STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

MOORE COUNTY

LOCATION: BRIDGE NO. 24 ON NC 22 OVER NICKS CREEK

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND CULVERT

BEGIN TIP PROJECT BR-0035 – L– STA. 11 + 80.00

END TIP PROJECT BR-0035 – L– STA. 29 + 00.00

Prepared in the Office of:
ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

DESIGNED BY:
Noelle Ring

2018 STANDARD SPECIFICATIONS

N.C. BR-0035

This project contains erosion control plans for clearing and grilling phase of construction.

ESR-2002

EC-1

State Project Reference No.
State Project No.

C aisle

Assisted Reading

Roadside Environmental Unit
Division of Highways
State of North Carolina

These erosion and sediment control plans comply with the regulations set forth by the 2018 N.C. Department of Transportation

MATERIALS

DRAINAGE

PAVING AND CULVERT

EC-1

This page contains the following information:

- Plan for proposed highway erosion control
- Moore County, location: Bridge No. 24 on NC 22 over Nicks Creek
- Type of work: Grading, drainage, paving, and culvert
- Project details:
  - Begin TIP Project BR-0035 – L– STA. 11 + 80.00
  - End TIP Project BR-0035 – L– STA. 29 + 00.00
- Preceded by a table of materials and a section on roadside environmental unit.
- Assisted reading is indicated at the bottom of the page.
SKIMMER BASIN WITH BAFFLES DETAIL

NOTES
1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE PRIMARY SPILLWAY WEIR LENGTH (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE OR TARP AS DIRECTED.
6. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO INTEGRATE WATTLE TO BOTTOM OF DITCH.

PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 DUNES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO INTEGRATE WATTLE TO BOTTOM OF DITCH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 DUNES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.
TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)

NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.
## Soil Stabilization Summary Sheet

### Matting for Erosion Control

<table>
<thead>
<tr>
<th>CONS SHEET NO.</th>
<th>LINE</th>
<th>FROM STATION</th>
<th>TO STATION</th>
<th>SIDE</th>
<th>ESTIMATE (SF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-L-</td>
<td>13+50</td>
<td>14+50</td>
<td>LT</td>
<td>165</td>
</tr>
<tr>
<td>4</td>
<td>-L-</td>
<td>14+50</td>
<td>15+00</td>
<td>LT</td>
<td>80</td>
</tr>
<tr>
<td>4</td>
<td>-R-</td>
<td>12+50</td>
<td>15+00</td>
<td>R</td>
<td>260</td>
</tr>
<tr>
<td>4</td>
<td>-L-</td>
<td>16+00</td>
<td>17+00</td>
<td>R</td>
<td>170</td>
</tr>
<tr>
<td>5</td>
<td>-L-</td>
<td>23+50</td>
<td>24+00</td>
<td>LT</td>
<td>60</td>
</tr>
<tr>
<td>5</td>
<td>-L-</td>
<td>25+00</td>
<td>27+00</td>
<td>LT</td>
<td>225</td>
</tr>
</tbody>
</table>

**Subtotal**: 1000

### Miscellaneous Mattings to be Installed as Directed by the Engineer

**Total**: 7670

**Total**: 9000

---

**Engineer**

**Engineer**
## SOIL STABILIZATION TIMEFRAMES

<table>
<thead>
<tr>
<th>SITE DESCRIPTION</th>
<th>STABILIZATION TIME</th>
<th>TIMEFRAME EXCEPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERIMETER DIKES, SWALES, DITCHES AND SLOPES</td>
<td>7 DAYS</td>
<td>NONE</td>
</tr>
<tr>
<td>HIGH QUALITY WATER (HQW) ZONES</td>
<td>7 DAYS</td>
<td>NONE</td>
</tr>
<tr>
<td>SLOPES STEEPER THAN 3:1</td>
<td>7 DAYS</td>
<td>IF SLOPES ARE 10’ OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.</td>
</tr>
<tr>
<td>SLOPES 3:1 OR FLATTER</td>
<td>14 DAYS</td>
<td>7 DAYS FOR SLOPES GREATER THAN 50’ IN LENGTH.</td>
</tr>
<tr>
<td>ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1</td>
<td>14 DAYS</td>
<td>NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.</td>
</tr>
</tbody>
</table>
CULVERT CONSTRUCTION SEQUENCE 3@12’ x 9’ STA. 23+12 –L–

**PHASE I**

1. Maintain Traffic on existing roadway.
2. Construct temporary stilling basin (minimum 240 cubic yards).
3. Install imperious dike A and dewater work area into stilling basin.
4. Construct downstream section (38’ +/-), one barrel, wingwall and outlet protection of proposed RCBC (South Side Barrels).

**PHASE II**

1. Continue to maintain traffic on existing roadway.
2. Continue to utilize stilling basin from phase I to dewater work area, maintain as necessary.
3. Install imperious dike B and C, remove imperious dike A allowing stream to flow through completed section of RCBC.
4. Dewater work area and construct downstream section (40’ +/-), two barrels, wingwall and outlet protection of proposed RCBC (center and north barrels).
5. Remove imperious dikes B and C allowing flow through completed portion of new culvert, remove stilling basin.
CULVERT CONSTRUCTION SEQUENCE STA. 23+12 -L-

PHASE III

1. Install temporary shoring and construct new roadway over constructed portion of proposed culvert.
2. Move traffic to new roadway.
3. Remove existing bridge and asphalt.
4. Construct temporary stilling basin (minimum 300 cubic yards).
5. Install impervious dikes D and E. Utilize stilling basin to dewater work area.
6. Excavate south side of inlet channel to full build-out.
7. Construct upstream section (22' +/-), one barrel, wingwall, and inlet protection of proposed RCBC (south side barrels).

PHASE IV

1. Continue to utilize stilling basin from phase III to dewater work area, maintain as necessary.
2. Install impervious dikes F and G, remove impervious dikes D and E allowing stream to flow through newly completed section of RCBC.
3. Excavate north side of inlet channel to full build out.
4. Construct upstream section (22' +/-), two barrels, wingwall, and inlet protection of proposed RCBC (center and north side barrels).
5. Remove remaining impervious dikes. Remove stilling basin and temporary shoring allowing stream to flow through completed culvert. Complete roadway.
**ROADWAY DESIGN**

**Temporary Sediment Basin**
- Utilize temporary sediment basin or special stilling basin on slope as work allows.

**Place Matting**
- Place matting for erosion control with 0.750 inch matting.

**Special Cut Ditch**
- From STA. 23+35 to STA. 24+10.
- LT: 50.00' RT: 30.00' with 90.00' RT: 3:1 slope.

**Special Rip-Rap**
- Type of liner: B Rip-Rap.

**Grade to Drain**
- 50.00' RT: 30.00' LT: 50.00' RT.

**Culvert**
- Begin culvert.
- 758 PG 207.

**Keystone**
- Rip-Rap.

**NOTE:**
- Unless all signatures completed, document not considered final.