Block and Gravel Inlet Protection (BIP)

Practice Description

Block and gravel inlet protection is a sediment control barrier formed around a storm drain inlet by the use of standard concrete block and gravel. The purpose is to help minimize sediment entering storm drains during construction. This practice applies where use of the storm drain system is necessary during construction and where inlets have a drainage area of 1 acre or less and an approach slope of 1% or less.

Planning Considerations

Storm sewers that are made operational before their drainage area is stabilized can convey large amounts of sediment to natural drainageways. In case of extreme sediment loading, the storm sewer itself may clog and lose a major portion of its capacity. To avoid these problems, it is necessary to prevent sediment from entering the system at the inlets.

This practice is for drainage areas of less than 1 acre. Runoff from large disturbed areas should be routed through a sediment basin (see *Sediment Basin Practice*). This method is for areas where heavy flows are expected and where overflow capacity is necessary to prevent excessive ponding around the structure.

The best way to prevent sediment from entering the storm sewer system is to minimize erosion by leaving as much of the site undisturbed as possible and disturbing the site in small increments, if possible. After disturbance, stabilize the site as quickly as possible to prevent erosion and sediment delivery.

Design Criteria and Construction

Drainage Area

Drainage area should be less than 1 acre per inlet.

Capacity

The design storm for the inlet should be able to enter the inlet without bypass flow.

Approach

The approach to the block and gravel structure should be less than 1%.

Height

The height of the block structure should be 1 to 2 feet.

Side Slopes

Gravel placed around the concrete block structure should have 2:1 (Horizontal: Vertical) side slopes or flatter.

Dewatering

Place a minimum of one block on the bottom row (more as needed) on its side to allow for dewatering the pool.

Site Preparation

Determine exact location of underground utilities (see Appendix C: MS One-Call and 811 Color Coding available in the Appendices Volume).

Clear area of all debris that might hinder excavation and disposal of spoil.

Grade the approach to the inlet uniformly. The top elevation of the structure must be lower than the ground elevation downslope from the inlet. It is important that all storm flows pass over the structure and into the storm drain and not past the structure. Temporary dikes below the structure may be necessary to prevent bypass flow. Material may be excavated from inside the sediment pool for this purpose.

Installation of Blocks, Wire Mesh and Gravel

Lay one block on its side in the bottom row on each side of the structure to allow pool drainage. The foundation for the blocks should be excavated at least 2″ below the crest of the storm drain. The bottom row of blocks should be placed against the edge of the storm drain for lateral support and to avoid washouts when overflow occurs. If needed, lateral support may be given to subsequent rows by placing 2″ x 4″ wood studs through block openings.

Place concrete blocks lengthwise on their sides in a single row around the perimeter of the inlet, with the ends of adjacent blocks abutting. The height of the barrier can be varied, depending on design needs, by stacking combinations of 4″, 8″ and 12″ wide blocks. The barrier of blocks should be at least 12″ high and no greater than 24″ high.

The top elevation of the structure must be at least 6″ lower than the ground elevation downslope from the inlet. It is important that all storm flows pass over the structure and into the storm drain and not past the structure. Temporary dikes below the structure may

be necessary to prevent bypass flow. Material may be excavated from inside the sediment pool for this purpose.

Wire mesh should be placed over the outside vertical face (webbing) of the concrete blocks to prevent stone from being washed through the holes in the blocks. Hardware cloth or comparable wire mesh with ½″ openings should be used.

Place stone of the specified gradation around blocks to the lines and dimensions shown on the drawings and smooth to an even grade.

Gravel

Stone should be piled against the wire to the top of the block barrier, as shown in the typical details in Figure BIP-1. Coarse aggregate or similar gradations should be used.

If the stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stone must be pulled away from the blocks, cleaned, and replaced.

Erosion Control

Stabilize disturbed areas in accordance with the vegetation plan.

Construction Verification

Check finished grades and dimensions of block and gravel barrier. Check materials for compliance with specifications.

Safety

Provide protection to prevent children from entering the area.

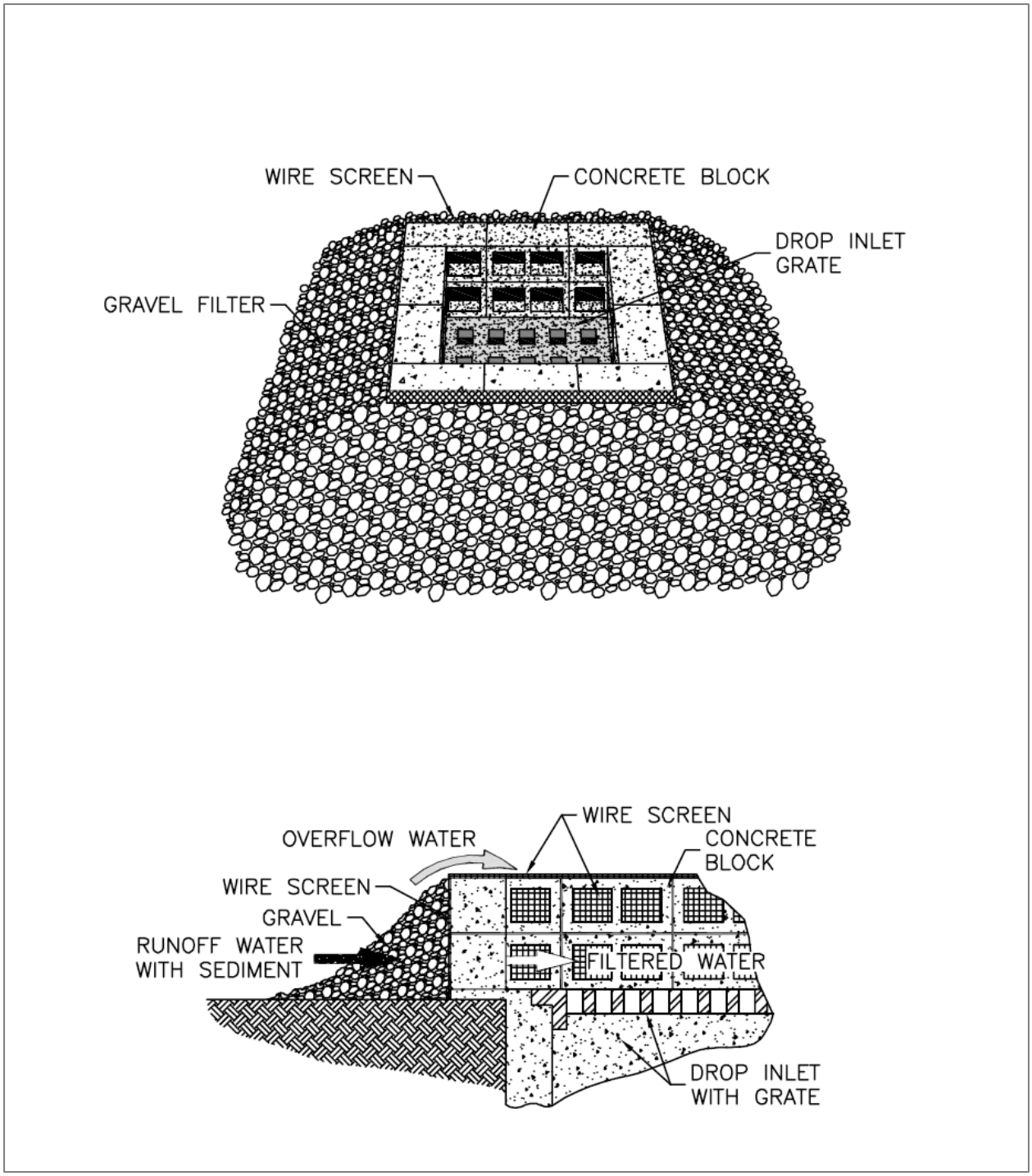

Figure BIP–1 Typical Details of Block and Gravel Inlet Protection

Common Problems

Consult with qualified design professional if the following occurs:

Variations in topography on site indicate block and gravel drop inlet protection will not function as intended; changes in plan may be needed.

Maintenance

Inspect the barrier after each rain and make repairs as needed.

Remove sediment promptly following storms to provide adequate storage volume for subsequent rains and prevent sediment entering the storm drain in subsequent rains.

If the gravel becomes clogged with sediment so that barrier does not drain properly, remove gravel and replace with clean gravel of the specified gradation.

When the contributing drainage area has been adequately stabilized, remove all materials and any sediment, bring the disturbed area to proper grade, and stabilize it with vegetation or other materials shown in the design plan.

References

BMPs from Volume 1

Chapter 4

Sediment Basin (SBN) 4-298

MDOT Drawing ECD-1

Inlet Protection Details for Coarse Aggregate on Grades and Sags 4-238

STATE	PROJECT NO.
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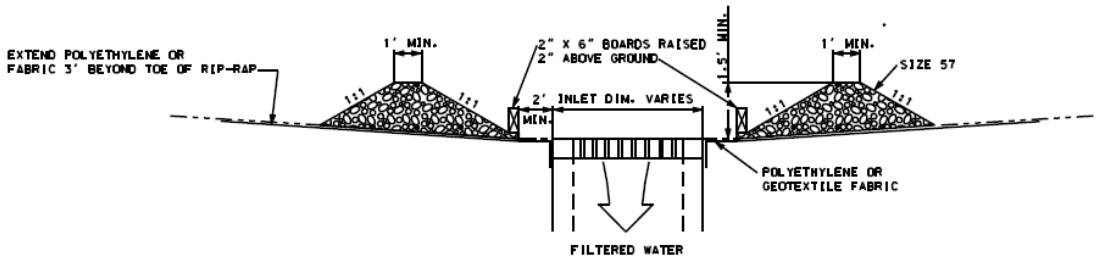
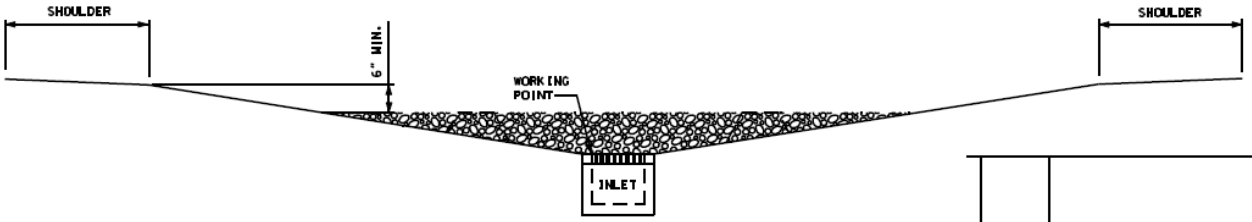


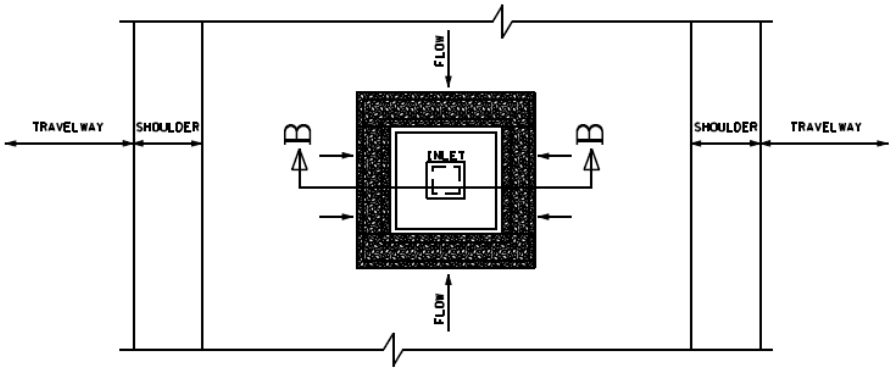
SECTION B-B

NOTES:

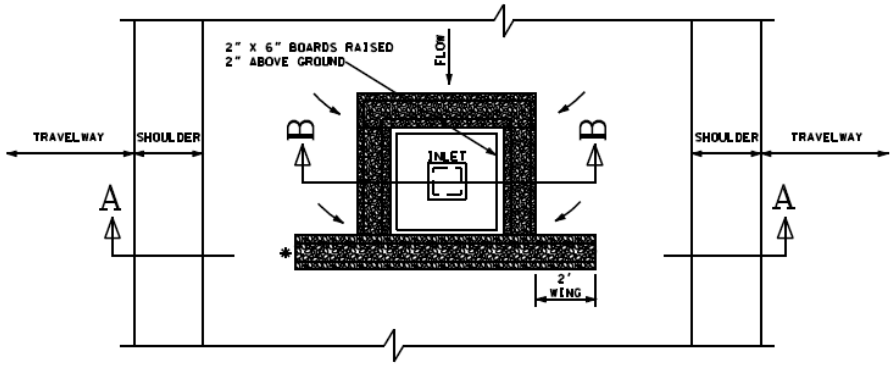
1. THE ELEVATION OF THE TOP OF THE REQUIRED STONE BERM SHALL BE A MINIMUM OF 1.5' ABOVE THE ELEVATION OF THE INLET WORKING POINT AND A MINIMUM OF 6" BELOW THE ELEVATION OF THE OUTSIDE EDGE OF THE INSIDE SHOULDER.
2. THIS COARSE AGGREGATE INLET PROTECTION SHALL NOT BE UTILIZED DURING STAGE 1 AND STAGE 2 INLET CONSTRUCTION. SEE INLET PROTECTION TYPICAL APPLICATIONS AND DETAILS)
3. 2" X 6" BOARDS MAY BE REPLACED WITH WIRE MESH W/OPENINGS LESS THAN 1" X 1". COST IS ABSORBED.



SECTION A-A



PLAN - IN SAG



PLAN - ON GRADE

* CONSTRUCT WINGS TO PREVENT BYPASS

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

INLET PROTECTION
DETAILS FOR COARSE AGGREGATE
ON GRADES & SAGS

BY | REVISION | DATE

WORKING NUMBER ECD-11

SHEET NUMBER

FILENAME: EROSION CONTROL\ECD-11.DGN

DESIGN TEAM _____ CHECKED _____ DATE _____

Excavated Inlet Protection (EIP)

Practice Description

Excavated inlet protection is a sediment control technique formed around a storm drain inlet by excavating a small area around the inlet to act as a settling pool. The purpose is to help minimize sediment entering storm drains during construction. This practice applies where use of the storm drain system is necessary during construction and where inlets have a drainage area of 1 acre or less.

Planning Considerations

Storm sewers that are made operational before their drainage area is stabilized can convey large amounts of sediment to natural drainageways. In case of extreme sediment loading, the storm sewer itself may clog and lose a major portion of its capacity. To avoid these problems, it is necessary to prevent sediment from entering the system at the inlets.

This practice is for drainage areas of less than 1 acre. Runoff from large disturbed areas should be routed through a sediment basin (see *Sediment Basin Practice*). This method is not recommended for areas where heavy flows are expected as it may overflow the excavated area.

The best way to prevent sediment from entering the storm sewer system is to minimize erosion by leaving as much of the site undisturbed as possible and disturbing the site in small increments, if possible. After disturbance, stabilize the site as quickly as possible to prevent erosion and sediment delivery.

Design Criteria and Construction

Drainage Area

Drainage area should be less than 1 acre per inlet.

Capacity

The trap should be sized to provide a minimum storage of 67 cubic yards for 1 acre of drainage area.

Approach

The approach to the block and gravel structure should be less than 1%.

Depth

The depth of the trap should be no less than 1 foot and no more than 2 feet deep measured from the top of the inlet structure.

Side Slopes

The side slopes of the trap should not exceed 3:1.

Dewatering

Weep holes should be installed to allow for dewatering the pool (Figure EIP-1).

Site Preparation

Determine exact location of underground utilities (see Appendix C: MS One-Call and 811 Color Coding available in the Appendices Volume).

Clear area of all debris that might hinder excavation and disposal of spoil.

Grade the approach to the inlet uniformly. The top elevation of the structure must be lower than the ground elevation downslope from the inlet. It is important that all storm flows pass over the structure and into the storm drain and not past the structure directly into the storm drain. Sediment may be excavated from inside the sediment pool for this purpose.

Erosion Control

Stabilize disturbed areas in accordance with the vegetation plan.

Construction Verification

Check finished grades and dimensions of block and gravel barrier. Check materials for compliance with specifications.

Safety

Provide protection to prevent children from entering the area.

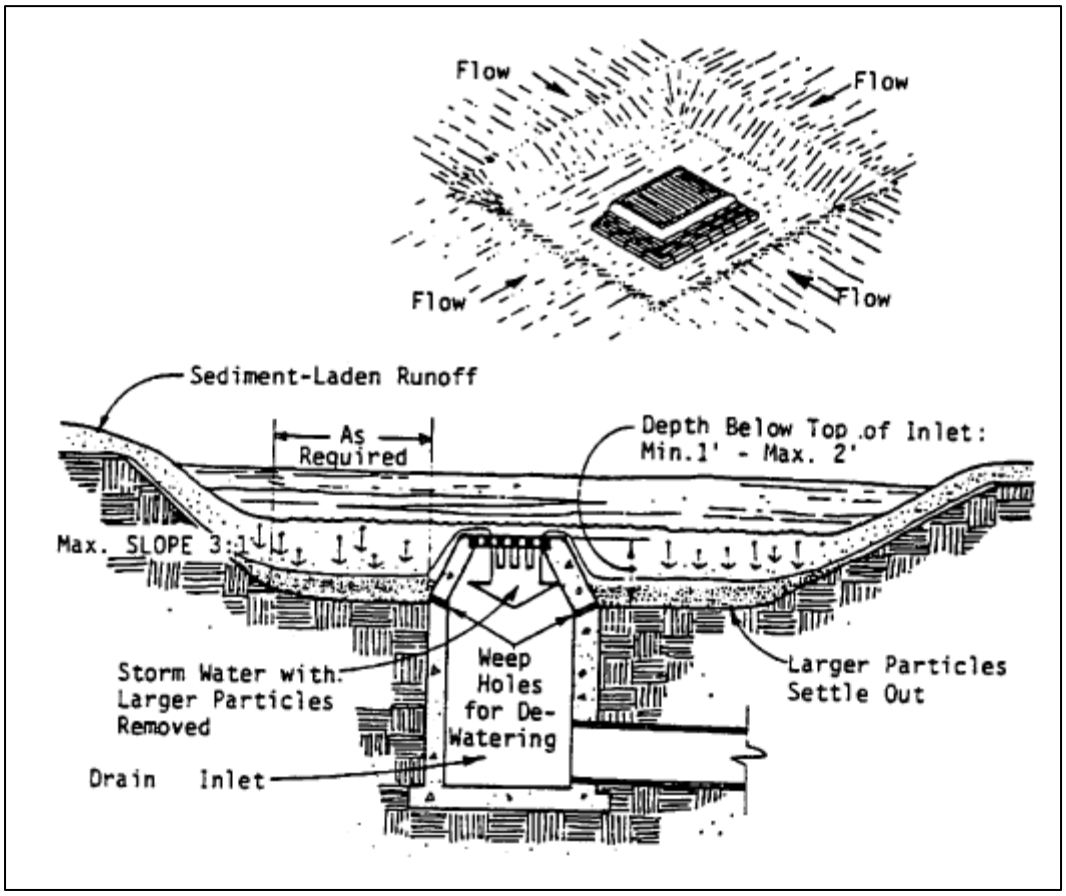


Figure EIP- 1 Excavated Inlet Protection

Common Problems

Consult with qualified design professional if the following occurs:

Storm drains subject to heavy flows may not benefit from excavated inlet protection; changes in plan may be needed.

Maintenance

Inspect the trap after each rain and make repairs as needed.

Remove sediment promptly following storms to provide adequate storage volume for subsequent rains and to prevent sediment entering the storm drain in subsequent rains.

When the contributing drainage area has been adequately stabilized, remove all materials and any sediment, bring the disturbed area to proper grade, and stabilize it with vegetation or other materials shown in the design plan.

References

BMPs from Volume 1

Chapter 4

Sediment Basin (SBN) 4-298

Fabric Drop Inlet Protection (FIP)

Practice Description

Fabric drop inlet protection is a structurally supported geotextile barrier placed around or over a drop inlet to prevent sediment from entering storm drains during construction. This practice applies where early use of the storm drain system is necessary prior to stabilization of the disturbed drainage area. This practice is suitable for inlets with a drainage area of less than 1 acre and a gentle approach slope generally of 1% or less.

Planning Considerations

Storm sewers that are made operational before their drainage area is stabilized can convey large amounts of sediment to natural drainage ways. In case of extreme sediment loading, the storm sewer itself may clog and lose a major portion of its capacity. To avoid these problems, it is necessary to prevent sediment from entering the system at the inlets that discharge directly to waters of the state.

The best way to prevent sediment from entering the storm sewer system is to stabilize the site as quickly as possible, preventing erosion and stopping sediment at its source. Sediment is best treated by preventing erosion. Leave as much of the site undisturbed as possible in the total site plan. Clear and disturb the site in small increments, if possible.

Numerous products have been developed to facilitate the capture of suspended soil particles at inlets. The design criteria for performance should be considered when evaluating alternative products. Products that will likely not meet performance goals or that usually fail under storm conditions should not be selected.

Design Criteria and Installation

Prior to start of construction, fabric drop inlet protection structures should be designed by a qualified professional. Plans and specifications should be available to field personnel. (*Note: Premanufactured fabric drop inlet protective structures should be installed and maintained according to the manufacturer's requirements.)*

Drainage Area

Drainage area should be less than 1 acre per inlet.

Sediment Storage

The basin created at the inlet should provide 67 cubic yards per disturbed acre of sediment storage.

Site Preparation

The soil around the drop inlet should be well compacted. The area around the drop inlet should be shaped, if necessary, to store the runoff on an almost level area. If runoff could bypass the protected inlet, a temporary dike should be planned and force the runoff to be trapped by the protective device.

Approach

The approach to the inlet protection practice should generally be less than 1% slope.

Height

The height of the structurally supported geotextile should be at least 1 foot but no more than 2.5 feet. The base of the fabric should be buried with compacted earth fill at least 12 inches into the soil or extend horizontally and be adequately secured with ballast material according to the manufacturer's recommendations. Ensure that the height of the structure when fully ponded does not cause unintentional damage or hazards to adjacent areas.

Structural Frame Installation

The frame (premanufactured or constructed) should provide the internal support necessary to prevent the structure from buckling, the fabric from sagging, or the fabric from being undermined. Frames should be positioned so that water that overtops the device goes directly into the inlet and does not cause erosion between the frame and inlet. Premanufactured frames should be installed according to manufacturer's recommendations.

Fabric Installation

Generally, fabric is installed by one of two methods:

Fabric can be buried vertically in a trench. The trench is excavated at least 12 inches into compacted soil adjacent to the inlet. Support posts are installed securely against the exterior of the drop inlet. Fabric along with wire fence is secured in the bottom of the trench and against the exterior surface of the inlet with stakes no more than 2 feet apart

and driven at least 6 inches into the soil. The trench is backfilled with hand-compacted soil to the density equivalent to the surrounding soil. Fence and fabric are secured to the posts and the structure internally supported to meet the structural requirements of the device.

Fabric for pre-manufactured drop inlet protective devices is generally secured with ballast pockets on well-compacted soil around the inlet. Install these according to manufacturer's recommendations

Performance

Either the system of protection for the project or the drop inlet protection that discharges directly to the outfall of the project must be designed to meet the NTU requirements for discharge.

Stabilization

Stabilize all bare areas that drain to the inlet with temporary seeding and mulching unless construction will disturb it within 13 days.

Safety

Protection should be provided to prevent children from entering open-top structures.

Construction Verification

Check finished grades and dimensions of fabric drop inlet protection structures.

Common Problems

Consult with a qualified design professional if any of the following occurs:

Variations in site conditions indicate that the practice will not function as intended; change in plan may be needed.

Sediment not removed from pool resulting in inadequate storage volume for the next storm.

Top of fabric set too high, resulting in flow bypassing the inlet.

Fabric is not adjacent to the inlet exterior surface, resulting in erosion and undercutting of inlet.

Maintenance

Inspect fabric barrier after each rainfall event and make needed repairs immediately.

Remove sediment from the pool area when sediment has reached ½ the fabric height. Take care not to damage or undercut the fabric during the sediment removal.

When the contributing drainage area has been adequately stabilized, remove all materials and unstable sediment and dispose of properly. Fill the disturbed area to the grade of the drop inlet. Stabilize disturbed areas in accordance with the plans.

References

BMPs from Volume 1

Chapter 4

Sediment Barrier (SB) 4-284
Sediment Basin (SBN) 4-298

MDOT Drawing ECD-3

Details of Silt Fence Installation 4-247

MDOT Drawing ECD-13

Inlet Protection Details of Manufactured Inlet Protection 4-248

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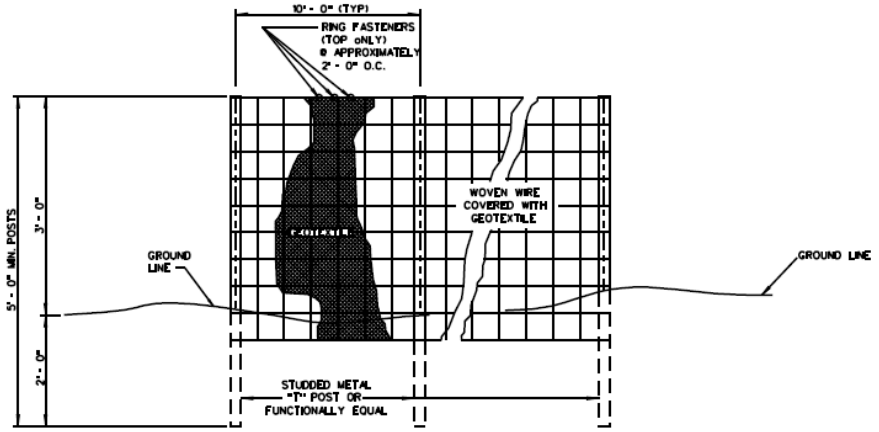
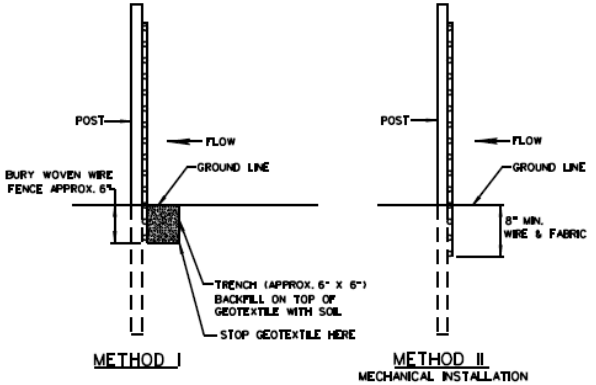


ELEVATION VIEW

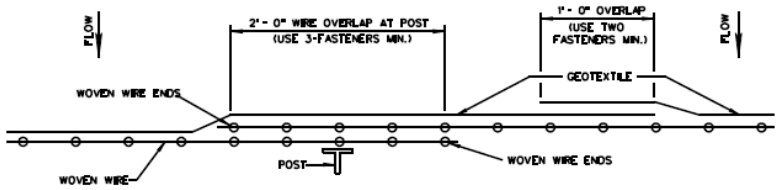


METHOD I

METHOD II
MECHANICAL INSTALLATION

SIDE VIEW

NOTES:
1. SILT FENCES SHALL BE USED IN AREAS WHERE FLOW IS NOT SEVERE.
2. SILT FENCES ARE TEMPORARY SEDIMENT CONTROL ITEMS THAT SHALL BE ERECTED OPPOSITE ERODIBLE AREAS SUCH AS NEWLY GRADED FILL SLOPES AND ADJACENT TO STREAMS AND CHANNELS.
3. SILT FENCE SHOULD BE PLACED WELL INSIDE RIGHT-OF-WAY AND ALONG EDGE OF CLEARING LIMITS. THIS WILL ALLOW ROOM FOR A BACK-UP FENCE IF FIRST FENCE BECOMES FULL.
4. WHEREVER POSSIBLE SILT FENCE SHALL BE CONSTRUCTED ACROSS A LEVEL AREA IN THE SHAPE OF A SMILE. THIS AIDS IN PONDING OF RUNOFF AND FACILITATES SEDIMENTATION.
5. THE CONTRACTOR MAY ELECT TO USE EITHER METHOD I OR METHOD II. COST TO BE LINEAR FEET OF SILT FENCE.
6. METHOD II INSTALLATION SHALL BE ACCOMPLISHED USING AN IMPLEMENT THAT IS MANUFACTURED FOR THE APPLICATION AND PROVIDES A CONFIGURATION MEETING THE REQUIREMENTS OF THE DETAIL.
7. WIRE SHALL BE MINIMUM OF 32" IN WIDTH AND SHALL HAVE A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.
8. GEOTEXTILE FABRIC MEETING THE TYPE II MATERIAL REQUIREMENTS AND INSTALLED ACCORDING TO SPECIFICATION MAY BE USED WITHOUT WIRE FENCE.



PLAN VIEW

REQUIRED LAPPING

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

DETAILS OF SILT FENCE INSTALLATION

WORKING NUMBER ECD-3

SHEET NUMBER

FILENAME: EROSION CONTROL\ECD-3.DGN

DESIGN TEAM CHECKED DATE

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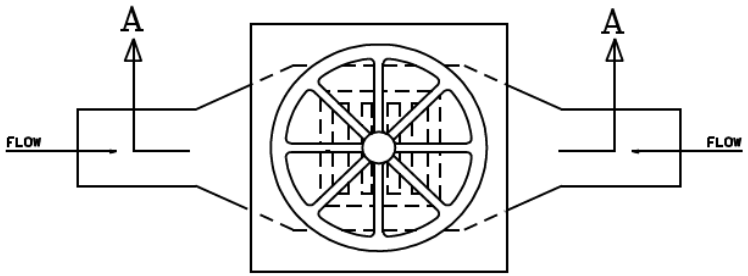
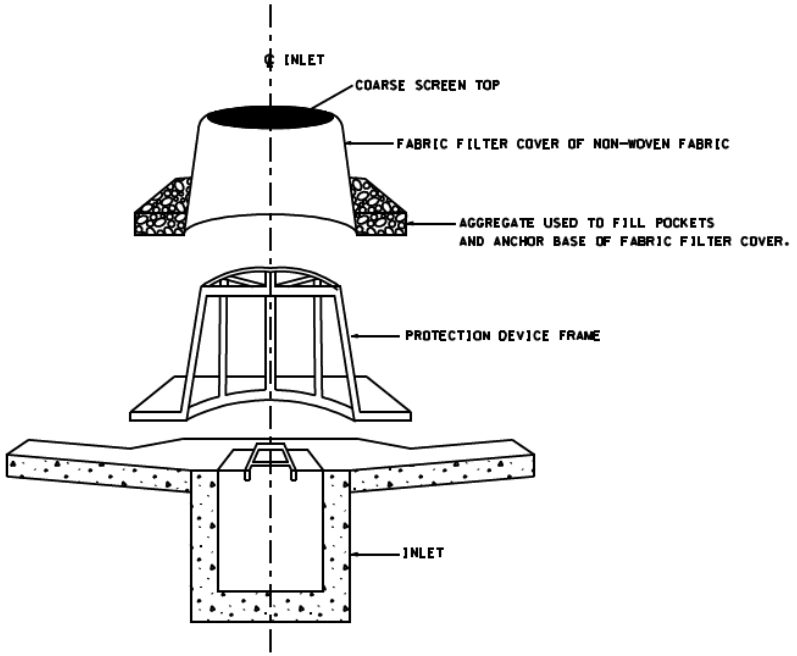


PLAN

NOTES:
1. FRAMES WITH EITHER SQUARE OR CIRCULAR BASES MAY BE USED. SELECTED FRAME BASE SHOULD PROVIDE BEST SEAL AROUND INLET AS DIRECTED BY THE ENGINEER.
2. FILL POCKETS AROUND BASE OF FILTER COVER WITH #57 STONE OR SOIL. STONE IS REQUIRED WHEN ANCHORING THE MANUFACTURED INLET PROTECTION DEVICE OVER PAVED DITCH OR FLUME.
3. USE ONLY DURING STAGE 3 OR STAGE 4 INLET CONSTRUCTION.
4. FOR MEDIAN INLET PROTECTION, THE ELEVATION OF THE COARSE SCREEN TOP SHOULD BE A MINIMUM OF 6" BELOW THE ELEVATION OF THE OUTSIDE EDGE OF THE INSIDE SHOULDER.



SECTION "A-A"

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

INLET PROTECTION
DETAILS OF MANUFACTURED
INLET PROTECTION DEVICE

WORKING NUMBER ECD-13

SHEET NUMBER

FILENAME: EROSION CONTROL\ECD-13.DGN

DESIGN TEAM CHECKED DATE

BY REVISION DATE

Straw Bale Inlet Protection (SBIP)

Practice Description

Straw bale inlet protection is a sediment control barrier formed around a storm drain inlet by the use of standard straw bales. The purpose is to help minimize sediment entering storm drains during construction. This practice applies where use of the storm drain system is necessary during construction and where inlets have a drainage area of 1 acre or less and an approach slope of 1% or less.

Planning Considerations

Storm sewers that are made operational before their drainage area is stabilized can convey large amounts of sediment to natural drainageways. In case of extreme sediment loading, the storm sewer itself may clog and lose a major portion of its capacity. To avoid these problems, it is necessary to prevent sediment from entering the system at the inlets.

This practice is for drainage areas of less than 1 acre. Runoff from large disturbed areas should be routed through a sediment basin. This method is for areas where heavy flows are expected and where overflow capacity is necessary to prevent excessive ponding around the structure.

The best way to prevent sediment from entering the storm sewer system is to minimize erosion by leaving as much of the site undisturbed as possible and disturbing the site in small increments, if possible. After disturbance, stabilize the site as quickly as possible to prevent erosion and sediment delivery.

Design Criteria and Construction

Drainage Area

Drainage area should be less than 1 acre per inlet. The drainage area should be relatively flat (slopes no greater than 5 percent) where sheet or overland flows are typical. The method shall not apply to inlets receiving concentrated flows.

Capacity

The design storm for the inlet should be able to enter the inlet without bypass flow.

Bale Size

Bales should be either wire bound or string-tied with binding oriented around the sides rather than over and under the bales. Bales should be 14″ x 18″ x 36″. Straw wattles can also be used for this practice. A drawing representing straw wattle inlet protection is provided by the MDOT at the end of this practice (MDOT Drawing ECD-12).

Effective Life

Straw and hay bales have a relatively short period of usefulness and should not be used if the project duration is expected to exceed 3 months. Bale placement should result in the twine or cord being on the side and not the bottom of the bale.

Site Preparation

Determine exact location of underground utilities (see Appendix C: MS One-Call and 811 Color Coding available in the Appendices Volume).

Clear area of all debris that might hinder excavation and disposal of spoil.

Installation

Bales should be placed lengthwise in a single row surrounding the inlet with the ends of the adjacent bales pressed together.

If filter fabric is used, it should be entrenched and backfilled. A trench can be excavated around the inlet the width of the bale to a minimum depth of 4″. After the bales are staked, the bales should be backfilled with the excavated soil and compacted against the filter barrier.

Anchors

Two 36″ long (minimum), 2″ x 2″ hardwood stakes should be driven through each bale after the bales are properly entranced. Alternate anchors can be two pieces of No. 4 steel rebar, 36″ long (minimum).

Erosion Control

Stabilize disturbed areas in accordance with vegetation plan. If no vegetation plan exists, consider planting and mulching as part of installation and select planting information from either the *Permanent Seeding* or *Temporary Seeding Practice*. Select mulching information from the *Mulching Practice*.

Construction Verification

Check finished grades and dimensions of the straw bale inlet protection. Check materials for compliance with specifications.

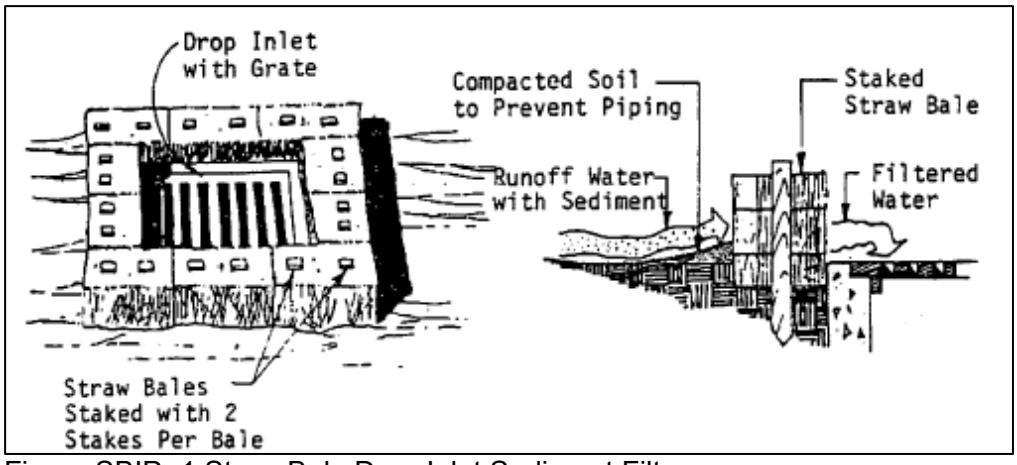


Figure SBIP- 1 Straw Bale Drop Inlet Sediment Filter

Common Problems

Consult with registered design professional if the following occurs:

Variations in topography on site indicate sediment trap will not function as intended; changes in plan may be needed.

Design specifications for materials cannot be met; substitutions may be required. Unapproved substitutions could lead to failure.

Maintenance

Inspect straw bale barriers after each storm event and remove sediment deposits promptly after it has accumulated to ½ of the original capacity, taking care not to undermine the entrenched bales.

Inspect periodically for deterioration or damage from construction activities. Repair damaged barrier immediately.

After the contributing drainage area has been stabilized, remove all straw bales and sediment, bring the disturbed area to grade, and stabilize it with vegetation or other materials shown in the design plan.

Straw bales may be recycled as mulch.

References

BMPs from Volume 1

Chapter 4

Sediment Basin (SBN) 4-298

MDOT Drawing ECD-10

Inlet Protection Typical Application and Details 4-253

MDOT Drawing ECD-12

Inlet Protection Details of Wattles 4-254

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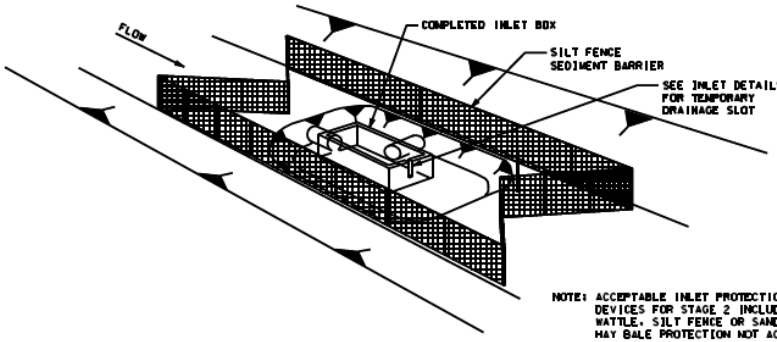
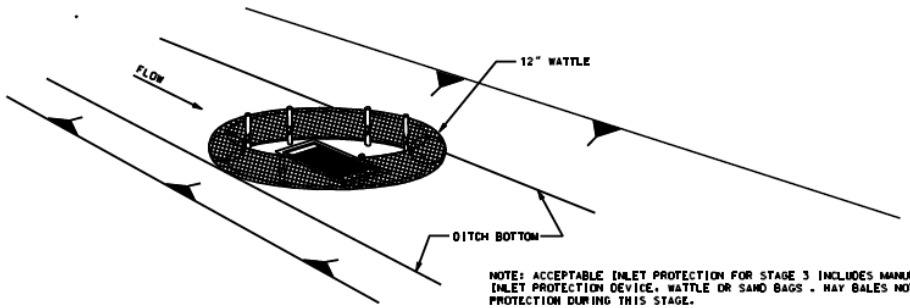


NOTE: ACCEPTABLE INLET PROTECTION DEVICES FOR STAGE 2 INCLUDE WATTLE, SILT FENCE OR SAND BAGS. HAY BALE PROTECTION NOT ACCEPTABLE DURING THIS PHASE.

STAGE 2

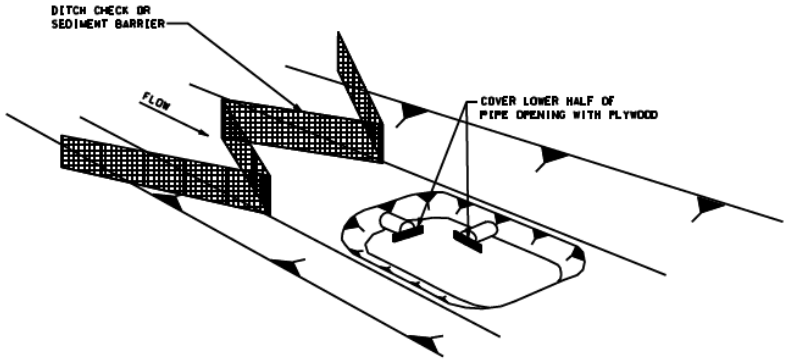
INLET/JUNCTION BOX CONSTRUCTED BUT NOT BACKFILLED



NOTE: ACCEPTABLE INLET PROTECTION FOR STAGE 3 INCLUDES MANUFACTURED INLET PROTECTION DEVICE, WATTLE OR SAND BAGS . HAY BALES NOT ACCEPTABLE PROTECTION DURING THIS STAGE.

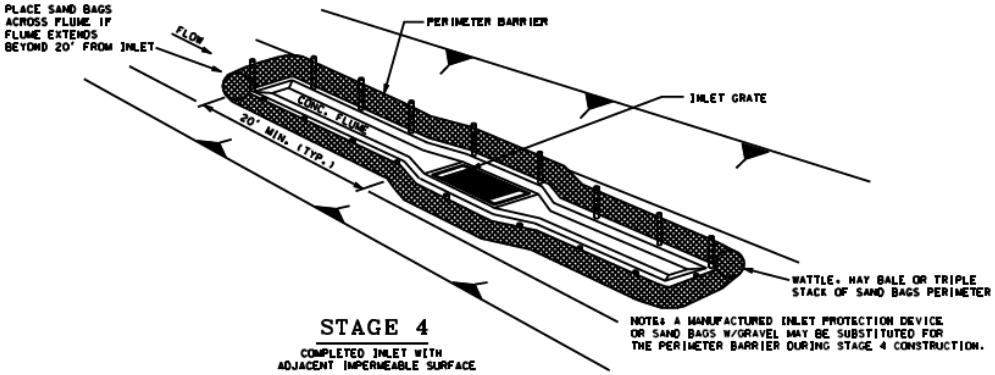
STAGE 3

INLET CONSTRUCTED AND BACKFILLED



STAGE 1

INLET/JUNCTION BOX LOCATION EXCAVATED



NOTE: A MANUFACTURED INLET PROTECTION DEVICE OR SAND BAGS W/GRAVEL MAY BE SUBSTITUTED FOR THE PERIMETER BARRIER DURING STAGE 4 CONSTRUCTION.

STAGE 4

COMPLETED INLET WITH ADJACENT IMPERMEABLE SURFACE

DITCH INLET CONSTRUCTION STAGES

NOTES:
1. FOUNDATION BACKFILL SHOULD BE PLACED IN STAGE 1 IMMEDIATELY AFTER PIPE INSTALLATION. INLET CONSTRUCTION SHOULD COMMENCE AS SOON AS POSSIBLE AND BE CONTINUOUS THROUGH COMPLETION.
2. CONFIGURATIONS MAY BE ADJUSTED WITH APPROVAL OF THE ENGINEER FOR TRAVELWAY SAFETY, WATER FLOW, SOIL OR INSTALLATION CHALLENGES.
3. DURING STAGE 1 AND STAGE 2, SILT FENCE MAY BE REQUIRED UPSLOPE OF THE INLET EXCAVATION AS DIRECTED BY THE ENGINEER.
4. IF SILT FENCING IS INSTALLED AROUND THE INLET EXCAVATION IT SHOULD BE PLACED IN A CONFIGURATION THAT WILL ALLOW INLET CONSTRUCTION.

BY	REVISION	DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
INLET PROTECTION
TYPICAL APPLICATIONS AND DETAILS

WORKING NUMBER: ECD-10

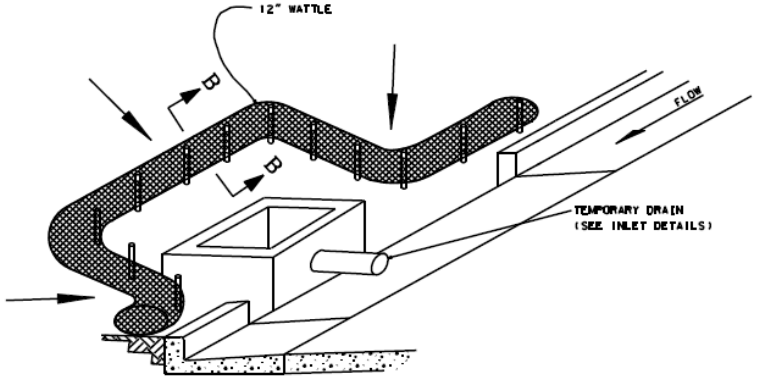
FILENAME: EROSION CONTROL\ECD-10.DGN

DESIGN TEAM _____ CHECKED _____ DATE _____

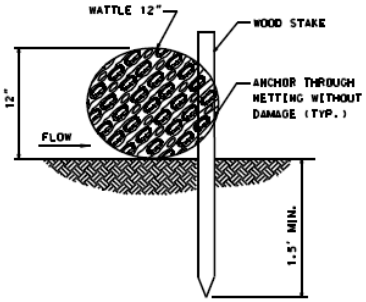
SHEET NUMBER

STATE	PROJECT NO.
MISS.	

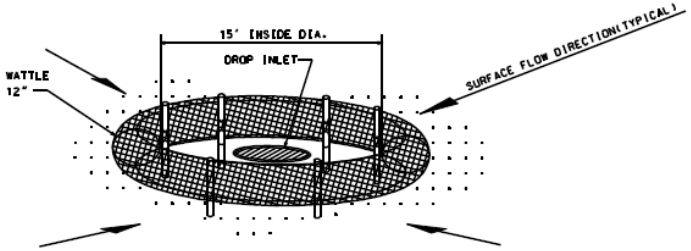
NOTE:
SILT FENCE OR SAND BAGS MAY ALSO BE USED FOR THIS APPLICATION.
HAY BALES NOT ACCEPTABLE DURING THIS STAGE.



CURB INLET PROTECTION (STAGE 2)
SINGLE OR DOUBLE WING INLET

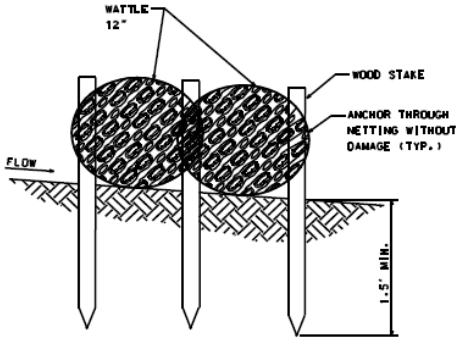


SECTION B-B



DROP INLET PROTECTION

NOTES:
1. ANCHORING STAKES SHALL BE SIZED, SPACED, AND BE OF A MATERIAL THAT EFFECTIVELY SECURES THE WATTLE. STAKE SPACING SHALL BE A MAXIMUM OF THREE FEET.
2. OVERLAP ENDS OF WATTLES PER MANUFACTURERS RECOMMENDATIONS (1'MIN.,3'MAX.).
3. TRENCHING OF WATTLES MAY BE NECESSARY IF PIPING BECOMES EVIDENT.



SECTION A-A

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

INLET PROTECTION DETAILS
OF WATTLES

BY | REVISION | DATE

WORKING NUMBER
ECD-12
SHEET NUMBER

FILENAME: EROSION CONTROL-ECD-12.DGN
DESIGN TEAM CHECKED DATE