1. REINFORCEMENT SHALL BE 4" X 4" X 4" X 4" (102 X 102 X 102 X 102)
2. INLET BOXES ARE TO BE PRE-CAST OR CAST-IN-PLACE.
ROUND MANHOLE ASSEMBLY

NOTE: ROUND MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M 195.
NOTE: TOP UNIT IS TO BE CAST IN PLACE TO GRADE AS SPECIFIED ON PLAN SHEETS OR AS DIRECTED BY ENGINEER.
1. COVER SLABS SHALL BE PRE-CAST.
2. ALL BARS SHALL BE #5 (#16) SPACED AT 6" (150) UNLESS NOTED OTHERWISE.
3. MINIMUM BAR COVER = 1" (38).

* DIMENSIONS TO MATCH OUTSIDE TO OUTSIDE DIMENSIONS OF BOX.

NOTES:

1. COVER SLABS SHALL BE PRE-CAST.
2. ALL BARS SHALL BE #5 (#16) SPACED AT 6" (150) UNLESS NOTED OTHERWISE.
3. MINIMUM BAR COVER = 1" (38).

* DIMENSIONS TO MATCH OUTSIDE TO OUTSIDE DIMENSIONS OF BOX.

NOTES:

1. COVER SLABS SHALL BE PRE-CAST.
2. ALL BARS SHALL BE #5 (#16) SPACED AT 6" (150) UNLESS NOTED OTHERWISE.
3. MINIMUM BAR COVER = 1" (38).

* DIMENSIONS TO MATCH OUTSIDE TO OUTSIDE DIMENSIONS OF BOX.
**Junction Box Assembly**

**SECTION A-A**
- See optional pipe opening detail on Standard No. D-4, Sheet 1.

**SECTION B-B**
- See note 6 on detail D-4, Sheet 1.

**Type 3 Joint Detail**
- Junction Box Details
- Inlet box (pre-cast or cast in place) see standard No. D-4, Sheet 1 for details.

**Cover Slab (Pre-cast)**

---

**Cast in Place Concrete Flow Channel (Typ.)**

**Length**

**Width**

**Cover Slab (Pre-cast)**
JUNCTION BOX DETAILS

D-7 (2007)

NOTES:
1. COVER SLABS ARE TO BE PRE-CAST.
2. ALL BARS ARE TO BE #5 (#16) SPACED @ 12" (305) ± UNLESS NOTED OTHERWISE.
3. MINIMUM BAR COVER = 1/2" (13).
4. DIMENSIONS TO MATCH OUTSIDE TO OUTSIDE DIMENSIONS OF BOX.

SECTION A-A

SECTION B-B

JUNCTION BOX COVER SLAB DETAILS
LIMIT OF PAY FOR
EXCAVATION OF PIPE TRENCHES = 0.O.D. + 24" (60)

CLASS A BEDDING

CONCRETE 2000 P.S.I. 15 MPa (MIN.)

CLASS C BEDDING

NOTE: USE CLASS C BEDDING UNLESS OTHERWISE INDICATED

DELWARE
DEPARTMENT OF TRANSPORTATION

PIPE BEDDING

STANDARD NO. D-8 (1900)
SHT. 1 OF 1
APPROVED

05/10/2001

RECOMMENDED
NOTES:

1. THE PERFORATED PIPE UNDERDRAIN SHALL BE LOCATED AS SHOWN ON THE TYPICAL SECTIONS OF THE CONSTRUCTION PLANS.
2. GEOTEXTILE FILTER FABRIC SHALL BE PLACED ENTIRELY OVER THE TOP OF UNDERDRAIN TRENCH AND LAPPED AS SHOWN.
3. SLOPE OF UNDERDRAINS SHALL MATCH ROADWAY GRADE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
4. OUTLET PIPE CONFIGURATIONS SHALL USE 45 DEGREE ELBOWS OR SHALL USE STRAIGHT PIPE WITH A MINIMUM RADIUS OF 3' (900) TO DIRECT UNDERDRAIN PIPE INTO SIDE OF DRAINAGE INLET OR TO POSITIVE GRADE. PIPE SHALL ALSO BE NON-PERFORATED AND HAVE A SMOOTH INTERIOR.
5. RODENT SCREEN SHALL SNUGLY FIT THE PROVIDED SLOT WITH THE SCREEN UP FITTING TIGHT TO THE BOTTOM FLOW LINE.
6. A 4'x1200 FIEXIBLE DELINEATOR SHALL BE FITTED IN AND INSTALLED AT THE DIRECTION OF THE ENGINEER TO MARK THE LOCATION OF THE CONCRETE HEADWALL.
7. WHEN TWO LINES OF PIPE UNDERDRAIN DRAIN TO A LOW POINT, EACH PIPE MUST HAVE ITS OWN OUTLET.
8. PERFORATED PIPE UNDERDRAIN SHALL NOT BE PLACED UNDER GUARDRAIL, IN ORDER TO AVOID PUNCTURING.
The contractor shall furnish material and plug abandoned drainage pipes with concrete as directed by the engineer.

**NOTE:**
The contractor shall furnish material and plug abandoned drainage pipes with concrete as directed by the engineer.
LIMIT OF CONSTRUCTION

EXISTING GROUND

PHASE 1 EXCAVATION

INTERMEDIATE PHASES I EXCAVATION

FINAL PHASE EXCAVATION

PERIMETER/ONE SMEAL
USED AS A CLEAN
WATER DIVERSION,
SEE STANDARD SHEET

CUT SECTION

BREAK IN CROSS SLOPE MAY BE
ELIMINATED TO DIRECT SURFACE
FLOW LEFT OR RIGHT OR AS
DIRECTED BY THE ENGINEER.

FINAL PHASE EMBANKMENT

INTERMEDIATE PHASES I EMBANKMENT

PHASE I EMBANKMENT

EXISTING GROUND

TEMPORARY SMEAL, SEE STANDARD SHEET

FILL SECTION

EDGE BERM TO BE PLACED AT THE
END OF EACH WORK DAY AND LEFT
TILL SLOPE IS COMPLETELY STABILIZED.

MINIMUM 5' (1500) OFFSET FROM TOE OF SLOPE

SILT FENCE, SEE STANDARD SHEET

NOTES:
1) EDGE BERRS AND TEMPORARY SLOPE DRAINS SHALL BE CONSTRUCTED ALONG
THE TOP OF ALL SLOPES TO INTERCEPT RUNOFF AND CONVEY IT DOWN THE
SLOPE FACES WITHOUT CREATING GULLIES OR WASHOUTS.

2) SLOPE FACES SHALL BE TRACED WITH CLEATED EQUIPMENT SUCH THAT THE
CLEAT MARKS ARE ORIENTED HORIZONTALLY.

3) ALL CUT AND FILL SLOPES OF THE HIGHWAY EMBANKMENT SHALL BE
PERMANENTLY STABILIZED AS THE WORK PROGRESSES IN INCREMENTS NOT TO
EXCEED 10' (3000) MEASURED ALONG THE SLOPE.

4) CROSS SLOPES SHALL BE 2% MINIMUM, 6% MAXIMUM.
1. This device is intended to control sheet flow only; it shall not be used in areas of concentrated flow.
2. SILO fence ends shall be turned upslope to contain runoff.
3. Reinforcing strip is to be one complete strip covering all geotextile fabric at post.

**ISOMETRIC VIEW**

- Geotextile
- Wire mesh
- Construction area
- Flow

**SECTION A-A**

- Fasten at 4 places, equally spaced
- Embed approx. 2" (50mm) of geotextile, backfill trench with soil, and compact thoroughly.
- Existing ground
- Flow

**SECTION B-B**

- Geotextile
- Wire mesh detail
- Fasten geotextile to wire mesh at 8" (200mm) typ.
- Secure with wire or staples
- Flow

**ELEVATION**

- Wire mesh detail
- Reinforced silt fence only

**UNREINFORCED SILT FENCE CONNECTION DETAIL**

- Flow
- Geotextile
- Post
- Fastener (typ)

**REINFORCED SILT FENCE CONNECTION DETAIL**

- Flow
- Geotextile
- Post
NOTES:
1. FOR DITCHES LESS THAN 30" (750) IN DEPTH, PLACE DAM AS DIRECTED BY THE ENGINEER.
2. THE CHECK DAM HEIGHT MUST NOT EXCEED 2' (600) AT THE CENTER OF THE WEIR.
3. THE CHECK DAM IS TO BE CONSTRUCTED SO THAT THE CENTER IS 6' (1500) MIN.
   LOWER THAN THE OUTER EDGES, FORMING A WEIR THAT WATER CAN FLOW ACROSS.
4. GEOTEXTILE FABRIC IS TO BE INSTALLED UNDERNEATH RIPRAP ON PERMANENT CHECK
   DAMS ONLY.
5. THE MAXIMUM SPACING BETWEEN DAMS SHALL BE THE DISTANCE IN THE DITCH WHERE
   THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE
   DOWNSTREAM DAM AT THE CENTER OF THE WEIR.
NOTES:
1. SEDIMENT TRAPS ARE INTENDED FOR USE IN EXISTING, PROPOSED, AND TEMPORARY DITCHES OF ALL TYPES WITH A MAXIMUM DRAINAGE AREA OF 15 ACRES (6 HECTARES), AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.
2. SIDE SLOPES SHALL BE STABILIZED WITH "TEMPORARY GRASS SEEDING, DRY GROUND" AND STRAW MULCH.
3. AN OUTLET STRUCTURE IS REQUIRED, Stone CHECK DAMS, PERFORATED RISER PIPES, SEWER DewaterING DEVICES, OR DRAINAGE CHUTES MAY BE USED. SEE APPROPRIATE STANDARD SHEET FOR ADDITIONAL INFORMATION.
4. FOR SIZE, LOCATION, ETC. OF SEDIMENT TRAP, SEE CONSTRUCTION PHASING, M.T., AND EROSION CONTROL PLANS.
5. ALL FULL SLOPES SHALL BE 2:1.
6. A 2:1 LENGTH TO WIDTH RATIO SHOULD BE ACHIEVED WHERE POSSIBLE, IF THIS IS NOT POSSIBLE, THE USE OF BAFFLES OR OTHER SPECIAL DESIGNS SHOULD BE INCORPORATED TO INCREASE FLOW TIME.
NOTES:
1. The work shall consist of the construction of a sediment trap around a drainage inlet to allow sedimentation to occur before runoff enters the drainage inlet.
2. Drainage inlet sediment traps shall be limited to a three (3) acre (0.2 hectare) maximum drainage area.
3. The dimensions of the drainage inlet sediment trap are to be as indicated on the plans or as directed by the Engineer.
FOR SEDIMENT TRAP, SEE STANDARD NO. E-6 OR E-7

TRASH HOOD 5" (125) MIN. DIA. RISER PIPE

OUTFALL PIPE

ELEVATION

NOTES:
1. THIS DEVICE IS INTENDED TO BE USED AS AN OUTLET FOR SEDIMENT TRAPS.
2. THE PIPE OUTLET SHOWN SHALL ONLY BE USED WITH SEDIMENT TRAPS WITH DRAINAGE AREAS OF 5 ACRES (20 HECTARES) OR LESS. LARGER DRAINAGE AREAS REQUIRE AN ENGINEERED DESIGN.
3. THE HEIGHT OF THE SKINNER DEWATERING DEVICE SHALL BE SPECIFIED BY THE ENGINEER IN THE FIELD.

DELAWARE
DEPARTMENT OF TRANSPORTATION

RISER PIPE ASSEMBLY FOR SEDIMENT TRAP

STANDARD NO. E-8 (2006)  SHT. 1 OF 2

APPROVED

RECOMMENDED

10/02/2006
TRASH HOOD CHART

<table>
<thead>
<tr>
<th>RISER PIPE DIAMETER</th>
<th>B</th>
<th>H</th>
<th>TRASH HOOD THICK, (GAUGE)</th>
<th>MINIMUM SIZE SUPPORT BAR</th>
<th>MINIMUM TOP SUPPORT BAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>18&quot; (450)</td>
<td>27&quot;</td>
<td>7&quot;</td>
<td>16 (1.6)</td>
<td>16 (1.6)</td>
<td>16 (1.6)</td>
</tr>
<tr>
<td>20&quot; (500)</td>
<td>30&quot;</td>
<td>8&quot;</td>
<td>16 (1.6)</td>
<td>16 (1.6)</td>
<td>16 (1.6)</td>
</tr>
<tr>
<td>22&quot; (550)</td>
<td>33&quot;</td>
<td>9&quot;</td>
<td>16 (1.6)</td>
<td>16 (1.6)</td>
<td>16 (1.6)</td>
</tr>
<tr>
<td>24&quot; (600)</td>
<td>36&quot;</td>
<td>10&quot;</td>
<td>16 (1.6)</td>
<td>16 (1.6)</td>
<td>16 (1.6)</td>
</tr>
<tr>
<td>26&quot; (650)</td>
<td>39&quot;</td>
<td>11&quot;</td>
<td>16 (1.6)</td>
<td>16 (1.6)</td>
<td>16 (1.6)</td>
</tr>
<tr>
<td>28&quot; (700)</td>
<td>42&quot;</td>
<td>12&quot;</td>
<td>16 (1.6)</td>
<td>16 (1.6)</td>
<td>16 (1.6)</td>
</tr>
</tbody>
</table>

TRASH HOOD DETAILS

- TACK WELD TOP TO TRASH HOOD IN THREE PLACES.
- TACK WELD SUPPORT BAR TO RISER PIPE (TYP) AT FOUR LOCATIONS.

DELTA COUNTY
DEPARTMENT OF TRANSPORTATION
RISER PIPE ASSEMBLY FOR SEDIMENT TRAP

STANDARD NO. E-8 (2006)
SHT. 2 OF 2
RECOMMENDED

APPROVED

10/02/2006
STABILIZATION OF EMBANKMENTS

NOTES:
1. STAPLES TO BE STAGGERED AT 8" (450) SPACING.
2. TOPSOIL UNDER EROSION CONTROL BLANKET IS TO BE TRACKED AND SEEDED.
3. WHEN OFFSITE RUNOFF OCCURS, ADDITIONAL MEASURES AS DIRECTED BY THE ENGINEER SHALL BE USED TO ENSURE STABILITY OF EMBANKMENT.

STABILIZATION OF DITCHES

PLAN

NOTES:
1. ADDITIONAL STAPLES NOT SHOWN ARE REQUIRED AT OVERLAPS.
2. SEE OVERLAP DETAIL FOR STAPLE PLACEMENT.
3. TOPSOIL UNDER EROSION CONTROL BLANKET IS TO BE TRACKED AND SEEDED.

EROSION CONTROL BLANKET APPLICATIONS

DELWARE DEPARTMENT OF TRANSPORTATION

E-9 (2006) SH. 1 OF 1

APPROVED

STANDARD NO.

12/15/05

08/10/05
SECTION A-A

SECTION B-B

PLAN

NOTES:
1. SECURING PINS ARE TO BE PLACED AT LOCATIONS SHOWN AND AT 24"(600) LONGITUDINAL AND LATERAL SPACING.
2. SEE PLANS FOR LOCATION, DIMENSIONS, GRADES, ETC.
3. USE OF R-7 RIPRAP WILL REQUIRE A SEPARATE PROFESSIONAL ENGINEERING DESIGN FOR SIGHT SPECIFIC CONDITIONS.

DELAWARE
DEPARTMENT OF TRANSPORTATION

RIPRAP DITCH

STANDARD NO. E-10 (2000)
SHT. 1 OF 1

APPROVED

RECOMMENDED

08/10/2005
**CHART A - STABILIZATION**

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>SWALE GRADE</th>
<th>TYPE OF TREATMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.5-2.0%</td>
<td>SEED USED WITH EROSION CONTROL BLANKET</td>
</tr>
<tr>
<td></td>
<td>2.0-6.0%</td>
<td>R-4 RRRAAP</td>
</tr>
<tr>
<td></td>
<td>6.0-20%</td>
<td>ENGINEERED DESIGN</td>
</tr>
</tbody>
</table>

**CHART B - SWALE DIMENSIONS**

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>SWALE A</th>
<th>SWALE B</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>F (500) min.</td>
<td>F (500) min.</td>
</tr>
<tr>
<td>D</td>
<td>4&quot; (1000) min.</td>
<td>6&quot; (1500) min.</td>
</tr>
</tbody>
</table>

**NOTES:**

1. Diverted runoff from a disturbed area shall be conveyed to a sediment trapping device.
2. Diverted runoff from an undisturbed area shall outlet directly into an undisturbed stabilized area at non-erosive velocity.
3. If temporary swales or clean water diversions are to be operational for more than 14 days, they shall be stabilized in accordance with Chart A prior to becoming operational.
4. If temporary swales or clean water diversions are to be operational for less than 14 days, they shall be stabilized with geotextile in accordance with the standard detail "geotextile-lined channel diversion."
CHART A - SWALE STABILIZATION

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>SWALE GRADE</th>
<th>TYPE OF TREATMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-1</td>
<td>0.5-2.0X</td>
<td>SEED AND EROSION CONTROL BLANKET</td>
</tr>
<tr>
<td>A-2</td>
<td>2.1-8.0X</td>
<td>LINED R-4 RIPRAP</td>
</tr>
<tr>
<td>A-3</td>
<td>8.1-20X</td>
<td>ENGINEERED DESIGN</td>
</tr>
</tbody>
</table>

MAXIMUM DRAINAGE AREA: 2 ACRES (0.8 ha)

SECTION A-A

OUTLET AS REQUIRED SEE NOTES 1 & 2.

NOTES:
1. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
2. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
3. IF PERIMETER DIKE SWALES ARE TO BE OPERATIONAL FOR MORE THAN 14 DAYS, THEY SHALL BE STABILIZED IN ACCORDANCE WITH CHART A PRIOR TO BECOMING OPERATIONAL.
4. IF TEMPORARY SWALES OR CLEAN WATER DIVERSIONS ARE TO BE OPERATIONAL FOR LESS THAN 14 DAYS, THEY SHALL BE STABILIZED WITH GEOTEXTILE IN ACCORDANCE WITH THE STANDARD DETAIL "GEOTEXTILE-LINED CHANNEL DIVERSION".

PLAN

DELAWARE
DEPARTMENT OF TRANSPORTATION

PERIMETER DIKE / SWALE
STANDARD NO. E-12 (2006) SHT. 1 OF 1

APPROVED

RECOMMENDED

09/02/2005

12/15/05
STABILIZE IN ACCORDANCE WITH CHART A PRIOR TO BECOMING OPERATIONAL. EXCAVATE TO PROVIDE REQUIRED FLOW WIDTH AT FLOW DEPTH IN ACCORDANCE WITH CHART B.

SECTION A-A

NOTES:
1. IF DESIRED, TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
2. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO INSURE A STABILIZED OUTFALL.
DISCHARGE INTO A STABILIZED DITCH - GEOTEXTILE, STONE OR GRASSED OR A SEDIMENT TRAP.

FLOW

R-4 RRAPPL (5 YD³ (3 m³) MIN)

TOE OF SLOPE

FILL SLOPE

15-0

EDGE BERM

AT TOP OF FILL SLOPE

INTERCEPTOR BERMS, 36" (900) MIN HEIGHT, LENGTH AS REQUIRED TO CONTAIN SURFACE DRAINAGE AND DIRECT INTO TEMP SLOPE DRAIN.

TOP OF FILL SLOPE AS EMBANKMENT IS CONSTRUCTED

ANTI-SEEP COLLAR

TEMPORARY FLOW LINE

PLAN

SLOPE DRAIN PROFILE

FOR FILL SLOPE

SLOPE DRAIN PROFILE

FOR FILL SLOPE

CORRUGATED PIPE

COMPACT SOIL AROUND END OF PIPE

ANTI-SEEP COLLAR

EMBANKMENT

EDGE BERM

36" (900) MIN.

FLOW

FLOW

FLOW

FLOW

PLAN

ANTI-SEEP COLLAR

NOTES:
1. ALL TEMPORARY SLOPE DRAINS SHALL DISCHARGE INTO THE BACK OF SEDIMENT TRAPS OR BASINS DISCHARGING INTO TRAPS OR BASINS.

2. TEMPORARY SLOPE DRAINS SHALL BE USED AT THE TOP OF FILL SLOPES AS EMBANKMENT IS CONSTRUCTED TO PREVENT EXCESSIVE EROSION UNTIL SHOULDERS ARE CONSTRUCTED AND THE SLOPES ARE SEEDED AND MULCHED.
NOTES:
1. THE WORK SHALL CONSIST OF CONSTRUCTING A STILLING WELL FOR THE PURPOSE OF PUMPING CLEAN WATER AROUND A DISTURBED CONSTRUCTION AREA TO A STABILIZED OUTFALL.

2. THE DIMENSIONS OF THE STILLING WELL SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
**SUMP PIT CHART**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>PIPE 1</th>
<th>PIPE 2</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PERFORATED 24&quot;×6000 CMP WITH PERFORATED CAP WELDED ON BOTTOM AND COMPLETELY WRAPPED WITH GEOTEXTILE.</td>
<td>N/A</td>
<td>4&quot; (12000 MIN.)</td>
<td>12&quot; (3000)</td>
</tr>
<tr>
<td>2</td>
<td>PERFORATED 48&quot;×12000 CMP WITH PERFORATED CAP WELDED ON BOTTOM</td>
<td>REMOVABLE PERFORATED 36&quot;×10000 CMP WITH PERFORATED CAP WELDED ON BOTTOM AND COMPLETELY WRAPPED WITH GEOTEXTILE.</td>
<td>8&quot; (24000 MIN.)</td>
<td>24&quot; (6000)</td>
</tr>
</tbody>
</table>

**NOTES:**
1. THE WORK SHALL CONSIST OF CONSTRUCTING A SUMP PIT FOR THE PURPOSE OF FILTERING AND PUMPING WATER TO A STABILIZED OUTFALL.
2. GEOTEXTILE FOR THE 36"×10000 CMP SHALL BE REPLACED WHEN CLOGGED WITH SEDIMENT.
3. 3/16" × 3/16" × 131⁄2" GAGE 60 WIRE MESH SHALL BE PLACED AROUND THE REMOVABLE 36"×10000 CMP BEFORE ATTACHING THE GEOTEXTILE TO INCREASE FLOW THROUGH THE GEOTEXTILE.
4. ALL PERFORATIONS SHALL BE 1" (25) IN DIAMETER AND 12" (3000) IN CENTER IN ALL DIRECTIONS.
5. TYPE 1 SUMP PIT SHALL BE USED ONLY WHEN PUMPING IS NEEDED FOR LESS THAN 7 DAYS.
NOTES:

1. A Dewatering Basin (DWB) is used to remove sediment from sediment-laden water pumped from a construction site before the water re-enters the waterway. The DWB shall have a minimum top width of 3' (900) and a minimum depth of 3.5' (1065). The minimum top length shown in the plan is used only for quantity calculations by the engineer. The actual top length in the field shall be calculated by the equation:

   US Customary: Top Length (feet) = 26' + 2.1x Y
   Metric: Top Length (meters) = 7950 + 48300x Y

   WHERE Y IS THE MAXIMUM CAPACITY IN GALLONS PER MINUTE (CUBIC METERS PER SECOND) OF THE DEWATERING PUMP.

2. The outfall from the basin to the receiving waters shall be stabilized. Pumping into the DWB shall cease when the effluent from the basin becomes sediment-laden.

3. A Sump Pit or Stilling Well (see standard sheets) shall be used in conjunction with a DWB. The basin may be bypassed into the stabilized outfall. If the water being pumped is non-sediment-laden, direct discharge to the receiving waters shall cease and be redirected to the DWB when effluent from the pump becomes sediment-laden.

4. Maintenance must be performed in order for the DWB to function properly. Accumulated sediment shall be removed and disposed of in an approved disposal area when the basin is filled to within 12' (3650) from the crest.

5. When used in conjunction with a cofferdam, dewatering shall begin no sooner than 12 hours after cofferdam installation in order to allow sediment produced during installation to settle completely.
NOTES:

1. THE WORK SHALL CONSIST OF INSTALLING FLOW DIVERSIONS FOR THE PURPOSE OF EROSION CONTROL WHEN CONSTRUCTION ACTIVITIES TAKE PLACE WITHIN THE STREAM CHANNEL SUCH AS BANK STABILIZATION OR BRIDGE ABUTMENT CONSTRUCTION.

2. THE DIVERSION STRUCTURE SHALL BE INSTALLED FROM UPSTREAM TO DOWNSTREAM.

3. THE EFFECTIVE CHANNEL WIDTH SHALL BE SIZED TO PASS A ONE YEAR STORM EVENT PEAK FLOW, OR 1/3 OF STREAM WIDTH, WHICHEVER IS GREATER.

4. THE SANDBAG DIVERSION HEIGHT #0 SHALL BE 1' (300) ABOVE THE PEAK ELEVATION OF THE ONE YEAR STORM.
NOTES:
0. THE WORK SHALL CONSIST OF INSTALLING A SANDBAG DIKE FOR THE PURPOSE OF EROSION CONTROL.
   WHEN CONSTRUCTION ACTIVITIES TAKE PLACE WITHIN THE STREAM CHANNEL SUCH AS BANK STABILIZATION
   OR BRIDGE ABUTMENT CONSTRUCTION.

1. THE SANDBAG DIKE SHALL BE INSTALLED AT THE UPSTREAM LOCATION FIRST.

2. THE HEIGHT OF THE SANDBAG DIKE SHALL BE AT LEAST EQUAL TO THE PEAK ELEVATION OF THE
   ONE YEAR STORM, OR EQUAL WITH THE TOP OF BANK, WHICHER IS LESS, SEE PLANS FOR INFORMATION.

3. THE SPILLWAY SHALL BE SIZED TO PASS A 1 IN ONE YEAR STORM EVENT PEAK FLOW, SEE PLANS.

4. THE PIPE, WHEN UTILIZED, SHALL BE SIZED TO PASS THE STREAM BASE FLOW.

DELAWARE
DEPARTMENT OF TRANSPORTATION

SANDBAG DIKE
STANDARD NO. E-20 (2005)
SHT. 1 OF 1

APPROVED

RECOMMENDED

09/06/05

09/08/05
NOTES:
1. ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED UNDER THE ENTRANCE, IF NECESSARY, A MOUNTABLE BERM WITH 5:1 SLOPES SHALL BE ALLOWED TO FACILITATE PLACEMENT OF PIPES IN SHALLOW CONDITIONS.

2. THE LOCATION AND NUMBER OF STABILIZED CONSTRUCTION ENTRANCES SHALL BE AS INDICATED ON THE PLANS. ANY CHANGE IN LOCATION, ADDITION, OR ELIMINATION OF AN ENTRANCE SHALL BE APPROVED IN ADVANCE BY THE ENGINEER.

3. DRAINAGE PIPE, IF UTILIZED, SHALL BE PAID FOR SEPARATELY UNDER THE APPROPRIATE BID ITEM.

4. THE TOP 2" (50) OF STONE SHALL BE REMOVED AND REPLACED WITH 2" (50) OF CLEAN STONE WHEN Voids ARE FILLED OR AS DIRECTED BY THE ENGINEER.
NOTES:
8. ALL PVC PIPES ARE TO BE 4" 000 LD, SCHEDULE 40
21. ALL JOINTS OF THE FLOATATION SECTION SHALL
BE SOLENT WELDED, JOINTS OF SKIMMER SECTION
NEED NOT BE WATER-TIGHT.
31. 4" 000 HOPE FLEXIBLE DRAIN PIPE IS TO BE ATTACHED
TO THE POND OUTLET STRUCTURE WITH WATER-TIGHT
CONNECTIONS.
41. ORIFICE IS TO BE SIZED ACCORDING TO STORAGE
VOLUME AND TO SLOWLY RELEASE 1/25 RUNOFF
FOR AT LEAST 24 HOURS.

PLAN VIEW

FRONT VIEW

SIDE VIEW

DELWARE
DEPARTMENT OF TRANSPORTATION

SKIMMER DEWATERING DEVICE

APPROVED

STANDARD NO. E-22 (2006)  SHT. 1 OF 1

10/02/2006
FLOATING TURBIDITY CURTAIN

NOTE: 1) ADDITIONAL PANEL REQUIRED FOR DEPTHS GREATER THAN 5' (1500).
2) FLOATING TURBIDITY CURTAIN SHALL REACH BOTTOM UP TO DEPTHS OF 10' (3000) BY USING TWO PANELS. DEPTHS GREATER THAN 10' (3000) SHALL REQUIRE SPECIAL DEPTH CURTAINS SPECIFICALLY CALLED FOR IN THE PLANS OR AS DIRECTED BY THE ENGINEER.