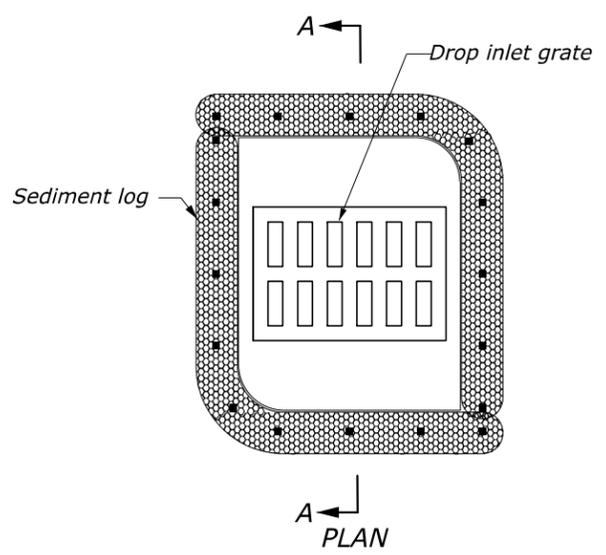


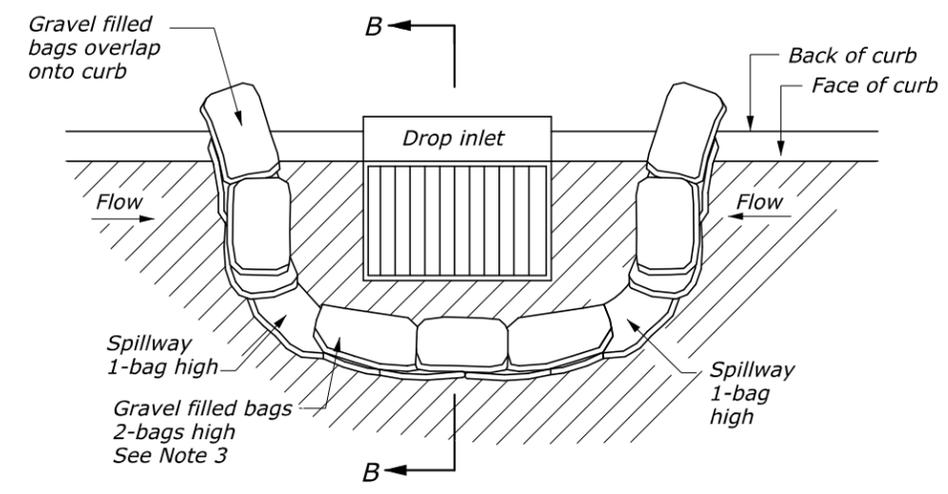
REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
•	•	•	•	•

NOTE:

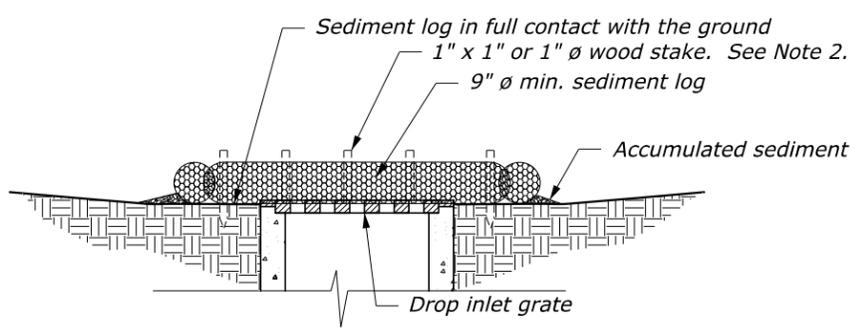
1. Select the inlet protection device to fit field conditions as approved by the CO.
2. Install sediment logs with stakes spaced no more than 24" on center. Drive stakes 12" (min.) into undisturbed soil.
3. Approximate finished dimension of gravel bags is 12" x 18". See SCRs Subsection 713.14A for gravel bag material.
4. Maximum top of gravel bag spillway elevation = Top of curb minus 1".
5. Pack gravel filled bags tightly together end to end to ensure no sediment flows between or underneath the bags. Where tight fit is unachievable, install geotextile fabric conforming to Subsection 714.01(a) type IV-E along the upstream face of the bags. Place fabric over the top of the bags to the spillway elevation. Anchor the fabric by placing the next layer of bags on top of it. Extend the geotextile fabric a minimum of 18" upstream of the bags. Cover geotextile fabric to the top of the fabric with clean, silt-free coarse aggregate between 2" and 3" in diameter.
6. The prefabricated filter insert (type C) is sized to fit the drop inlet. Include a high-flow bypass in the insert.



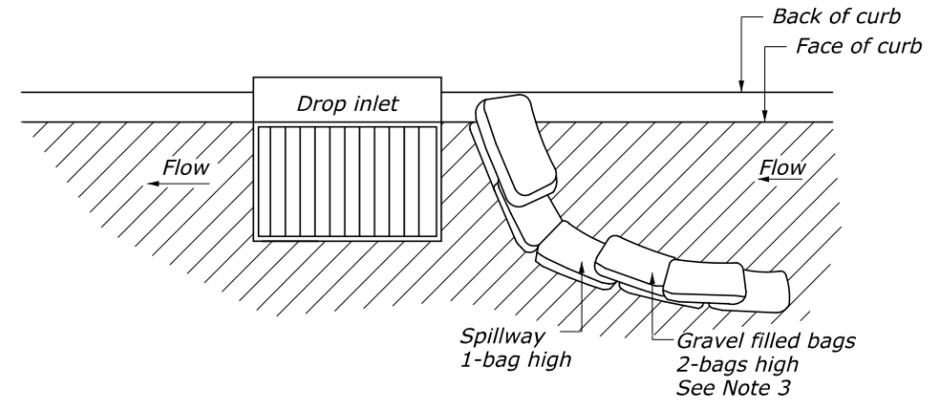
PLAN



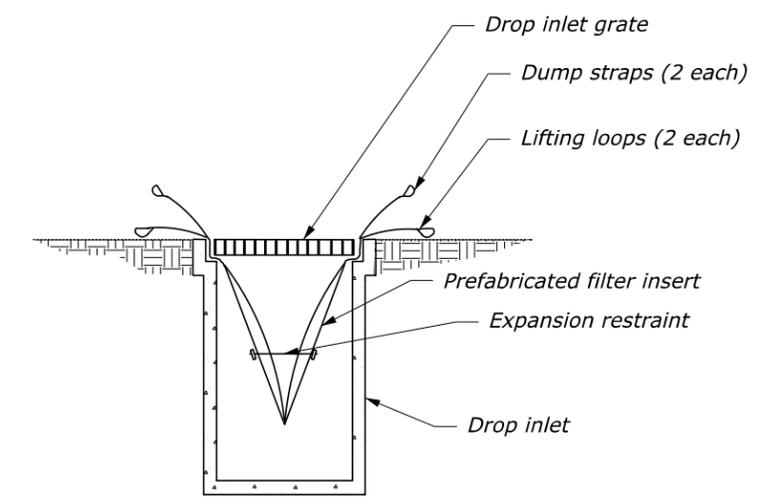
PLAN VIEW - INLET AT SAG



SECTION A-A

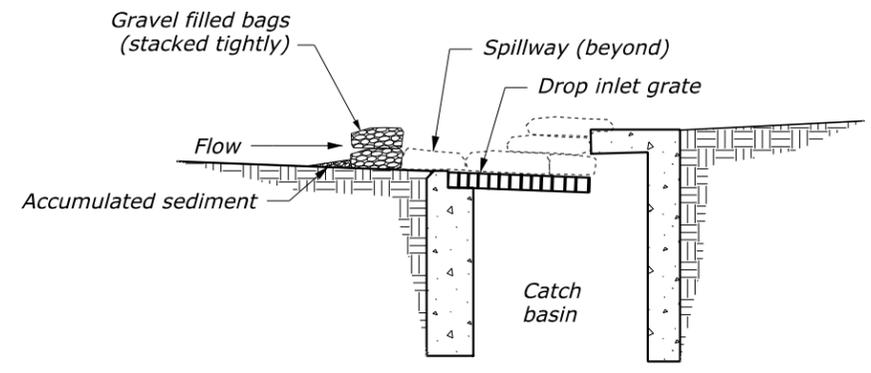


PLAN VIEW - INLET ON GRADE



**PREFABRICATED FILTER INSERT
DROP INLET PROTECTION (TYPE C)**
See Note 6

**SEDIMENT LOG
DROP INLET PROTECTION (TYPE A)**



SECTION B-B

**GRAVEL BAG BERM
DROP INLET PROTECTION (TYPE B)**

NO SCALE

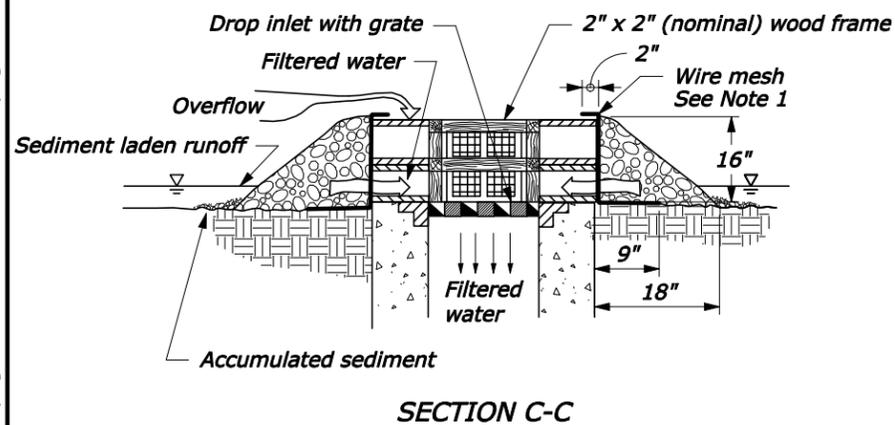
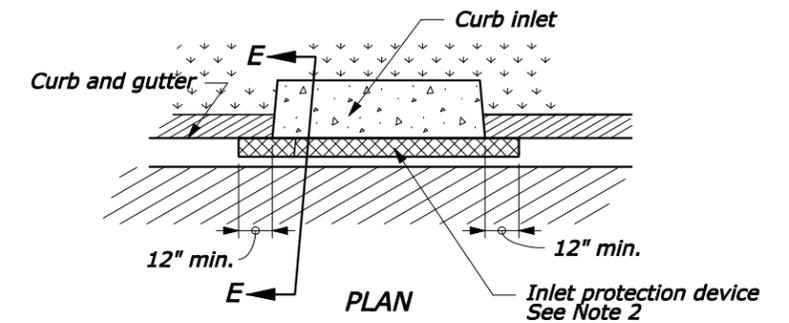
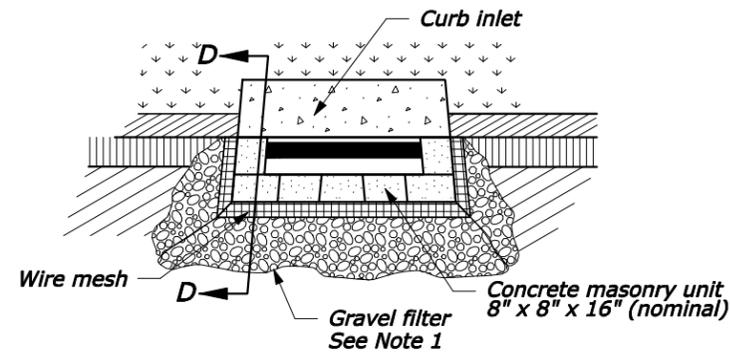
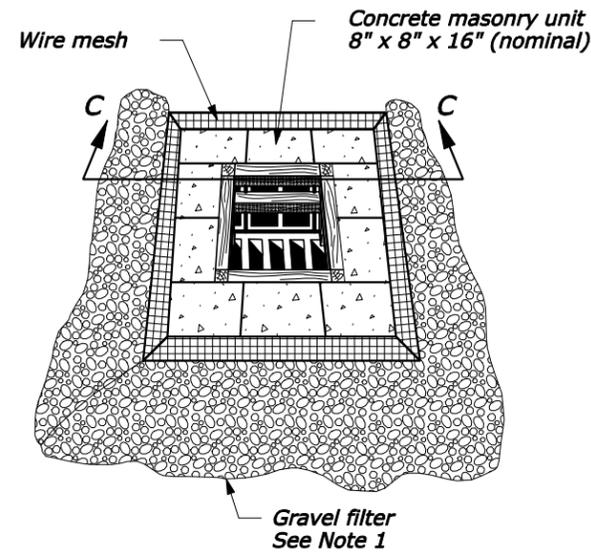
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION CENTRAL FEDERAL LANDS HIGHWAY DIVISION	
U.S. CUSTOMARY DETAIL	
TEMPORARY INLET PROTECTION Sheet 1 of 2	
DETAIL APPROVED FOR USE 01/2011	DETAIL
REVISED:	C157-51

20-Jan-2011 08:48:40 AM N:\CFL-DPIT\Details Team\in_progress\157_erosion_control\files_in_progress\C157-51.dgn

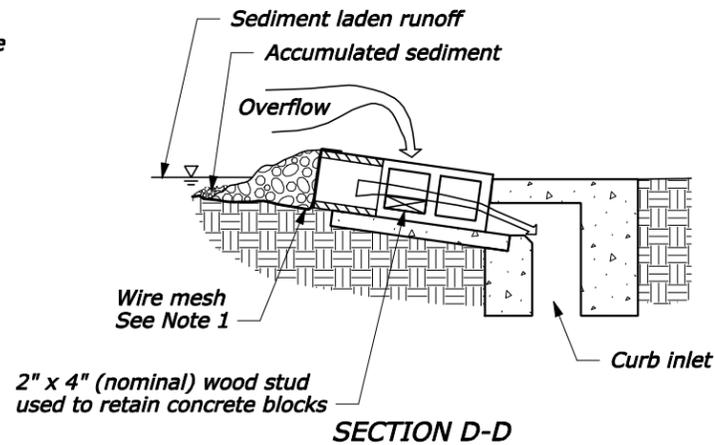
REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
.

NOTE:

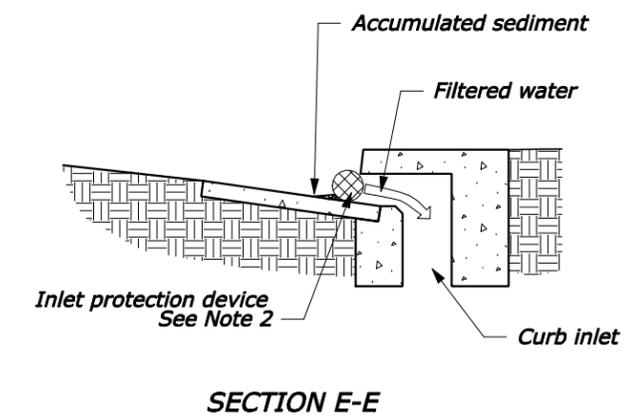
1. For Type D1 and D2 gravel filter, use clean, silt-free coarse aggregate between 2" and 3" in diameter. Use wire mesh with 1/2" x 1/2" openings.
2. Inlet protection device (Type E) may consist of continuous filter tubing filled with gravel or other prefabricated filter material. Install device according to manufacturer's recommendations.
3. Dimensions may vary to fit field conditions.



**BLOCK AND GRAVEL
DROP INLET PROTECTION (TYPE D1)**



**BLOCK AND GRAVEL
CURB INLET PROTECTION (TYPE D2)**



**INLET PROTECTION DEVICE
CURB INLET PROTECTION (TYPE E)**

N:\CFL-DPTT\Details Team\In_progress\157_erosion_control\files_in_progress\C157-51.dgn 1/6/2011 2:30:30 PM

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION CENTRAL FEDERAL LANDS HIGHWAY DIVISION	
U.S. CUSTOMARY DETAIL	
TEMPORARY INLET PROTECTION Sheet 2 of 2	
DETAIL APPROVED FOR USE 01/2011	DETAIL C157-51

NOTES TO THE DESIGNER

Last Updated: January 2011

General Information

1. **Appropriate Applications.** Storm drain inlet protection is used to detain and/or filter sediment-laden runoff. Appropriate applications include:
 - Where sediment-laden runoff may enter an inlet;
 - Where ponding will not encroach into travel way; and
 - Where the drainage area is 1 acre or less.

INLET PROTECTION*						
Site Conditions Where Types are Appropriate	Type					
	A	B	C	D1	D2	E
Area Drain, Soil	Y	N	Y	Y	N	N
Area Drain, Pavement	N	N	Y	Y	N	N
Grate inlet along curb, Soil	Y	Y	Y	N	N	N
Grate inlet along curb, Pavement	N	Y	Y	N	N	N
Curb opening inlet, Soil	N	Y	N	N	Y	Y
Curb opening inlet, Pavement	N	Y	N	N	Y	Y

*Note: Table shown for information only. Designer will not specify a type of drop inlet protection to use – will leave it up to the Contractor.

2. **Limitations.**
 - Sediment removal may be difficult in high-flow conditions or if runoff is heavily sediment laden. May need to use other on-site sediment trapping techniques (e.g. check dams, wattles at back of curb, etc) in conjunction with inlet protection.
 - Could be an obstacle to traffic (could be within clear zone)

Applicable SCRs

1. Section 157:
http://www.cflhd.gov/design/ documents/construction/scr_03/S157-03E.doc
2. Section 713:
http://www.cflhd.gov/design/ documents/construction/scr_03/S713-03E.doc

Typical Pay Item Used

- We will leave it up to the Contractor to select the specific type of drop inlet protection to use on the project. Include both plan sheets and a generic pay item in the PS&E.
- 15706-1000 Soil erosion control, inlet protection [EA]

Updates

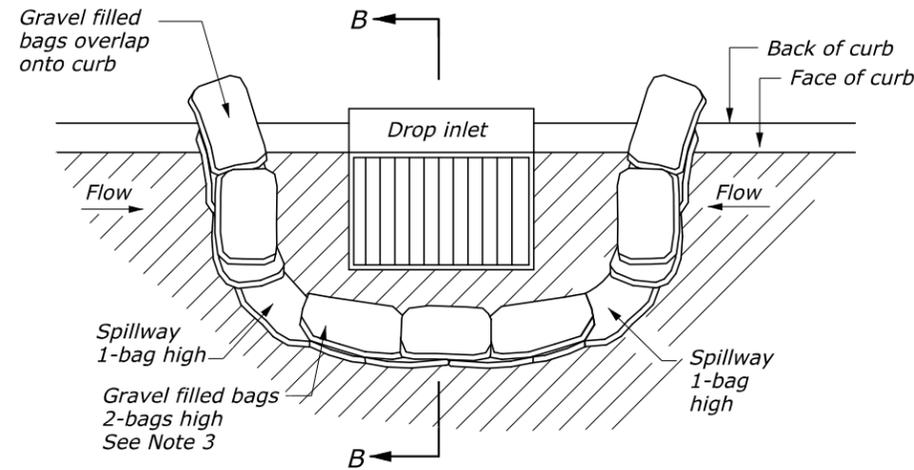
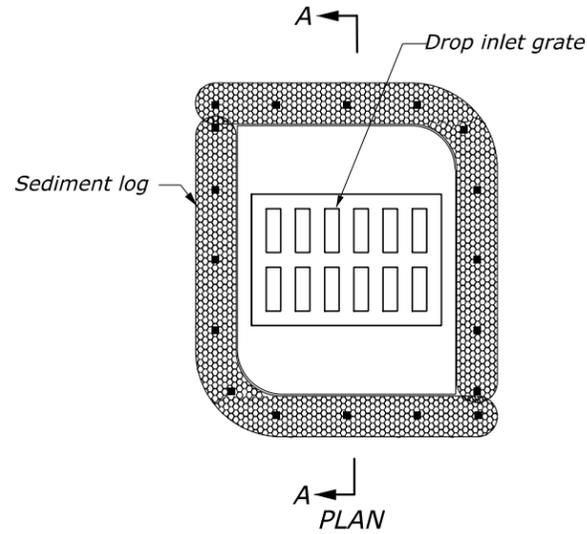
January 2011

- Updated FLH Standard drawing with various new inlet protection devices

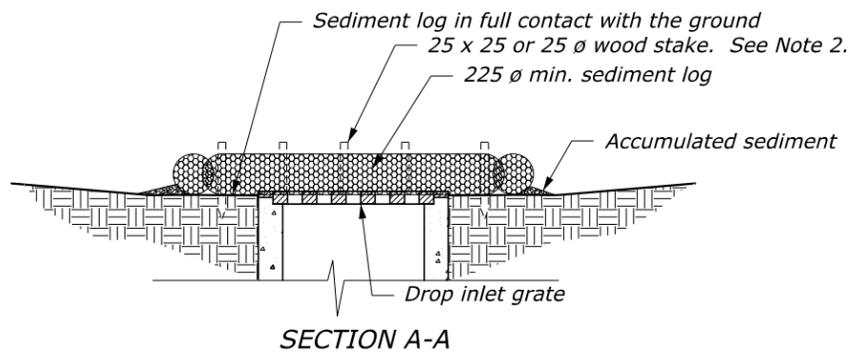
REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
•	•	•	•	•

NOTE:

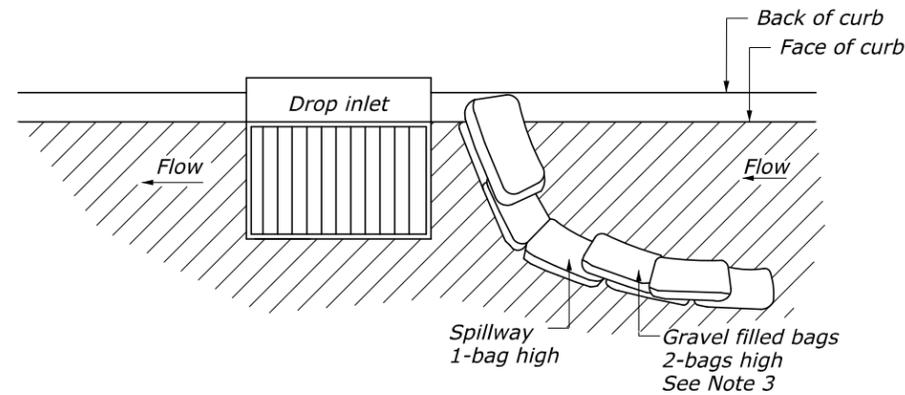
1. Select the inlet protection device to fit field conditions as approved by the CO.
2. Install sediment logs with stakes spaced no more than 600 mm on center. Drive stakes 300 mm (min.) into undisturbed soil.
3. Approximate finished dimension of gravel bags is 300 mm x 450 mm. See SCRs Subsection 713.14A for gravel bag material.
4. Maximum top of gravel bag spillway elevation = Top of curb minus 25 mm.
5. Pack gravel filled bags tightly together end to end to ensure no sediment flows between or underneath the bags. Where tight fit is unachievable, install geotextile fabric conforming to Subsection 714.01(a) type IV-E along the upstream face of the bags. Place fabric over the top of the bags to the spillway elevation. Anchor the fabric by placing the next layer of bags on top of it. Extend the geotextile fabric a minimum of 450 mm upstream of the bags. Cover geotextile fabric to the top of the fabric with clean, silt-free coarse aggregate between 50 mm and 75 mm in diameter.
6. The prefabricated filter insert (type C) is sized to fit the drop inlet. Include a high-flow bypass in the insert.
7. Dimensions without units are millimeters.



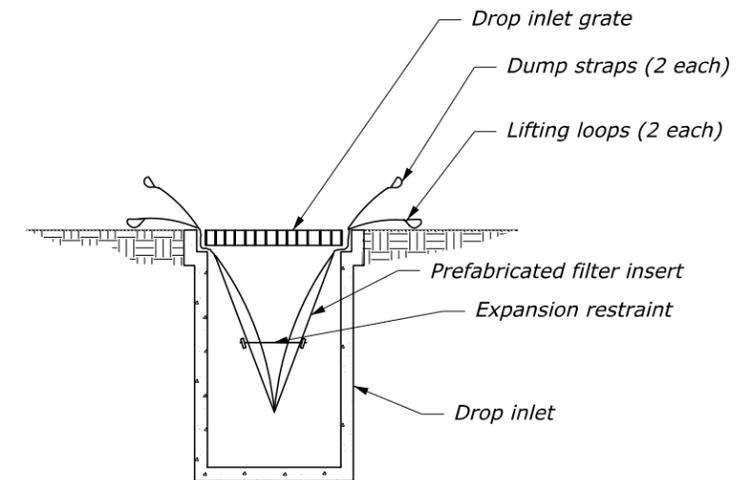
PLAN VIEW - INLET AT SAG



**SEDIMENT LOG
DROP INLET PROTECTION (TYPE A)**

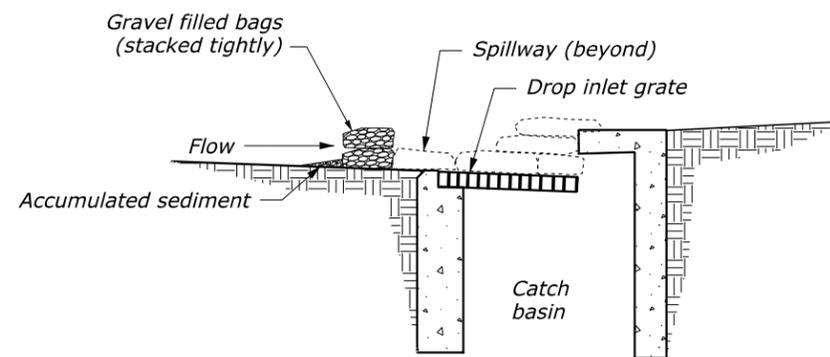


PLAN VIEW - INLET ON GRADE



**PREFABRICATED FILTER INSERT
DROP INLET PROTECTION (TYPE C)**

See Note 6



SECTION B-B

**GRAVEL BAG BERM
DROP INLET PROTECTION (TYPE B)**

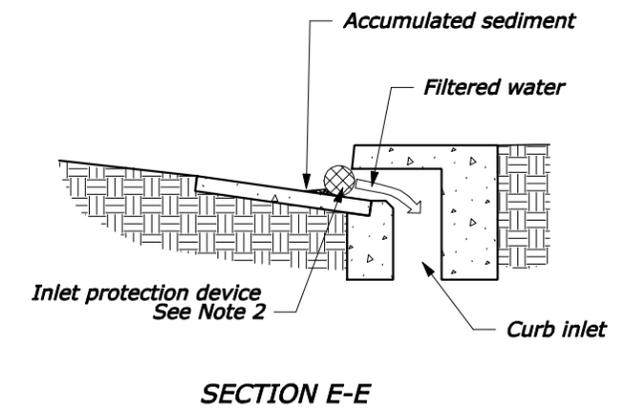
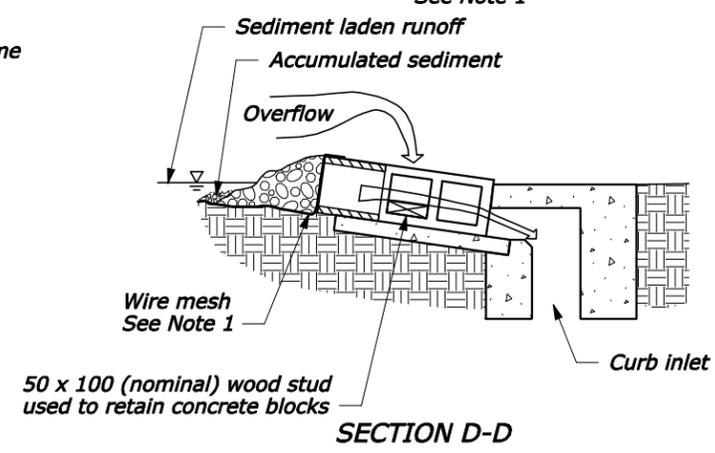
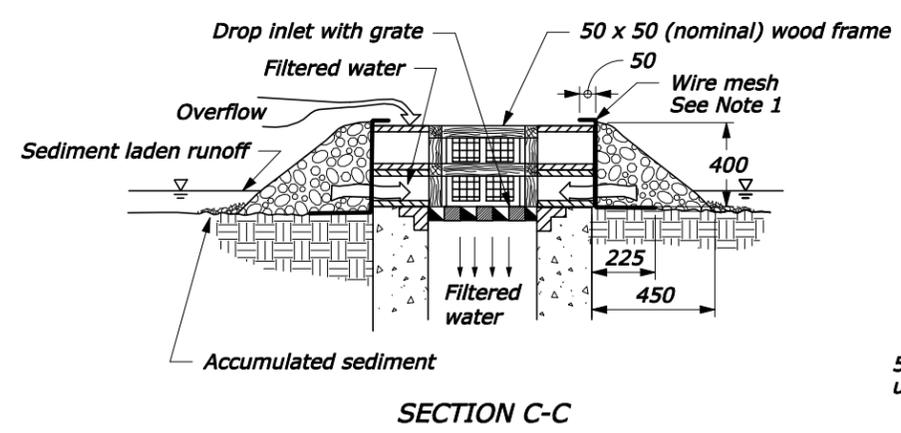
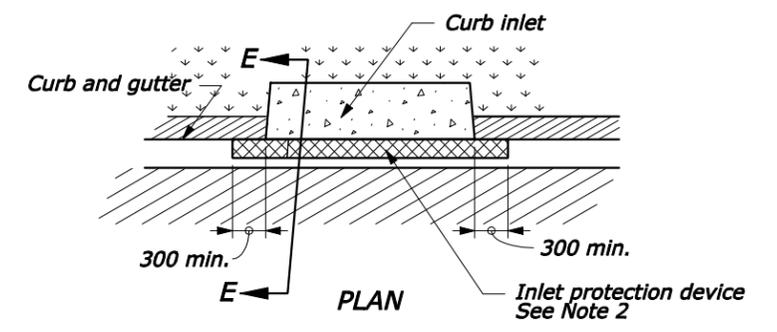
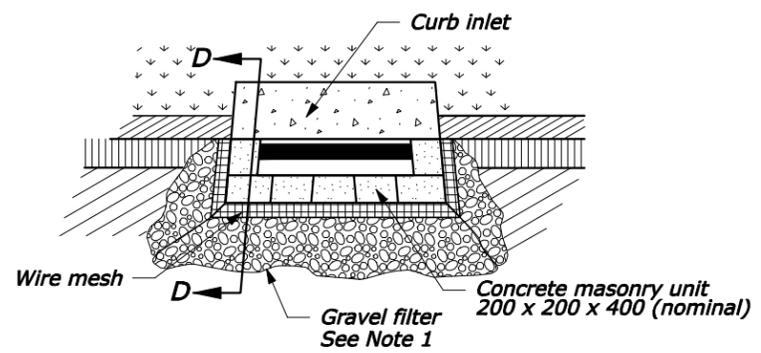
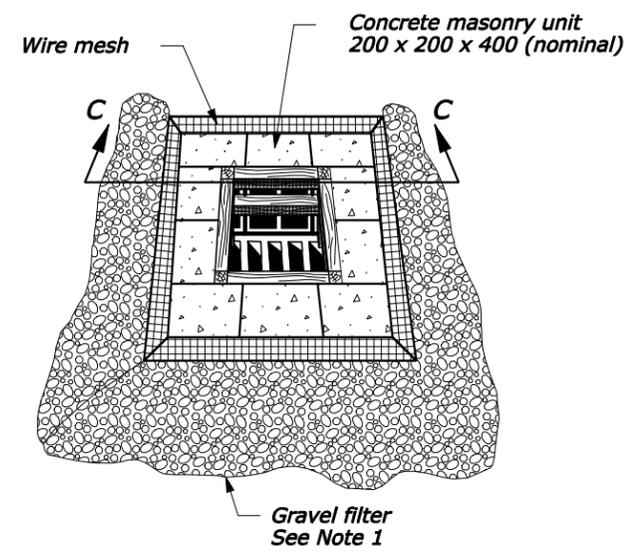
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION CENTRAL FEDERAL LANDS HIGHWAY DIVISION	
METRIC DETAIL	
TEMPORARY INLET PROTECTION	
Sheet 1 of 2	
DETAIL APPROVED FOR USE 01/2011	DETAIL
REVISED:	CM157-51

20-Jan-2011 08:18 AM N:\CFL-DPTI\Details Team\in_progress\157_erosion_control\files_in_progress\C157-51.dgn

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS

NOTE:

1. For Type D1 and D2 gravel filter, use clean, silt-free coarse aggregate between 50 mm and 75 mm in diameter. Use wire mesh with 12 mm x 12 mm openings.
2. Inlet protection device (Type E) may consist of continuous filter tubing filled with gravel or other prefabricated filter material. Install device according to manufacturer's recommendations.
3. Dimensions may vary to fit field conditions.
4. Dimensions without units are millimeters.



**BLOCK AND GRAVEL
DROP INLET PROTECTION (TYPE D1)**

**BLOCK AND GRAVEL
CURB INLET PROTECTION (TYPE D2)**

**INLET PROTECTION DEVICE
CURB INLET PROTECTION (TYPE E)**

1/6/2011 2:31:54 PM N:\CFL-DPT\Details Team\in_progress\157_erosion_control\files_in_progress\C157-51.dgn

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION CENTRAL FEDERAL LANDS HIGHWAY DIVISION	
METRIC DETAIL TEMPORARY INLET PROTECTION Sheet 2 of 2	
REVISIONS: DETAIL APPROVED FOR USE 01/2011	DETAIL CM157-51

NOTES TO THE DESIGNER

Last Updated: January 2011

General Information

1. **Appropriate Applications.** Storm drain inlet protection is used to detain and/or filter sediment-laden runoff. Appropriate applications include:
 - Where sediment-laden runoff may enter an inlet;
 - Where ponding will not encroach into travel way; and
 - Where the drainage area is 0.40 ha or less.

INLET PROTECTION*						
Site Conditions Where Types are Appropriate	Type					
	A	B	C	D1	D2	E
Area Drain, Soil	Y	N	Y	Y	N	N
Area Drain, Pavement	N	N	Y	Y	N	N
Grate inlet along curb, Soil	Y	Y	Y	N	N	N
Grate inlet along curb, Pavement	N	Y	Y	N	N	N
Curb opening inlet, Soil	N	Y	N	N	Y	Y
Curb opening inlet, Pavement	N	Y	N	N	Y	Y

*Note: Table shown for information only. Designer will not specify a type of drop inlet protection to use – will leave it up to the Contractor.

2. **Limitations.**
 - Sediment removal may be difficult in high-flow conditions or if runoff is heavily sediment laden. May need to use other on-site sediment trapping techniques (e.g. check dams, wattles at back of curb, etc) in conjunction with inlet protection.
 - Could be an obstacle to traffic (could be within clear zone)

Applicable SCRs

1. Section 157:
http://www.cflhd.gov/design/ documents/construction/scr_03/S157-03M.doc
2. Section 713:
http://www.cflhd.gov/design/ documents/construction/scr_03/S713-03M.doc

Typical Pay Item Used

- We will leave it up to the Contractor to select the specific type of drop inlet protection to use on the project. Include both plan sheets and a generic pay item in the PS&E.
- 15706-1000 Soil erosion control, inlet protection [EA]

Updates

January 2011

- Updated FLH Standard drawing with various new inlet protection devices