800 SPRIGS.   |
| CENTIPEDE          | BLOCK SOD ONLY                   |                                    | 1/1 - 5/31                      | BROUGHT TOLERANT. FULL SUN OR PARTIAL SHADE. EFFECTIVE ADJACENT TO CONCRETE AND IN CONCENTRATED FLOW AREAS. IRRIGATION IS NEEDED UNTIL FULLY ESTABLISHED. DO NOT PLANT NEAR PASTURES, WINTERHARDY AS FAR AS NORTH ATLANTA AND ATLANTA.  |
| FESCUE, TALL       | 50 LBS                           | 1.1 LBS                            | 9/1 - 4/31 & 8/1 - 10/30        | 227,000 SEED PER POUND. USE ALONE ONLY ON BETTER SITES. MIX WITH PERENNIAL LESPEDEZA OR CROWNVETCH. APPLY TOPDRESSING IN SPRING FOLLOWING FALL PLANTINGS. NOT FOR HEAVY USE AREAS OR ATHLETIC FIELDS.                                   |
| LESPEDEZA SERICEA  | 75 LBS                           | 1.7 LBS                            | 1/1 - 12-31                     | 350,000 SEED PER POUND. WIDELY ADAPTED. LOW MAINTENANCE. MIX WITH WEERING LOVEGRASS, COMMON BERMUDA, BAHIA, OR TALL FESCUE. TAKES 10 TO 15 YEARS TO BECOME FULLY ESTABLISHED. EXCELLENT ON ROADBANKS. INOCULATE SEED WITH EL INOCULANT. |
| LOVEGRASS, WEERING | 4 LBS                            | 0.1 LBS                            | 4/15 - 6/15                     | 1,500,000 SEED PER POUND. QUICK COVER. BROUGHT TOLERANT. GROWS WELL WITH SERICEA LESPEDEZA ON ROADBANKS.  |

\*Unusual site conditions may require heavier seeding rates  
<sup>1</sup>Seeding dates may need to be altered to fit temperature variations and conditions

## Ds3 DISTURBED AREA STABILIZATION WITH PERMANENT SEEDING

### APPROPRIATE SOD VARIETIES FOR ATLANTA

| GRASS       | VARIETY                          | GROWING SEASON |
|-------------|----------------------------------|----------------|
| BERMUDA     | COMMON TIFWAY TIFGREENE, TIFLAWN | WARM WEATHER   |
| BAHIA       | PENSACOLA                        | WARM WEATHER   |
| CENTIPEDE   | ---                              | WARM WEATHER   |
| ZOYSIA      | EMERALD MEYER                    | WARM WEATHER   |
| TALL FESCUE | KENTUCKY                         | COOL WEATHER   |

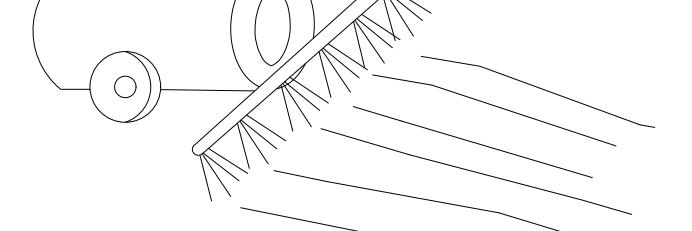
**SOIL PREPARATION**  
 BRING SOIL SURFACE TO FINAL GRADE. CLEAR SURFACE OF TRASH, WOODY DEBRIS, STONES AND CLODS LARGER THAN 1". APPLY SOD TO SOIL SURFACES ONLY AND NOT FROZEN SURFACES, OR GRAVEL TYPE SOILS. MIX FERTILIZER INTO SOIL SURFACE. FERTILIZE BASED ON SOIL TESTS OR GENERAL APPLICATION OF 10-10-10 @ 1000 LBS PER ACRE (1 LB /40 SQ. FT.) AGRICULTURAL LIME SHOULD BE APPLIED BASED ON SOIL TESTS OR AT A RATE OF 1 TO 2 TONS / ACRE.

## Ds4 STABILIZATION WITH SODDING

| GRASS TYPE          | PLANTING YEAR   | FERTILIZER (NPK) | RATE (LBS/ ACRE) | NITROGEN TOP DRESSING (LBS/ ACRE) |
|---------------------|-----------------|------------------|------------------|-----------------------------------|
| COOL SEASON GRASSES | 1ST MAINTENANCE | 6-12-12          | 1500             | 50-100                            |
|                     | 2ND MAINTENANCE | 6-12-12          | 1000             | ---                               |
| WARM SEASON GRASSES | 1ST MAINTENANCE | 6-12-12          | 1500             | 50-100                            |
|                     | 2ND MAINTENANCE | 6-12-12          | 800              | 50-100                            |
|                     |                 |                  | 400              | 30                                |

### FERTILIZER RATES FOR PERMANENT VEGETATION (Ds-3)

## Du DUST CONTROL



**TEMPORARY METHODS**  
 MULCHES. SEE STANDARD DS1 - DISTURBED AREA STABILIZATION (WITH MULCHING ONLY). SYNTHETIC RESINS MAY BE USED INSTEAD OF ASPHALT TO BIND MULCH MATERIAL. REFER TO STANDARD TB-TACKIFIERS AND BINDERS. RESINS SUCH AS CURASOL OR TERRACKACK SHOULD BE USED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

**VEGETATIVE COVER.** SEE STANDARD DS2 - DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING).

**SPRAY-ON ADHESIVES.** THESE ARE USED ON MINERAL SOILS (NOT EFFECTIVE ON MUCK SOILS). KEEP TRAFFIC OFF THESE AREAS. REFER TO STANDARD TB-TACKIFIERS AND BINDERS.

**TILLAGE.** THIS PRACTICE IS DESIGNED TO ROUGHEN AND BRING CLODS TO THE SURFACE. IT IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE WIND EROSION STARTS.

**IRRIGATION.** THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS WET. REPEAT AS NEEDED.

**BARRIERS.** SOLID BOARD FENCES, SNOWFENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 15 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING WIND EROSION.

**CALCIUM CHLORIDE.** APPLY AT RATE THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

**PERMANENT METHODS**  
 PERMANENT VEGETATION. SEE STANDARD DS3-DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION). EXISTING TREES AND LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.

**TOPSOILING.** THIS ENTAILS COVERING THE SURFACE WITH LESS EROSION SOIL MATERIAL. SEE STANDARD TP - TOPSOILING.

**STONE.** COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL. SEE STANDARD CR-CONSTRUCTION ROAD STABILIZATION.

### VEGETATION NOTES

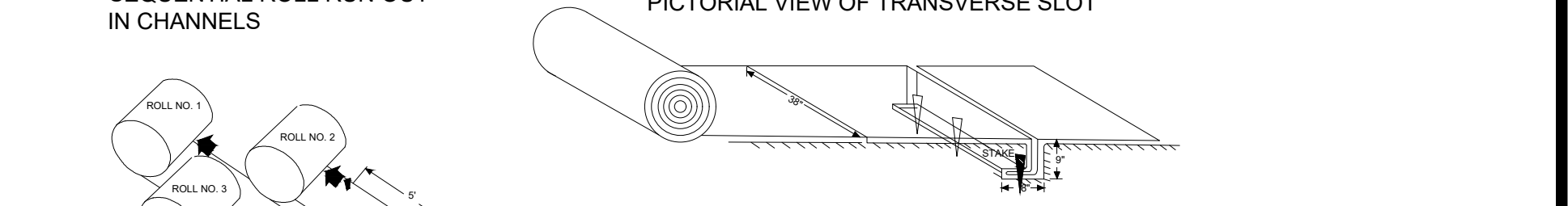
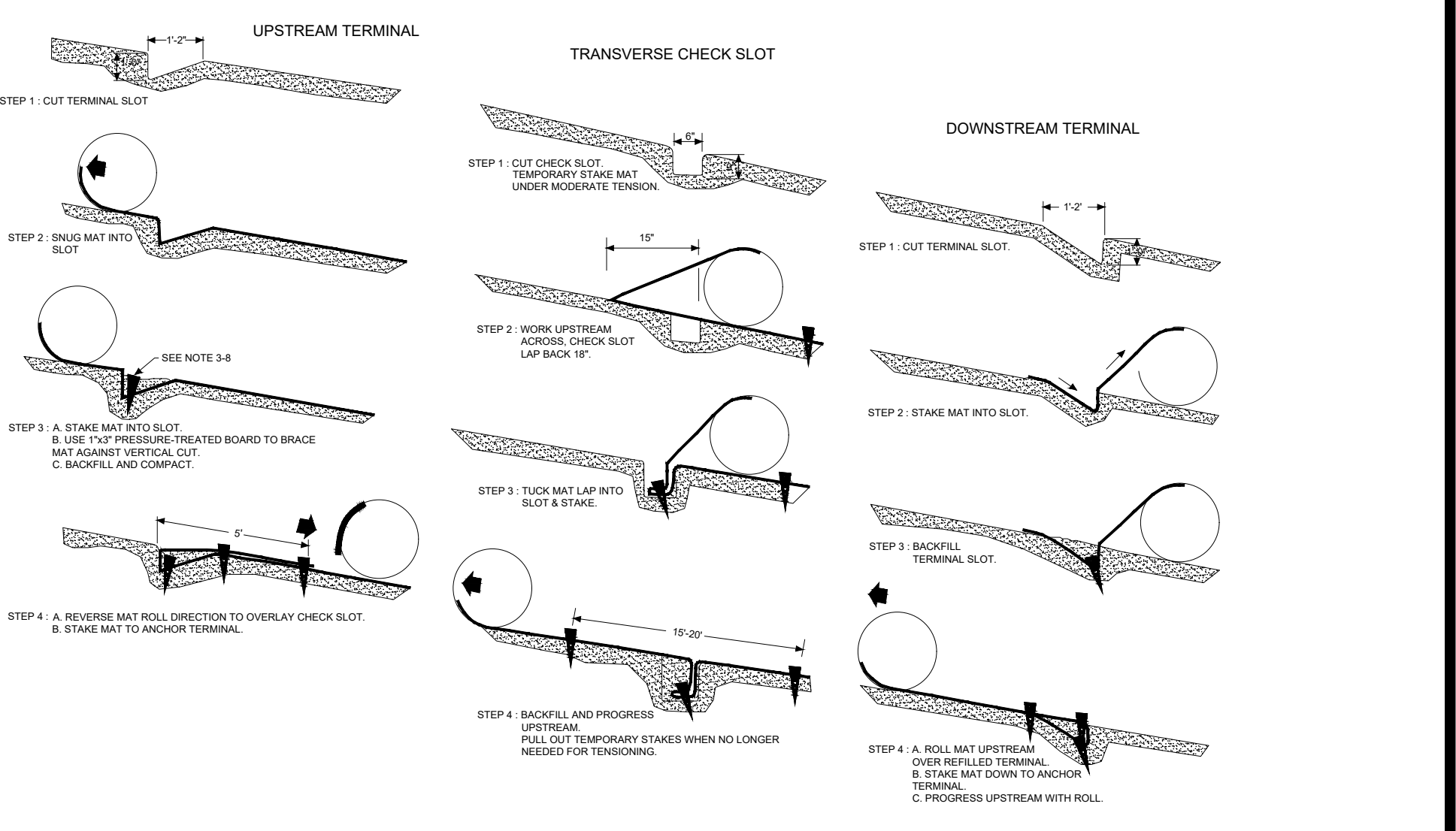
MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTURBANCE. TEMPORARY GRASSING, INSTEAD OF MULCH, CAN BE APPLIED TO ROUGH GRADED AREAS THAT WILL BE EXPOSED FOR LESS THAN SIX MONTHS. IF AN AREA IS EXPECTED TO BE UNDISTURBED FOR LONGER THAN SIX MONTHS, PERMANENT PERENNIAL VEGETATION SHALL BE USED. IF OPTIMUM PLANTING CONDITIONS FOR TEMPORARY GRASSING IS LACKING, MULCH CAN BE USED AS A SINGULAR EROSION CONTROL DEVICE FOR UP TO SIX MONTHS BUT IT SHALL BE APPLIED AT THE APPROPRIATE DEPTH, ANCHORED, AND HAVE A CONTINUOUS 90% COVER OR GREATER OF THE SOIL SURFACE. REFER TO SPECIFICATION DS1-DISTURBED AREA STABILIZATION (WITH MULCHING ONLY).

WHEN A HYDRAULIC SEEDER IS USED, SEEDBED PREPARATION IS NOT REQUIRED. WHEN USING CONVENTIONAL OR HANDSEEDING, SEEDBED PREPARATION IS NOT REQUIRED IF THE SOIL MATERIAL IS LOOSE AND NOT SEALED BY RAINFALL. WHEN SOIL HAS BEEN SEALED BY RAINFALL OR CONSISTS OF SMOOTH CUT SLOPES, THE SOIL SHALL BE PITTED, TRENCHED OR OTHERWISE SCARIFIED TO PROVIDE A PLACE FOR SEED TO LODGE AND GERMINATE.

**LIME AND FERTILIZER (TEMPORARY VEGETATION DS-2)**  
 AGRICULTURAL LIME IS REQUIRED UNLESS SOIL TESTS INDICATE OTHERWISE. APPLY AGRICULTURAL LIME AT A RATE OF ONE TON PER ACRE. GRADED AREAS REQUIRE LIME APPLICATION. SOILS CAN BE TESTED TO DETERMINE IF FERTILIZER IS NEEDED. ON REASONABLY FERTILE SOILS OR SOIL MATERIAL, FERTILIZER IS NOT REQUIRED. FOR SOILS WITH VERY LOW FERTILITY, 500 TO 700 POUNDS OF 10-10-10 FERTILIZER OR THE EQUIVALENT PER ACRE (12-16 LBS./1,000 SQ. FT.) SHALL BE APPLIED. FERTILIZER SHOULD BE APPLIED BEFORE LAND PREPARATION AND INCORPORATED WITH A DISK, RIPPER OR CHISEL.

**LIME AND FERTILIZER RATES AND ANALYSIS (PERMANENT VEGETATION DS-3)**  
 AGRICULTURAL LIME IS REQUIRED AT THE RATE OF ONE TO TWO TONS PER ACRE UNLESS SOIL TESTS INDICATE OTHERWISE. GRADED AREAS REQUIRE LIME APPLICATION. IF LIME IS APPLIED WITHIN SIX MONTHS OF PLANTING PERMANENT PERENNIAL VEGETATION, ADDITIONAL LIME IS NOT REQUIRED. AGRICULTURAL LIME SHALL BE WITHIN THE SPECIFICATIONS OF THE GEORGIA DEPARTMENT OF AGRICULTURE. INITIAL FERTILIZATION, NITROGEN, TOPDRESSING, AND MAINTENANCE FERTILIZER REQUIREMENTS FOR EACH SPECIES OR COMBINATION OF SPECIES ARE LISTED IN TABLE 6-5.1.

**MULCHING**  
 MULCH IS REQUIRED FOR ALL PERMANENT VEGETATION APPLICATIONS. MULCH APPLIED TO SEEDDED AREAS SHALL ACHIEVE 75% SOIL COVER. SELECT THE MULCHING MATERIAL FROM THE FOLLOWING AND APPLY AS INDICATED:  
 1. DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEED SEEDS CAN BE USED. DRY STRAW SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. DRY HAY SHALL BE APPLIED AT A RATE OF 2 1/2 TONS PER ACRE.  
 2. WOOD CELLULOSE MULCH OR WOOD PULP FIBER SHALL BE USED WITH HYDRAULIC SEEDING. IT SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE. DRY STRAW OR DRY HAY SHALL BE APPLIED (AT THE RATE INDICATED ABOVE) AFTER HYDRAULIC SEEDING.  
 3. ONE THOUSAND POUNDS OF WOOD CELLULOSE OR WOOD PULP FIBER, WHICH INCLUDES A TACKIFIER, SHALL BE USED WITH HYDRAULIC SEEDING ON SLOPES 3/4-1 OR STEEPER.  
 4. SERICEA LESPEDEZA HAY CONTAINING MATURE SEED SHALL BE APPLIED AT A RATE OF THREE TONS PER ACRE.  
 5. PINE STRAW OR PINE BARK SHALL BE APPLIED AT A THICKNESS OF 3 INCHES FOR BEDDING PURPOSES. OTHER SUITABLE MATERIALS IN SUFFICIENT QUANTITY MAY BE USED WHERE ORNAMENTALS OR OTHER GROUND COVERS ARE PLANTED. THIS IS NOT APPROPRIATE FOR SEEDDED AREAS.  
 6. WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLOCK SOD, MULCH IS NOT REQUIRED.  
 7. BITUMINOUS TREATED ROVING MAY BE APPLIED ON PLANTED AREAS ON SLOPES, IN DITCHES OR DRY WATERWAYS TO PREVENT EROSION. BITUMINOUS TREATED ROVING SHALL BE APPLIED WITHIN 24 HOURS AFTER AN AREA HAS BEEN PLANTED. APPLICATION RATES AND MATERIALS MUST MEET GEORGIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.



**INSTALLATION INSTRUCTIONS**  
 1. START AT DOWNSTREAM TERMINAL AND PROGRESS UPSTREAM.  
 2. FIRST ROLL IS CENTERED LONGITUDINALLY IN MID CHANNEL AND PINNED WITH TEMPORARY STAKES TO MAINTAIN ALIGNMENT.  
 3. SUBSEQUENT ROLLS FOLLOW IN STAGGERED SEQUENCE BEHIND FIRST ROLL. FOR ALIGNMENT TO CHANNEL CENTER.  
 4. WORK OUTWARDS FROM CHANNEL CENTER TO EDGE.  
 5. USE 3" OVERLAP AND STAKE AT 5' INTERVAL ALONG SEAMS.  
 6. USE 3" OVERLAPS AND SHINGLE DOWNSTREAM TO CONNECT LINING AT ROLL ENDS.

**INSTALLATION NOTES**  
**SITE PREPARATION**  
 AFTER THE SITE HAS BEEN SHAPED AND GRADED TO THE APPROVED DESIGN, PREPARE A FRIABLE SEEDBED RELATIVELY FREE FROM CLODS AND ROCKS MORE THAN ONE INCH IN DIAMETER, AND ANY FOREIGN MATERIAL THAT WILL PREVENT CONTACT OF THE SOIL STABILIZATION MAT WITH THE SOIL SURFACE. SURFACE MUST BE SMOOTH TO ENSURE PROPER CONTACT OF BLANKETS OR MATTING TO THE SOIL SURFACE. IF NECESSARY, REDIRECT ANY RUNOFF FROM THE DITCH OR SLOPE DURING INSTALLATION.

**STAPLES**  
 THE FOLLOWING ARE CONSIDERED APPROPRIATE STAPLING AND STAKING MATERIALS.  
**TEMPORARY BLANKETS**  
 THIS INCLUDES STRAW, EXCELSIOR, COCONUT FIBER, AND WOOD FIBER BLANKETS. STAPLES SHALL BE USED TO ANCHOR TEMPORARY BLANKETS. U-SHAPED WIRE (11 GAUGE OR GREATER) STAPLES WITH LEGS AT LEAST 6 INCHES IN LENGTH AND A CROWN OF ONE INCH OR APPROPRIATE BIODEGRADABLE STAPLES CAN BE USED. STAPLES SHALL BE OF SUFFICIENT THICKNESS FOR SOIL PENETRATION WITHOUT UNDUE DISTORTION.  
**PERMANENT MATTING**  
 SOUND WOOD STAKES, 1X3 INCHES STOCK SAWN IN A TRIANGULAR SHAPE, SHALL BE USED. DEPENDING ON THE COMPACTION OF THE SOIL, SELECT STAKES WITH A LENGTH FROM 12 TO 18 INCHES. U-SHAPED STAPLES SHALL BE 11 GAUGE STEEL OR GREATER, WITH LEGS AT A MINIMUM OF 8 INCHES LENGTH WITH A 2 INCH CROWN.

**PLANTING**  
 LIME, FERTILIZER, AND SEED SHALL BE APPLIED IN ACCORDANCE WITH SEEDING OR OTHER TYPE OF PLANTING PLAN COMPLETED PRIOR TO INSTALLATION OF TEMPORARY COMBINATION BLANKETS OR LITE MESH. FOR PERMANENT MATS, THE AREA MUST BE BROUGHT TO FINAL GRADE, PLOWED, LIMED, AND FERTILIZED. AFTER THE PERMANENT MAT HAS BEEN INSTALLED AND BACKFILLED, THE ENTIRE AREA SHALL BE GRASSED. REFER TO SPECIFICATION DS3 - DISTURBED AREA STABILIZATION ET(WITH PERMANENT VEGETATION).

**MAINTENANCE**  
 ALL EROSION CONTROL BLANKETS AND MATTING SHOULD BE INSPECTED PERIODICALLY FOLLOWING INSTALLATION, PARTICULARLY AFTER RAINSTORMS TO CHECK FOR EROSION AND UNDERMINING. ANY DISLOCATION OR FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUTS OR BREAKAGE OCCURS, REINSTALL THE MATERIAL AFTER REPAIRING DAMAGE TO THE SLOPE OR DITCH. CONTINUE TO MONITOR THESE AREAS UNTIL THEY BECOME PERMANENTLY STABILIZED.

## Ss EROSION CONTROL MATTING AND BLANKETS

GEORGIA 24 HOUR CONTACT LADD FLOYD 678-618-7602

GSWCC LEVEL II CERTIFICATION NUMBER

GEORGIA REGISTRATION NO. GA #3422

PROJECT NO.: 21164

DATE: 1/24/22

| REVISIONS: | DATE   | DESCRIPTION | PUBLIC WORKS | COMMENTS |
|------------|--------|-------------|--------------|----------|
| 1          | 4/1/22 |             |              |          |
| 2          |        |             |              |          |
| 3          |        |             |              |          |
| 4          |        |             |              |          |
| 5          |        |             |              |          |
| 6          |        |             |              |          |

**SOUTHLAND ENGINEERING**  
 CIVIL ENGINEERS - LAND SURVEYORS - LAND PLANNERS  
 114 OLD MILL ROAD., CARTERSVILLE, GA 30120 PH: 770.387.0440 FAX: 770.607.5151

**15 GAL**



Southern neighbor at 13 Galway Dr





Top of riverbank at 15 Galway Dr facing south



Center of 15 Galway Dr facing the river



Northern neighbor at 17 Galway Dr

## Images Taken 8-18-22

