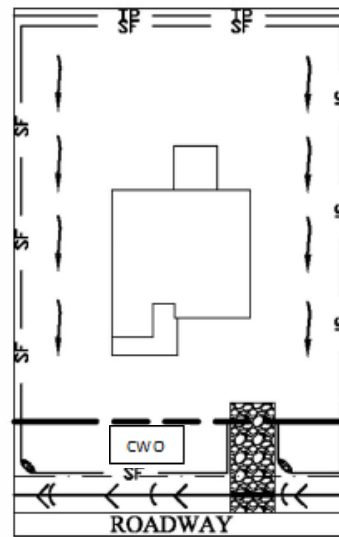
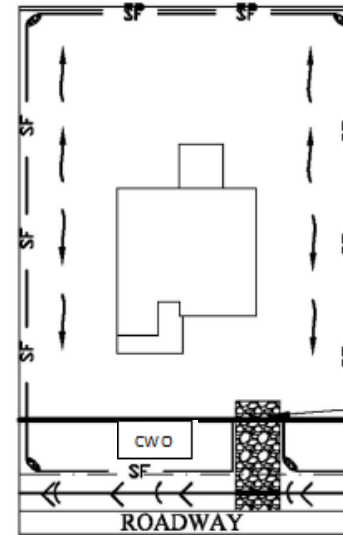


TYPE A



TYPE B

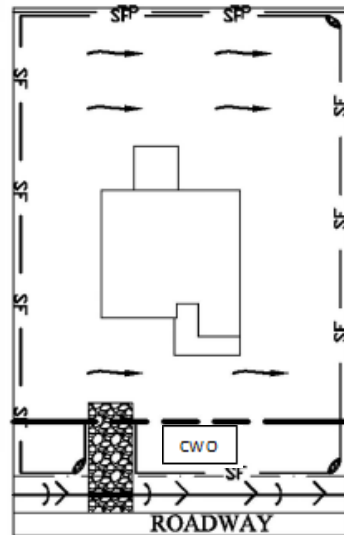


TYPE C

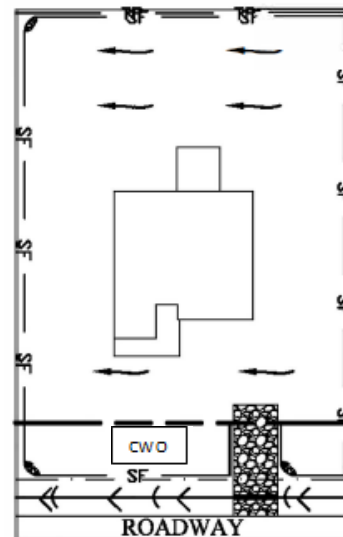
Silt fence with silt fence outlets for drainage shall be installed along the low sides of soil disturbance at project areas that may not be depicted on this sheet, such as septic area, septic line, well, and yard. Other areas not mentioned must still meet the same requirement.

LEGENDS

- CONCRETE WASHOUT
- FLOW DIRECTION
- SILT FENCE
- DIVERSION DITCH
- WATTLES
- TREE PROTECTION FENCE
- SILT FENCE OUTLET
- WATTLES
- DRAINAGE PIPE
- CONSTRUCTION ENTRANCE



TYPE D



TYPE E

Lot Information		
Lot Number	Disturbed Area (Square Feet)	Drainage Pattern(s) Type A, B, C, D, E



RESIDENTIAL GENERAL PLAN

SHEET NUMBER

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Notes:

1. All land-disturbing activities shall take all reasonable measures to protect all public and private property from damage or potential damage caused by the activity. Sediment shall be kept off existing roads (public or private), sidewalks, greenways, or any other travel way.
2. This General Plan must be accompanied by a plot plan or GIS Map that clearly shows the property boundaries. The proposed disturbed area must be depicted on the plot plan or GIS Map provided.
3. Chatham County has the authority to require a revised sedimentation and erosion control plan completed by a design professional if the land-disturbing activity is conducted in or near surface water.
4. Chatham County has the authority to require a revised sedimentation and erosion control plan if the land-disturbing activities result in the violation of local, state, or federal erosion control or water quality rules, regulations, or laws.
5. Lot should be wrapped with silt fence individually in accordance with the drainage pattern details on Sheet 1. Silt fence must contain metal t-posts and wire backing per the construction detail.
6. Silt fence must be installed at the edge of the limits of disturbance and at the back of all curbs and sidewalks.
7. Silt fence outlets shall be installed in all low areas of the lot.
8. Additional silt fence will be requested by the Chatham County erosion control inspector if deemed necessary.
9. Tree protection fence or another demarcation should be utilized to clearly identify the property boundary in those locations where silt fence is not required (high side of lot).
10. Tree protection fence should be installed adjacent to riparian buffers, wetlands, and/or tree protection areas.
11. Construction entrances should be installed at the high elevation side of all lots and shall be a minimum of 50' or as long as site conditions allow. Sites requiring entrances longer than 50' shall follow the standard construction entrance detail and shall be as long as possible or a minimum of 70' in length.
12. All inlets downstream of disturbances shall be protected, streets shall be swept weekly, and measures shall be maintained and/or replaced routinely.
13. Details for silt fence, silt fence outlets, construction entrances, and other erosion control measures are on the following sheets or can be obtained from the Watershed Protection Department website.

General Plan Does Not Cover:

- A. Lots that require mass-grading or elevation changes greater than 5'
- B. Lots that change the existing stormwater flow direction whether natural or man-made.
- C. Lots with cut/fill slopes greater than 3 to 1 and over/or higher than 5' in elevation.

Lot Grading Note:

Where proposed contour elevations are not shown, lot final grade elevations are assumed to and should conform to existing topographical elevations as shown by a certified lot survey completed by a professional land surveyor or according to Chatham County GIS 2 ft. contour lines, unless shown otherwise.



RESIDENTIAL GENERAL PLAN

SHEET NUMBER

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RESIDENTIAL CONSTRUCTION SEQUENCE

1. Submit a Land Disturbing Permit Application at least 30 days prior to any land disturbing activity occurring.
2. Organize onsite pre-construction meeting with Chatham County Watershed Protection Department staff to review site plan prior to land disturbing activities. Land-Disturbing Permit and Approved Plans will be provided at this meeting.
3. Install all temporary erosion control measures according to the information discussed during the pre-construction meeting. Minimal clearing may occur in the immediate area of all measures to provide for installation.
4. Contact Chatham County Watershed Protection Department staff to schedule an inspection of all installed measures.
5. Permitted land disturbing activities may begin upon approval of the installed measures.
6. Complete self-inspections weekly and within 24 hours or a 1" or greater rainfall event. Email all inspection reports to Chatham County Watershed Protection Department staff within 24 hours of inspection.
7. Maintain all erosion and sediment control measures in good working order. Silt fence, inlet protection and other similar measures must be cleaned out before they are half full. Clogged silt fence outlets must be refreshed/replaced. Silt fence cannot have holes or tears.
8. Ground cover shall be provided as follows:
 - a. Stabilize basins with ground cover immediately after installation. (If applicable)
 - b. Stabilize diversion ditches intended to be in service for 30 days or more with temporary seeding and erosion control matting. (If applicable)
 - c. For all areas of moderate and/or steep slopes, stabilize area with seed and matting if the slope has not been disturbed for a period of seven (7) days.
 - d. Provide ground cover sufficient to restrain erosion on any portion of the site upon which further land-disturbing activity is not being undertaken within fifteen (15) calendar days of temporarily or permanently suspending land disturbing activity.
 - e. Establish permanent ground cover sufficient to restrain erosion immediately following completion of construction or development and/or prior to final inspection.
9. Re-install adequate erosion and sediment control measures and/or increase maintenance frequency where approved measures fail to prevent accelerated erosion, off-site sedimentation, or repetitive non-compliance issues.
10. Measures must be installed at the back of curb to restrict all vehicle access to the construction entrance. All measures must be installed according to the approved plan unless approved in the field by Chatham County Watershed Protection Department staff (approved Field Revision).
11. Modifications to the approved and permitted plans shall be approved, by Chatham County Watershed Protection Department staff only, prior to removal or installation. Contact Chatham County Watershed Protection Department staff to request an inspection and obtain a sign-off on the plans or an approved Field Revision.
12. Once grading and construction activities are complete, temporary measures are removed, and the site is stabilized call Chatham County Watershed Protection Department staff to schedule the final inspection.
13. Once the final inspection is complete the permit will be closed and no additional ground disturbing activities can occur.

Please note: This is a typical construction sequence that addresses general activities completed for residential construction.



RESIDENTIAL GENERAL PLAN

SHEET NUMBER

3 of 3

Table of Contents for Standard Details

1. NCG01 GROUND STABILIZATION AND MATERIALS HANDLING
2. NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING
3. STANDARD CONCRETE/PAINT WASHOUT
4. RESIDENTIAL CONSTRUCTION ENTRANCE
5. STANDARD GRAVEL CONSTRUCTION ENTRANCE
6. STANDARD SILT FENCE
7. STANDARD SILT FENCE OUTLET
8. STANDARD DIVERSION BERM
9. STANDARD TEMPORARY DIVERSION DITCH
10. STANDARD ROCK CHECK DAM
11. STANDARD WATTLE
12. STANDARD MATTING INSTALLATION (SLOPES)
13. STANDARD MATTING INSTALLATION
14. TEMPORARY SEEDING/MULCHING SPECIFICATIONS
15. PERMANENT SEEDING/MULCHING SPECIFICATIONS
16. SODDING INSTRUCTIONS
17. STANDARD TREE PROTECTION FENCE

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

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

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

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. 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

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. 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.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

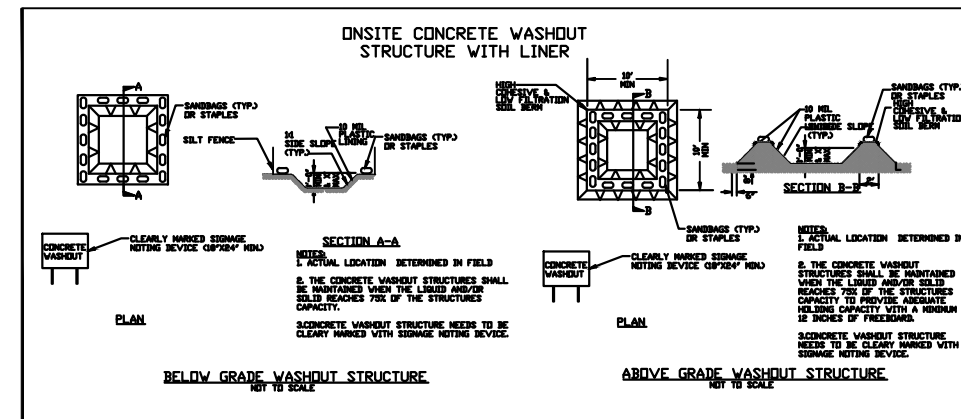
1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled,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

PORTABLE TOILETS

1. 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.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. 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

1. 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.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. 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

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. 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.
3. 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.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

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

**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	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDCs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(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	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(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	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: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 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.

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

**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 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.

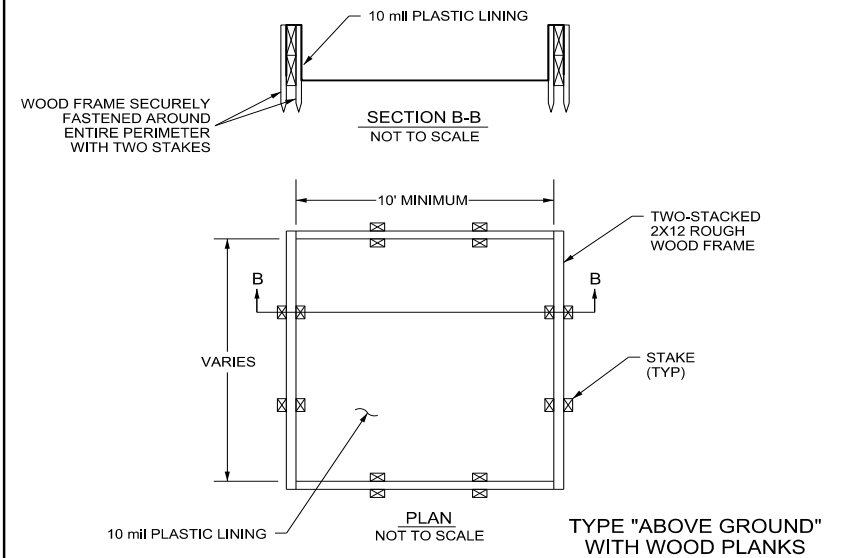
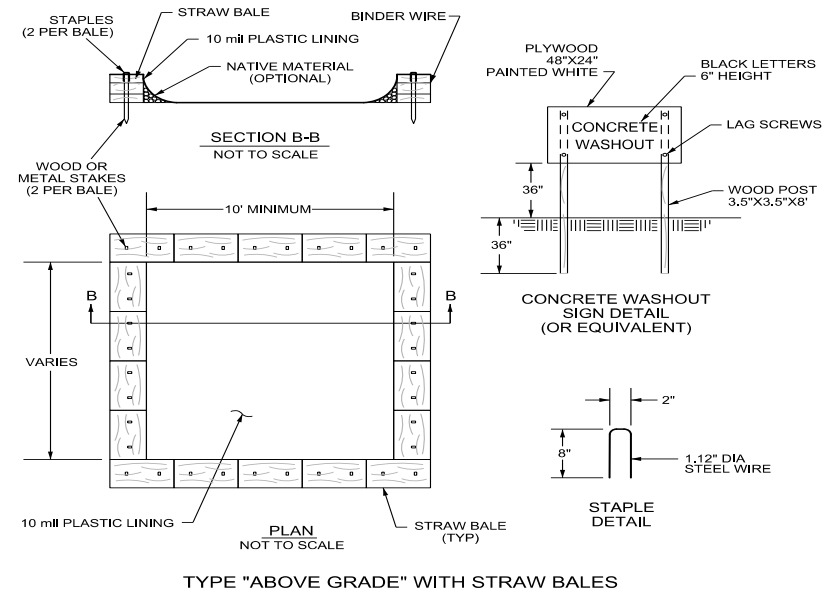
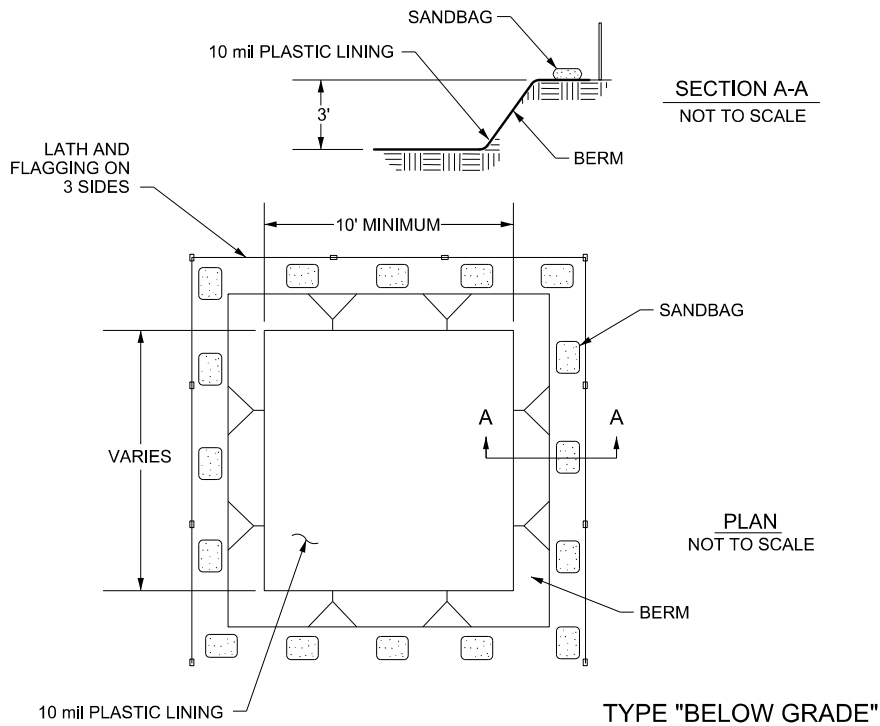
Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. • Within 7 calendar days, a report that contains a description of the sediment and 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. • If the stream is named on the NC 303(d) list 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.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> • A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. • Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass.
(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"> • Within 24 hours, an oral or electronic notification. • Within 7 calendar days, 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)]. • Division staff may waive the requirement for a written report on a case-by-case basis.

**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.





INSTALLATION & CLEANOUT NOTES:

- 1) INSTALL 50' FROM STORM DRAIN INLETS & SURFACE WATERS UNLESS NO ALTERNATIVE REASONABLY AVAILABLE.
- 2) CLEANOUT WASHOUT WHEN 75% WET CAPACITY.
- 3) ALL DAMAGE TO WASHOUT MUST BE MADE REPAIRED IMMEDIATELY.

NOTES

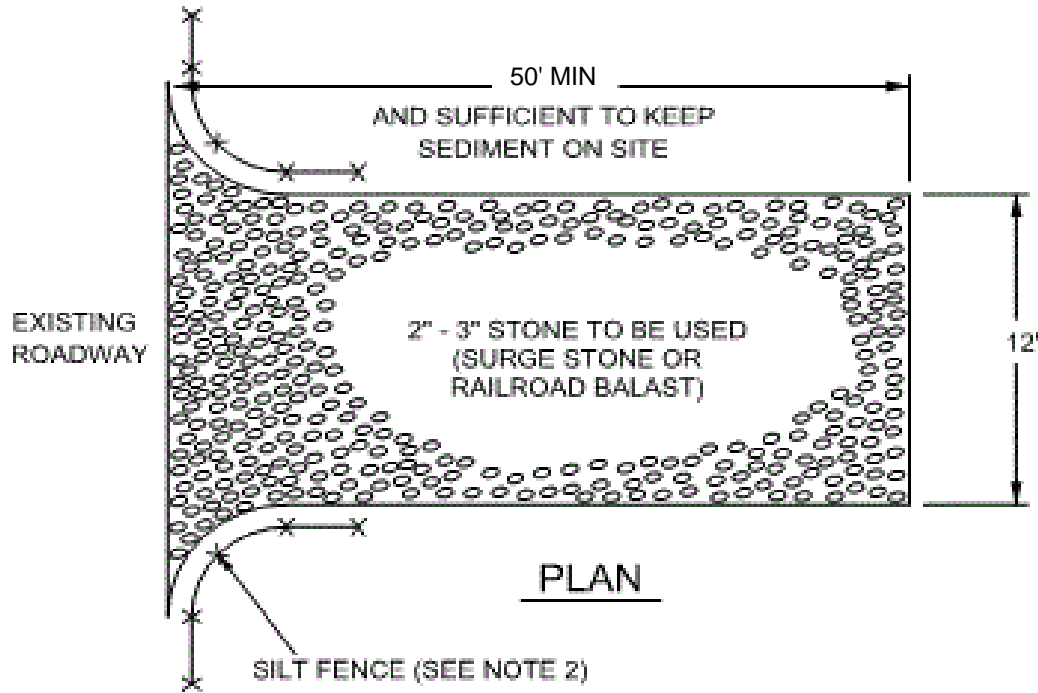
1. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.
2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT.
3. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT SHALL BE REMOVED FROM THE SITE AND DISPOSED OF OR RECYCLED.
4. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT SHALL BE BACKFILLED, REPAIRS AND STABILIZED TO PREVENT EROSION.



STANDARD CONCRETE/PAINT WASHOUT

DETAIL NUMBER

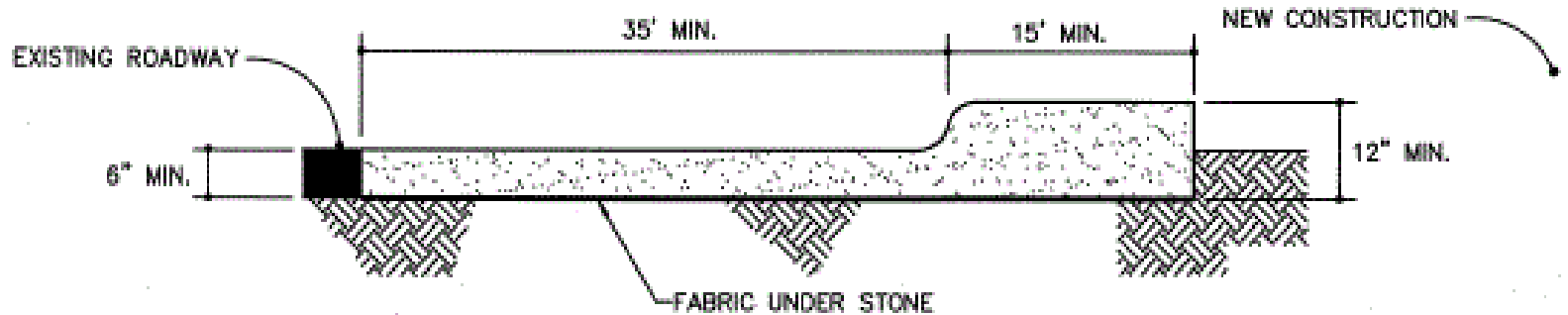
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SHEET 1 of 1



PLAN

MAINTENANCE NOTES:

1. THIS DETAIL APPLIES ONLY TO ENTRANCES OF INDIVIDUAL SINGLE FAMILY RESIDENTIAL UNITS.
2. SILT FENCE SHOULD BE INSTALLED TO ENSURE CONSTRUCTION ENTRANCE IS USED.
3. CONSTRUCTION ENTRANCE SHALL BE MAINTAINED ROUTINELY TO AVOID SEDIMENT LEAVING PROJECT.
4. SEDIMENT ENTERING PAVED ROADWAYS FROM PROJECT SHALL BE REMOVED IMMEDIATELY.



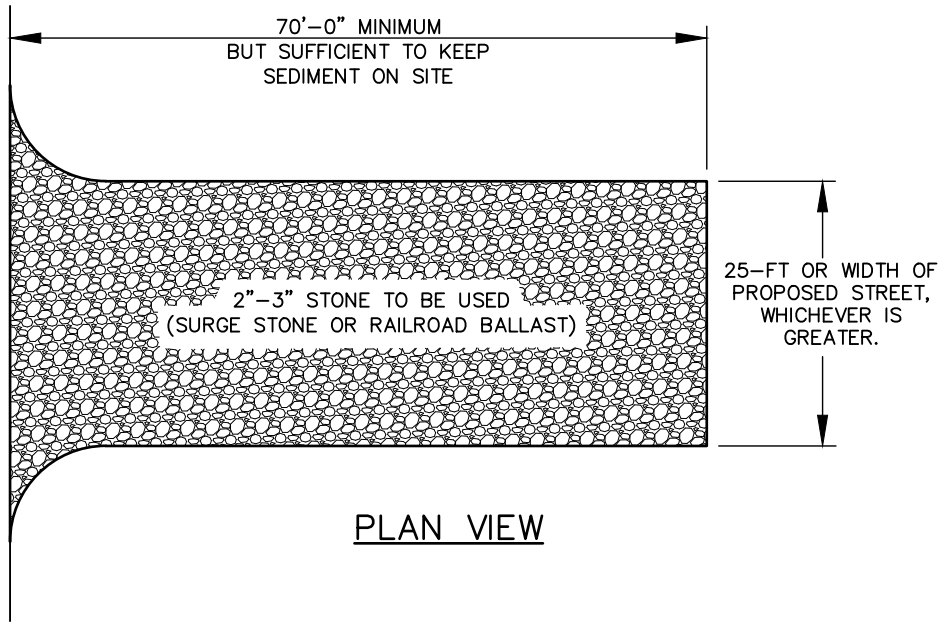
CROSS SECTION



RESIDENTIAL CONSTRUCTION ENTRANCE

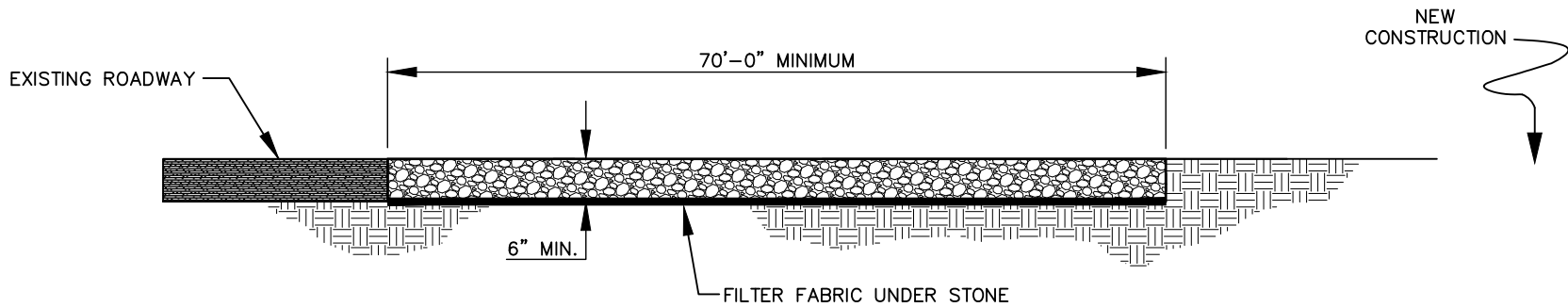
DETAIL NUMBER

2018-003A
SHEET 1 of 1



PLAN VIEW

MAINTENANCE NOTES:
 1. CONSTRUCTION ENTRANCE SHALL BE MAINTAINED ROUTINELY TO AVOID SEDIMENT LEAVING PROJECT.
 2. SEDIMENT ENTERING PAVED ROADWAYS FROM PROJECT SHALL BE REMOVED IMMEDIATELY.



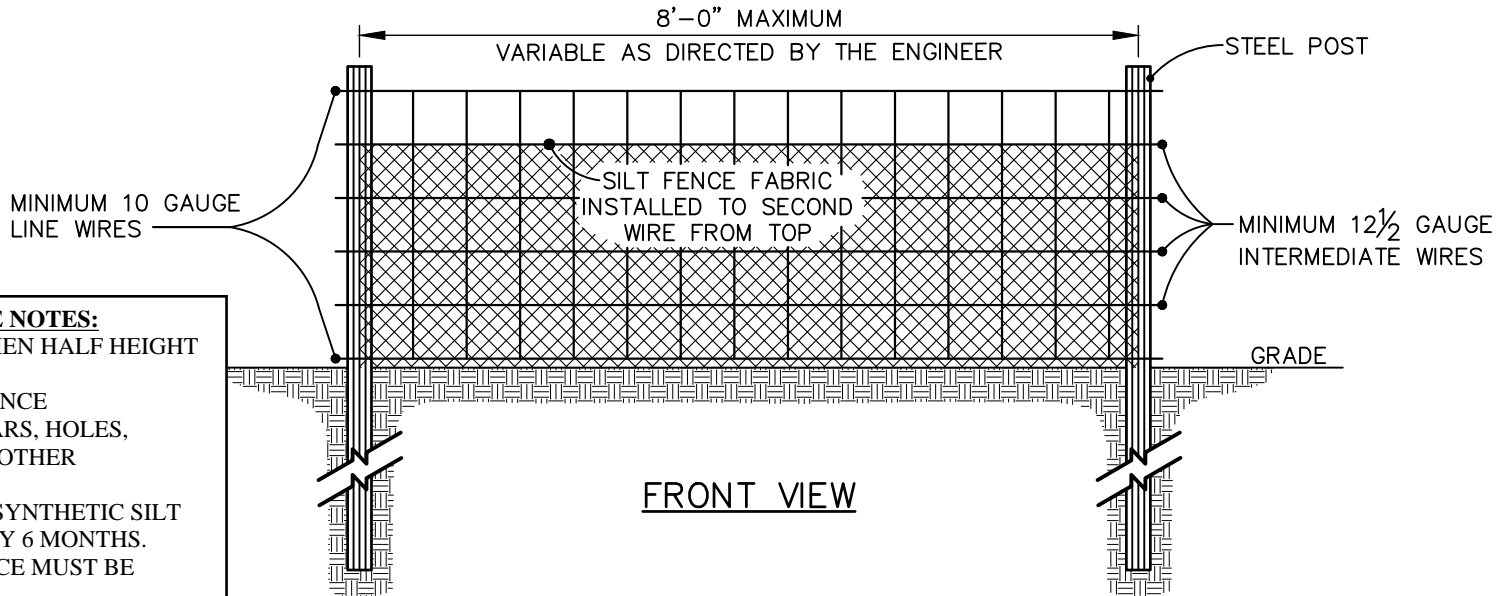
CROSS SECTION



STANDARD CONSTRUCTION ENTRANCE

DETAIL NUMBER

2018-003
 SHEET 1 of 1

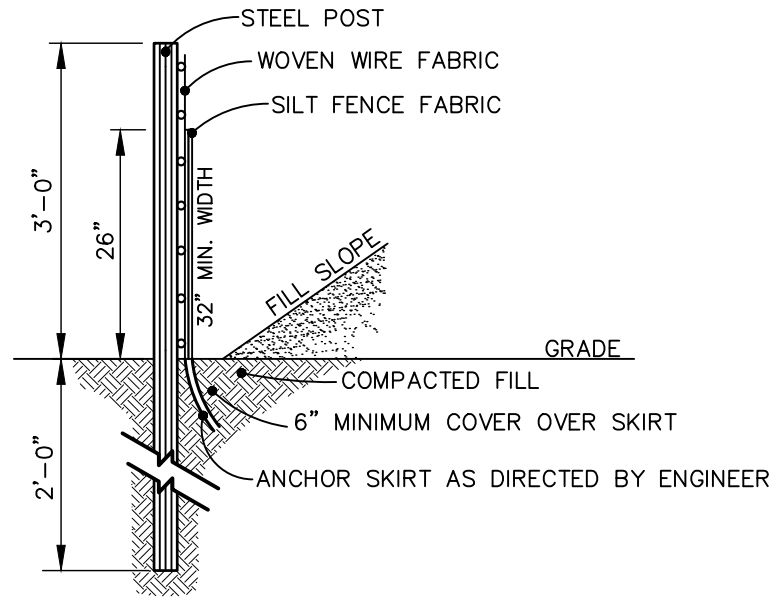


MAINTENANCE NOTES:

1. REMOVE SEDIMENT WHEN HALF HEIGHT OF SILT FENCE.
2. REPAIR OR REPLACE FENCE IMMEDIATELY WHEN TEARS, HOLES, SAGGING, COLLAPSE, OR OTHER DEFICIENCIES FOUND.
3. THE DESIGN LIFE OF A SYNTHETIC SILT FENCE IS APPROXIMATELY 6 MONTHS. DETERIORATED SILT FENCE MUST BE REPLACED.

GENERAL NOTES:

1. USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE PER 100 LINEAR FT. OF FENCE AND NEVER IN AREAS OF CONCENTRATED FLOW SUCH AS STREAMS, DITCHES, OR WATERWAYS.
2. NEVER INSTALL SILT FENCE IN WETLANDS UNLESS APPROVAL HAS BEEN RECEIVED TO DO SO FROM APPROPRIATE AGENCIES.
3. OVERLAP 12 INCHES WHEN SPLICING FABRIC.
4. CURL EACH END OF FENCE UPHILL IN A "J" PATTERN TO PREVENT END FLOW.
5. ANCHORING OF TOE OF FENCE SHOULD BE REINFORCED WITH 12 INCHES OF NCDOT #5 OR #57 WASH STONE WHEN FLOW WILL RUN PARALLEL TO TOE OF FENCE.
6. FOR REPAIR OF SILT FENCE FAILURES, USE SILT FENCE OUTLET DETAIL 2018-014.
7. HAY BALES ARE NOT A SUBSTITUTE FOR SILT FENCE.



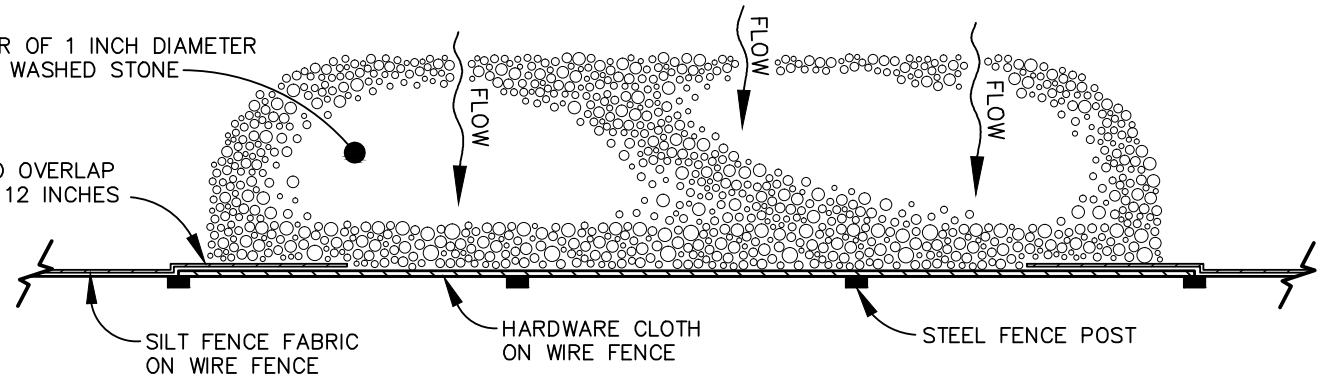
STANDARD SILT FENCE

DETAIL NUMBER

2018-013
SHEET 1 of 1

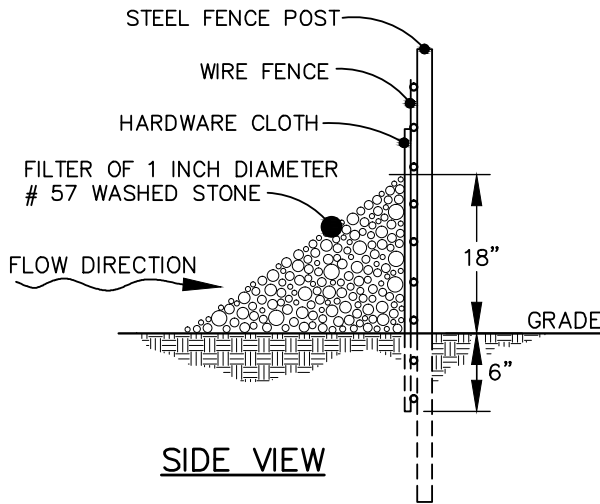
FILTER OF 1 INCH DIAMETER
57 WASHED STONE

NOTE:
SILT FENCE FABRIC TO OVERLAP
HARDWARE CLOTH BY 12 INCHES

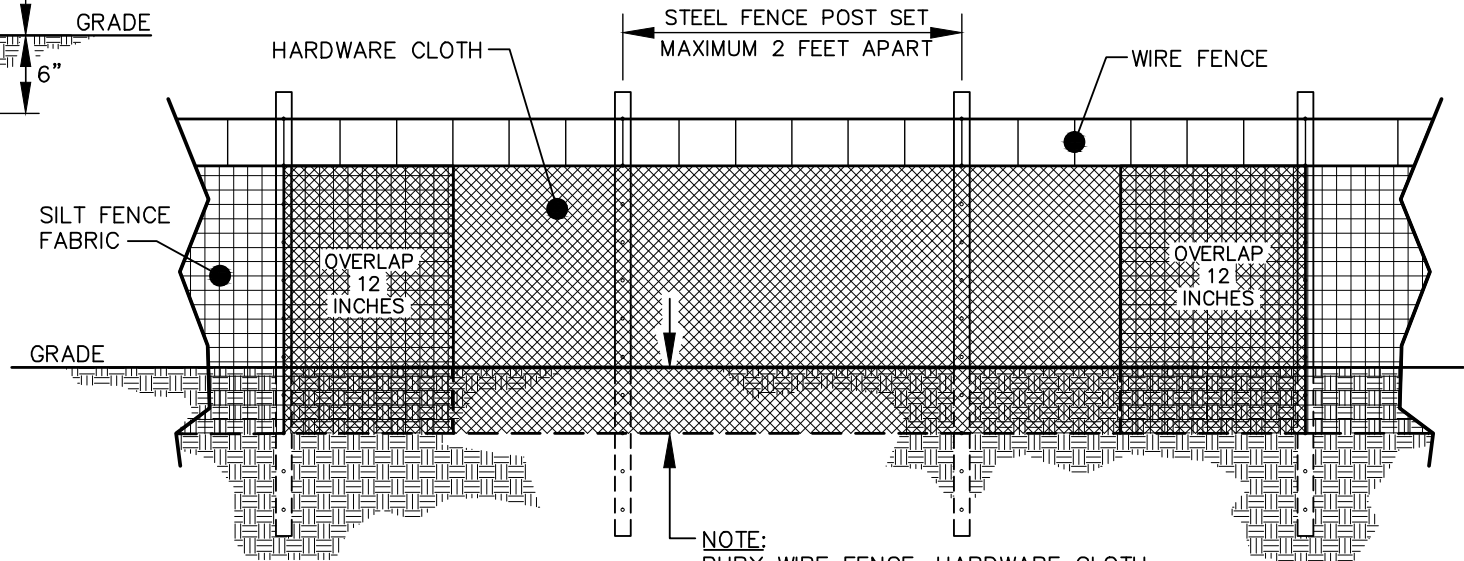


PLAN VIEW

NOTE:
USE SILT FENCE OUTLETS ONLY WHEN
DRAINAGE AREA DOES NOT EXCEED 1/4
ACRE AND THERE IS A LOW AREA. USE
AS A REPAIR OF SILT FENCE FAILURES.



SIDE VIEW



FRONT VIEW

NOTE:
BURY WIRE FENCE,
HARDWARE CLOTH,
AND SILT FENCE FABRIC 6 INCHES INTO
THE TRENCH

MAINTENANCE NOTES:
1. REMOVE SEDIMENT WHEN
HALF HEIGHT OF STONE.
REFRESH STONE THAT
BECOMES CLOGGED WITH
SEDIMENT/DEBRIS.
2. REPAIR OR REPLACE FENCE
AND HARDWARE CLOTH
IMMEDIATELY WHEN
DEFICIENCIES FOUND.



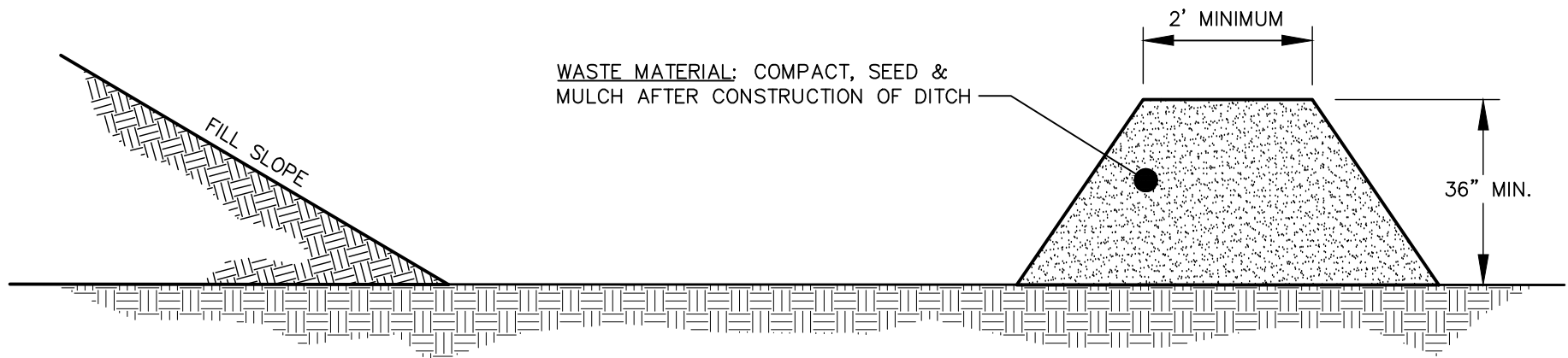
STANDARD SILT FENCE OUTLET

DETAIL NUMBER

2018-014
SHEET 1 of 1

NOTES:

1. TEMPORARY SILT DITCH TO BE USED WHERE TOE OF FILL SLOPES EXCEEDS 3 FEET IN VERTICAL HEIGHT AND ALONG STREAMS TO INTERCEPT FLOW AND/OR DIVERT TO A CONTROLLED OUTLET.
2. SILT SHALL BE REMOVED WHEN SILT DITCH IS ONE-HALF FULL.
3. DITCH SHALL BE RECONSTRUCTED WHEN DAMAGED BY EQUIPMENT OR COVERED BY FILL.



CROSS SECTIONAL VIEW



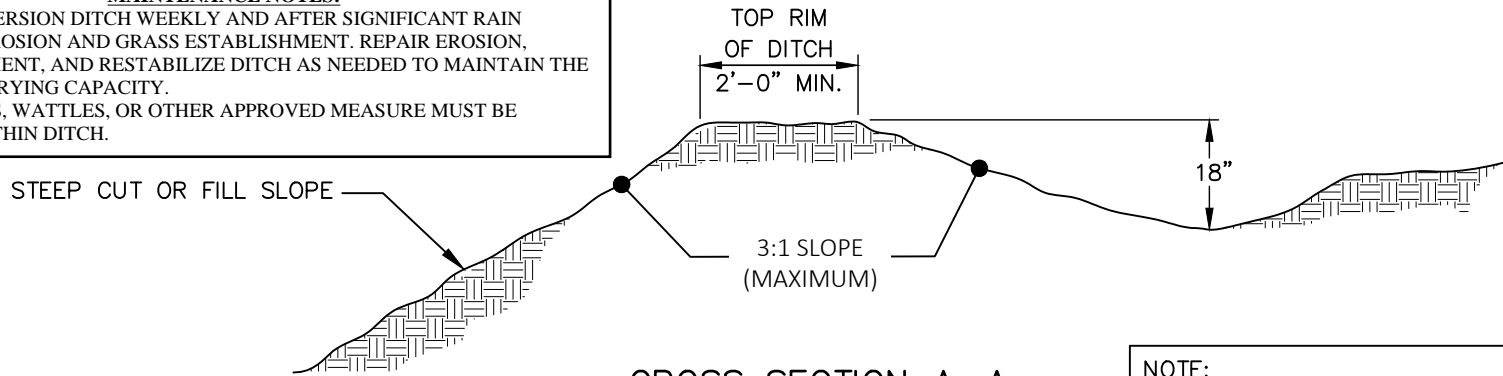
STANDARD DIVERSION BERM

DETAIL NUMBER

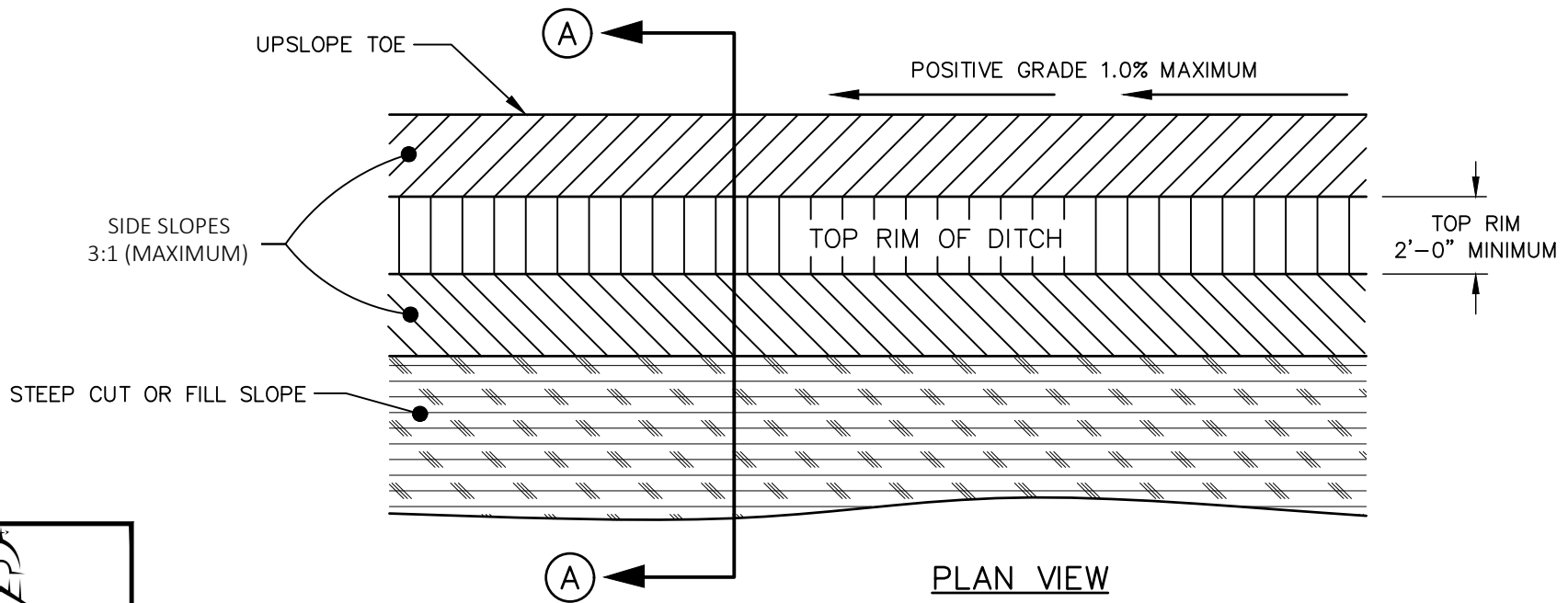
2018-004
SHEET 1 of 1

MAINTENANCE NOTES:

- 1) INSPECT DIVERSION DITCH WEEKLY AND AFTER SIGNIFICANT RAIN EVENTS FOR EROSION AND GRASS ESTABLISHMENT. REPAIR EROSION, REMOVE SEDIMENT, AND RESTABILIZE DITCH AS NEEDED TO MAINTAIN THE DESIGNED CARRYING CAPACITY.
- 2) CHECK DAMS, WATTLES, OR OTHER APPROVED MEASURE MUST BE INSTALLED WITHIN DITCH.



NOTE:
STABILIZE DIVERSION DITCH WITH TEMPORARY SEEDING AND EROSION CONTROL MATTING.

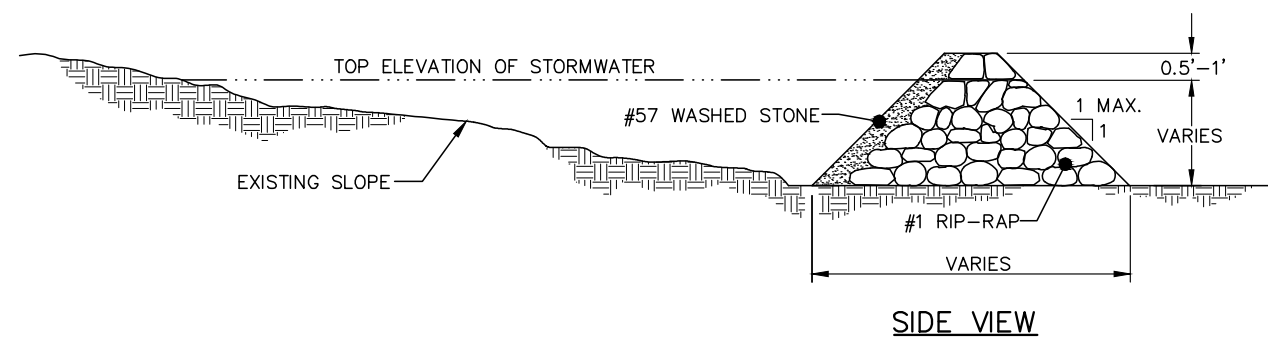


STANDARD TEMPORARY DIVERSION DITCH

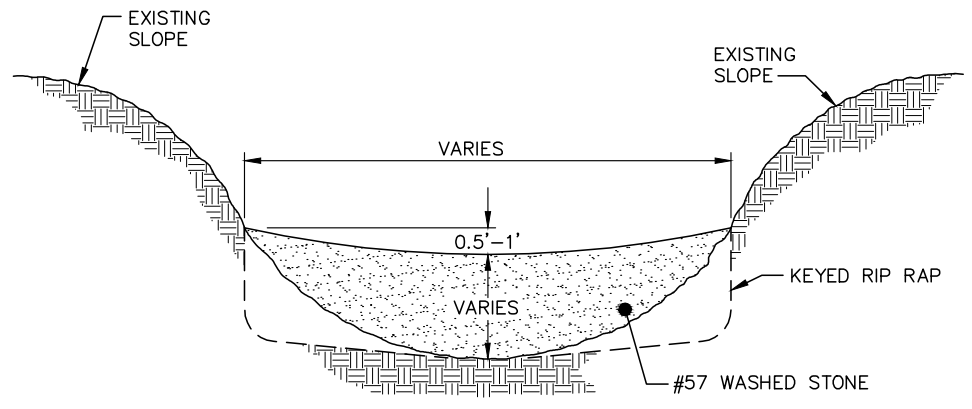
DETAIL NUMBER

2018-009
SHEET 1 of 1

- MAINTENANCE NOTES:**
1. REMOVE SEDIMENT WHEN HALF HEIGHT OF STONE AND CLEAR DEBRIS THAT COULD CLOG CHANNEL.
 2. ADD OR REFRESH STONE AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.
 3. CORRECT DEFICIENCIES IF EROSION OCCURS AROUND EDGES OF DAM.
 4. IF SIGNIFICANT EROSION OCCURS BETWEEN DAMS, ADD ADDITIONAL DAMS AND ENSURE CHANNEL IS PROPERLY STABILIZED WITH STABILIZATION LINER.



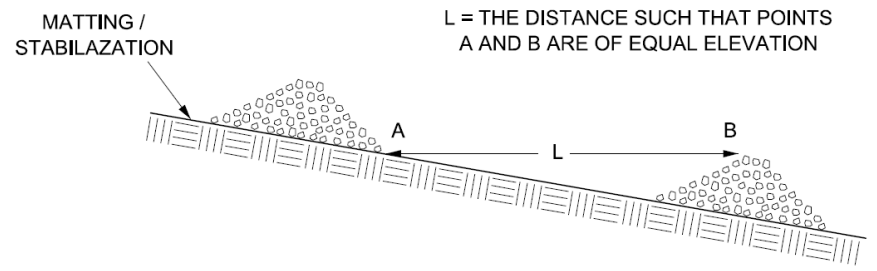
SIDE VIEW



FRONT VIEW

DESIGN OF SPILLWAYS	
DRAINAGE AREA (ACRES)	WEIR LENGTH ¹ (FT)
1	4.0
2	6.0
3	8.0
4	10.0
5	12.0

¹ DIMENSIONS SHOWN ARE MINIMUM

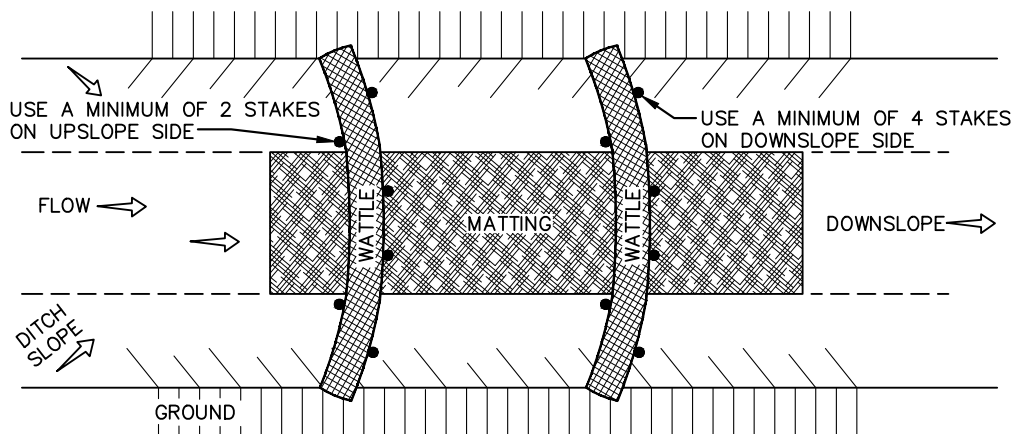


PROFILE VIEW

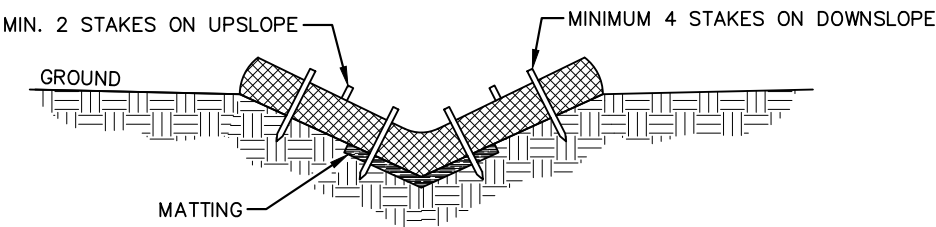
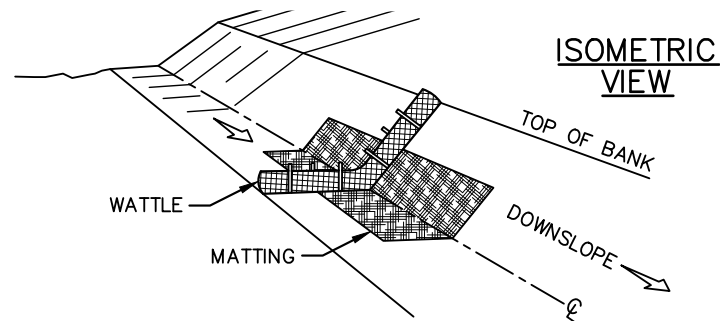


STANDARD ROCK CHECK DAM

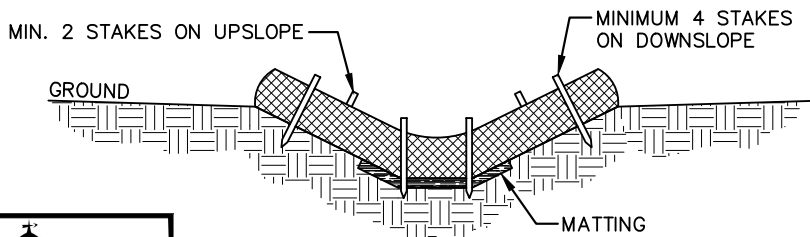
DETAIL NUMBER
2018-002
SHEET 1 of 1



PLAN VIEW



V-DITCH SECTION VIEW

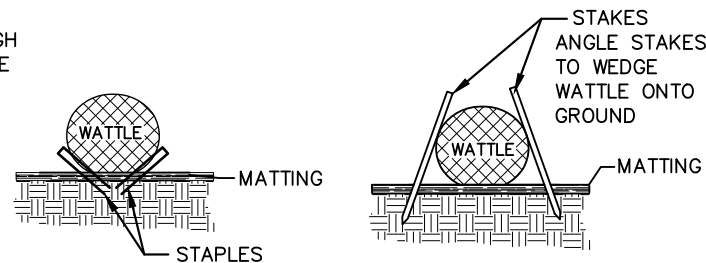
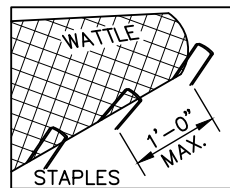


TRAPEZOIDAL DITCH SECTION VIEW

NOTES:

- 1) USE A MINIMUM 12 INCH DIAMETER EXCELSIOR WATTLE.
- 2) USE 24 INCH LONG WOODEN STAKES WITH A 2"x2" NOMINAL CROSS SECTION.
- 4) INSTALL WATTLE(S) TO A HEIGHT ON SLOPE SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR SLOPES, OR AS DIRECTED.
- 5) INSTALL A MINIMUM OF TWO UPSLOPE STAKES AND FOUR DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND AT BOTTOM.
- 6) PROVIDE STAPLES MADE OF 0.125 INCH DIAMETER STEEL WIRE FORMED INTO A U-SHAPE NOT LESS THAN 12 INCHES IN LENGTH.
- 7) INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- 8) AFTER INSTALLATION OF STAPLES, CHINK ANY GAPS BETWEEN WATTLE AND GROUND WITH MATTING.

WEAVE STAPLES THROUGH MESH CASING OF WATTLE



STAPLE INSTALLMENT SECTIONS

STAKE INSTALLMENT CROSS SECTION

MAINTENANCE NOTE: REMOVE SEDMIENT WHEN HALF HEIGHT OF WATTLE. REPAIR AND RESTORE TO SPECIFICATIONS ABOVE IMMEDIATELY.



STANDARD WATTLE

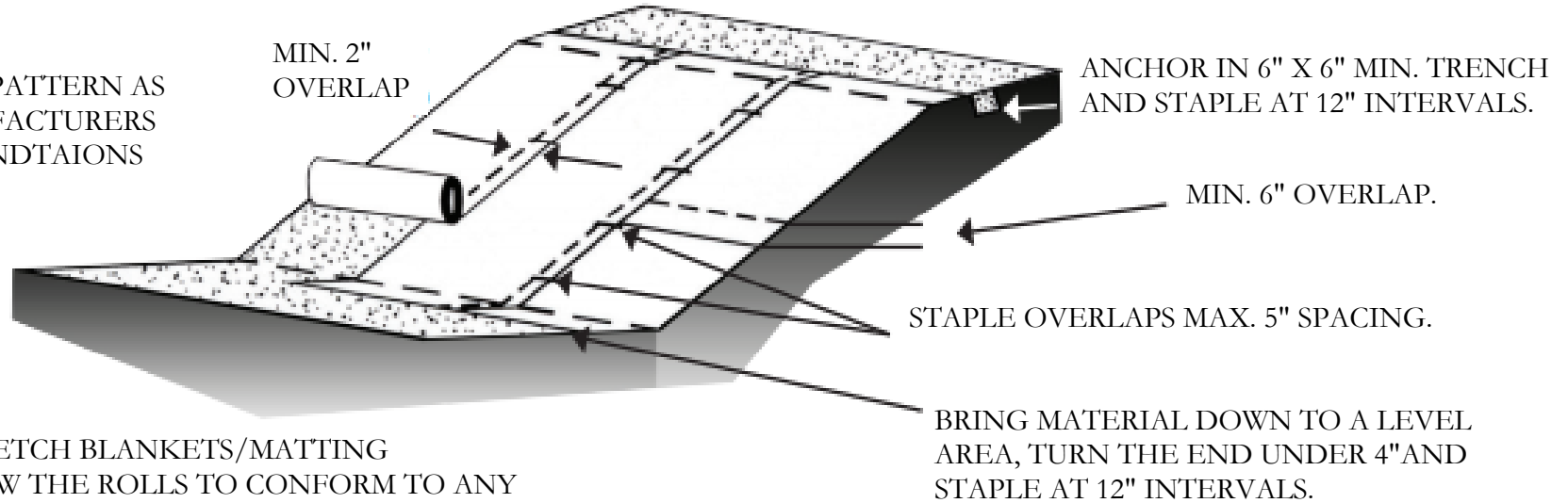
DETAIL NUMBER

2018-018
SHEET 1 of 1

SLOPE SURFACE SHALL BE SMOOTH BEFORE PLACEMENT FOR PROPER SOIL CONTACT.

IF THERE IS A BERM AT THE TOP OF SLOPE, ANCHOR UPSLOPE OF THE BERM.

STAPLING PATTERN AS PER MANUFACTURERS RECOMMENDATIONS



DO NOT STRETCH BLANKETS/MATTING TIGHT-ALLOW THE ROLLS TO CONFORM TO ANY IRREGULARITIES.

FOR SLOPES LESS THAN 3H:1V, ROLLS MAY BE PLACED IN HORIZONTAL STRIPS.

LIME, FERTILIZE, AND SEED BEFORE INSTALLATION. PLANTING OF SHRUBS, TREES, ETC. SHOULD OCCUR AFTER INSTALLATION.

MAINTENANCE NOTES:

- 1) INSPECT MATTING WEEKLY AND AFTER SIGNIFICANT RAIN EVENTS. REPAIR IMMEDIATELY.
- 2) GOOD CONTACT WITH GROUND MUST BE MAINTAINED, AND EROSION MUST NOT OCCUR BENEATH MATTING. REPAIR AND SECURE AS REQUIRED IF DAMAGED OR UNDERCUT.
- 3) MONITOR AND REPAIR AS NECESSARY UNTIL GROUND COVER IS ESTABLISHED.

STANDARD MATTING INSTALLATION (SLOPES)

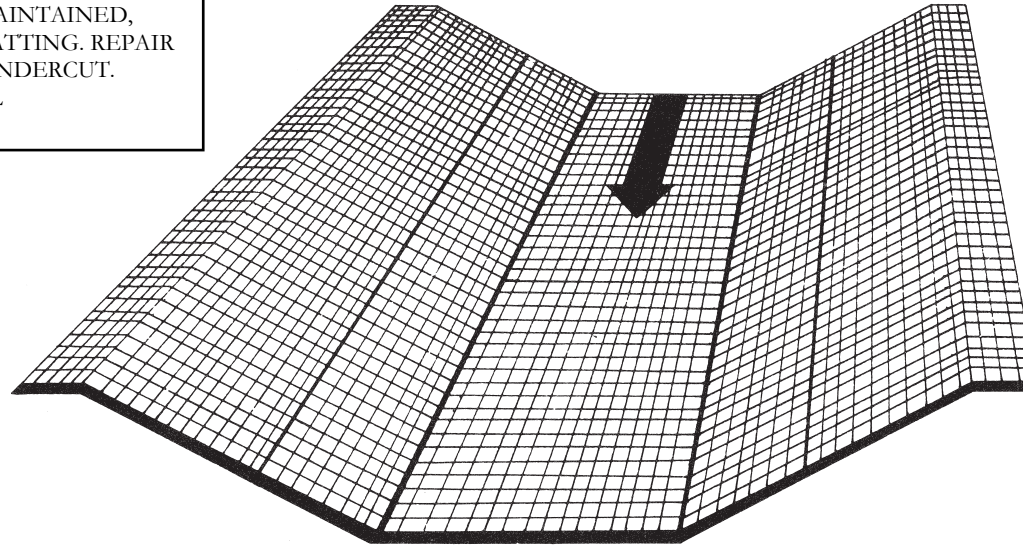


DETAIL NUMBER

2018-010A
SHEET 1 of 1

MAINTENANCE NOTES:

- 1) INSPECT MATTING WEEKLY AND AFTER SIGNIFICANT RAIN EVENTS. REPAIR IMMEDIATELY.
- 2) GOOD CONTACT WITH GROUND MUST BE MAINTAINED, AND EROSION MUST NOT OCCUR BENEATH MATTING. REPAIR AND SECURE AS REQUIRED IF DAMAGED OR UNDERCUT.
- 3) MONITOR AND REPAIR AS NECESSARY UNTIL GROUND COVER IS ESTABLISHED.



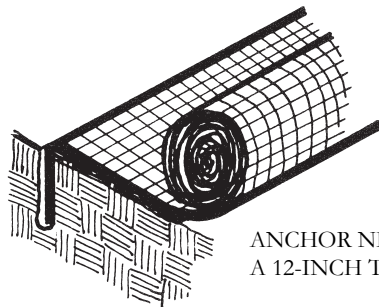
STAPLE/STAKE AT 12" INTERVALS. STAPLING/STAKING PATTERN AS PER MANUFACTURERS SPECIFICATIONS.

WHEN USED IN CONJUNCTION WITH CHECK DAMS OR WATTLES, INSTALL MATTING FIRST.

LIME, FERTILIZE, AND SEED BEFORE INSTALLATION.

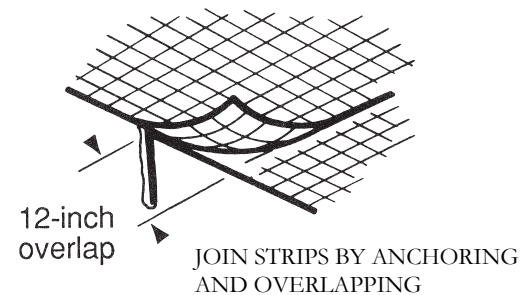
MATTING SHOULD BE USED IN ALL DITCHES AND ANYWHERE CONCENTRATED RUNOFF IS CONVEYED.

IN CHANNELS, ROLL OUT STRIPS OF NETTING PARALLEL TO THE DIRECTION OF FLOW AND OVER THE PROTECTIVE MULCH.



ANCHOR NETTING IN A 12-INCH TRENCH

APPLY MATTING TO BOTTOM AND SIDESLOPES OF DITCH. MATTING MUST BE INSTALLED UP TO AND OVER CREST OF SIDESLOPES, AND ANCHORED IN A TRENCH AS SHOWN ABOVE.



STANDARD MATTING INSTALLATION

DETAIL NUMBER

2018-010
SHEET 1 of 1

Species	Rate (lb/acre)	Dates
Rye (grain)	120	January 1 - May 1
Annual lespedeza (Kobe)	50	
German millet	40	May 1 - August 15
Rye (grain)	120	August 15 - December 31

Soil Amendments

Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

Mulch

Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A dist with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance

Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.



TEMPORARY SEEDING/MULCHING SPECIFICATIONS

DETAIL NUMBER

2018-020
SHEET 1 of 1

ALL DISTURBED AREAS			
March 1 - August 31		September 10 - February 28	
50#	Tall Fescue	50#	Tall Fescue
10#	Centipede	10#	Centipede
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

WASTE AND BORROW AREAS			
March 1 - August 31		September 10 - February 28	
75#	Tall Fescue	75#	Tall Fescue
25#	Bermudagrass (hulled)	25#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Note: 50# of Bahiagrass may be substituted for either Centipede or Bermudagrass only upon request.

On cut and fill slopes 2:1 or steeper Centipede shall be applied at the rate of 5 lb/acre and add 20# of Sericea Lespedeza from January 1 - December 31.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.



MAINTENANCE NOTES:

- 1) INSPECT PERMANENT STABILIZATION WEEKLY AND AFTER SIGNIFICANT RAIN EVENTS.
- 2) REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE, REPAIRING ERODED AREAS PRIOR TO RESTABILIZATION. MONITOR UNTIL 90% STABILIZATION ACHIEVED.
- 3) SECTION 6.11 "PERMANENT SEEDING" OF NCDEQ DEMLR EROSION MANUAL MAY BE REFERENCED FOR PLANNING CONSIDERATIONS AND RECOMMENDATIONS.

PERMANENT SEEDING/MULCHING SPECIFICATIONS

DETAIL NUMBER

2018-021
SHEET 1 of 1

Varieties	Region of Adaptation
Cool Season Grasses:	
Kentucky bluegrass blend ¹	Mountains
Tall fescue blend	Mountains and Piedmont
Adventure, Brookston, Falcon, Finelawn, Galway, Hounddog, Jaguar, Olympic, Rebel	
Tall fescue/Kentucky bluegrass	Mountains and Piedmont
Warm Season Grasses:	
Hybrid Bermudagrass	Piedmont and Coastal Plain
Vamont, Tifway, Tifway II & Tifgreen	
Zoysiagrass	Piedmont and Coastal Plain
Emerald, Meyer	
Centipedegrass	Piedmont and Coastal Plain
No improved varieties	
St. Augustinegrass	Piedmont and Coastal Plain
Raleigh	

¹A large number of varieties exist—consult suppliers and your local Agricultural Extension office for recommendations.

Species or Mixture	Adaptation					Maintenance		
	Shade	Heat	Cold	Drought	Wear	Annual Fertilizer (lb N/1000 ft ²)	Mowing Height (in.)	Mowing Frequency
Kentucky bluegrass	good	fair	good	good	good	2.5-4	2	med.
Kentucky bluegrass/Tall fescue	good	good	good	good	good	2.5-3	3	high
Tall fescue	good	good	good	good	good	2.5-3.5	3	high
Hybrid Bermudagrass	poor	good	poor	excel.	excel.	5-6	1	high
Centipedegrass	fair	good	poor	good	poor	0.5	1	low
St. Augustinegrass	good	good	poor	good	poor	2.5	2-3	med.
Zoysiagrass	fair	good	fair	excel.	good	1.5	1	high

Adapted from *Carolina Lawns*, NCAES Bulletin no. AG-69.

***ADDITIONAL SODDING INSTRUCTIONS CAN BE FOUND IN SECTION 6.12 "SODDING" OF THE NCDEQ DEMLR EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.**

MAINTENANCE NOTES:

- 1) AFTER FIRST WEEK, WATER AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE IN THE ROOT ZONE AND PREVENT DORMANCY OF SOD. WATER MORE DURING SUMMER MONTHS.
- 2) DO NOT REMOVE MORE THAN 1/3 OF SHOOT IN ANY MOWING. MAINTAIN GRASS HEIGHT BETWEEN 2-3 INCHES UNLESS OTHERWISE SPECIFIED.
- 3) AFTER FIRST GROWING SEASON, ESTABLISHED SOD REQUIRES FERTILIZATION; MAY ALSO REQUIRE LIME. FOLLOW SOIL TEST RECOMMENDATIONS.

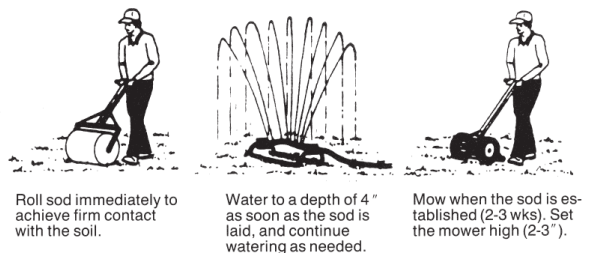
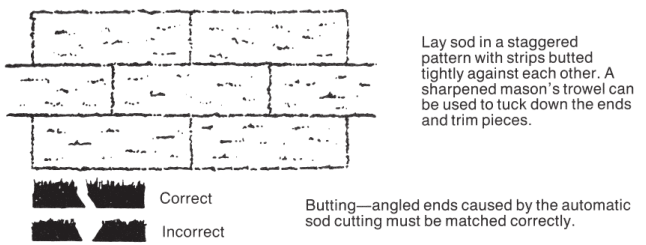
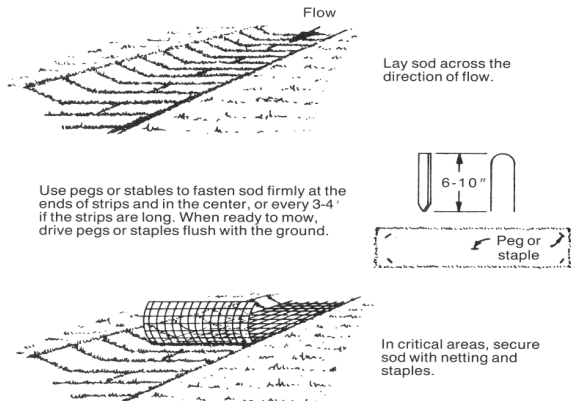
Soil preparation—Test soil to determine the exact requirements for lime and fertilizer. Soil tests may be conducted by the State soil testing lab or a reputable commercial laboratory. Information on free soil testing is available from the Agronomic Division of the North Carolina Department of Agriculture or the Agricultural Extension Service. Where sodding must be planned without soil tests the following soil amendments may be sufficient:

- **Pulverized agricultural limestone** at a rate of 2 tons/acre (100 lb/1,000 ft²)
- **Fertilizer** at a rate of 1,000 lb/acre (25 lb/1,000 ft²) of 10-10-10 in fall or 5-10-10 in spring.

Equivalent nutrients may be applied with other fertilizer formulations. These amendments should be spread evenly over the area, and incorporated into the top 4-8 inches of soil by disking, harrowing, or other effective means. If topsoil is applied, follow specifications given in Practice 6.04, *Topsoiling*.

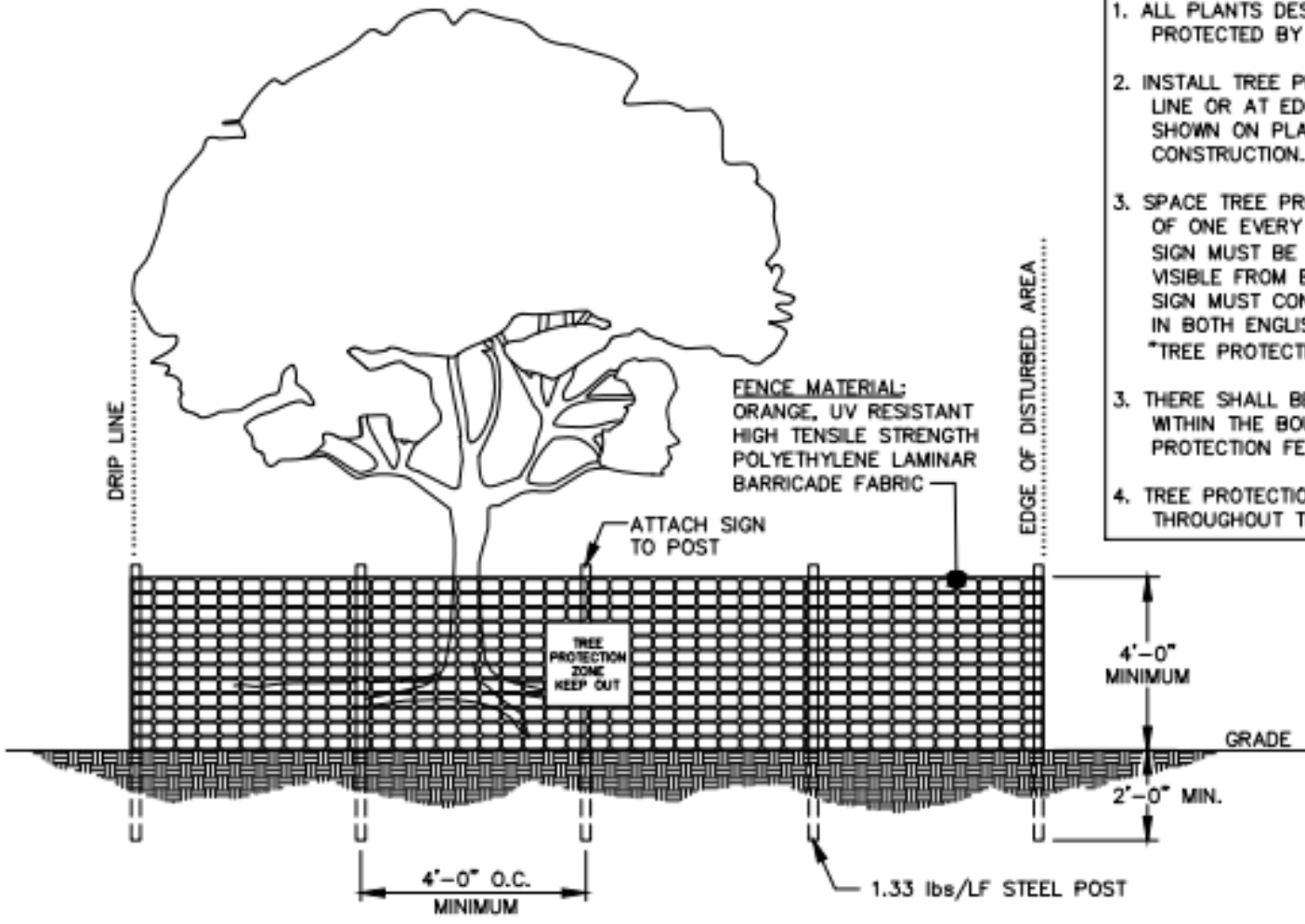
Prior to laying sod, clear the soil surface of trash, debris, roots, branches, stones, and clods larger than 2 inches in diameter. Fill or level low spots in order to avoid standing water. Rake or harrow the site to achieve a smooth and level final grade.

Complete soil preparation by rolling or cultipacking to firm the soil. Avoid using heavy equipment on the area, particularly when the soil is wet, as this may cause excessive compaction, and make it difficult for the sod to take root.



SODDING INSTRUCTIONS

DETAIL NUMBER
2019-001
SHEET 1 of 1



- NOTES:**
1. ALL PLANTS DESIGNATED TO BE SAVED SHALL BE PROTECTED BY FENCING, AS ILLUSTRATED.
 2. INSTALL TREE PROTECTION FENCE AT TREE DRIP LINE OR AT EDGE OF DISTURBED AREA, AS SHOWN ON PLANS, PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 3. SPACE TREE PROTECTION ZONE SIGNS A MINIMUM OF ONE EVERY 300 FEET. THE SIZE OF EACH SIGN MUST BE A MINIMUM OF 2' x 2' AND BE VISIBLE FROM BOTH SIDES OF THE FENCE. THE SIGN MUST CONTAIN THE FOLLOWING LANGUAGE IN BOTH ENGLISH & SPANISH: "TREE PROTECTION ZONE, KEEP OUT".
 3. THERE SHALL BE NO STORAGE OF MATERIAL WITHIN THE BOUNDARIES OF THE TREE PROTECTION FENCING.
 4. TREE PROTECTION FENCING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.



TREE PROTECTION FENCE

DETAIL NUMBER
2021-001
SHEET 1 of 1