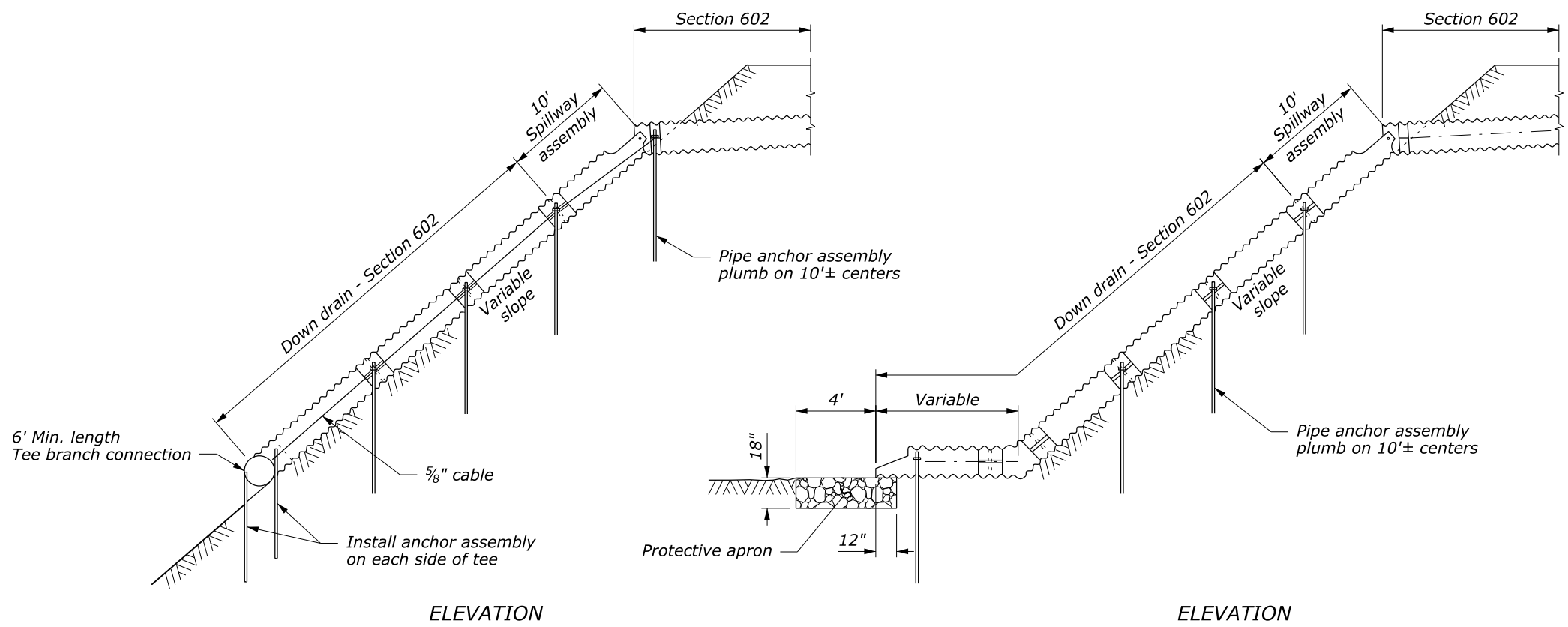


STATE	PROJECT	SHEET NUMBER

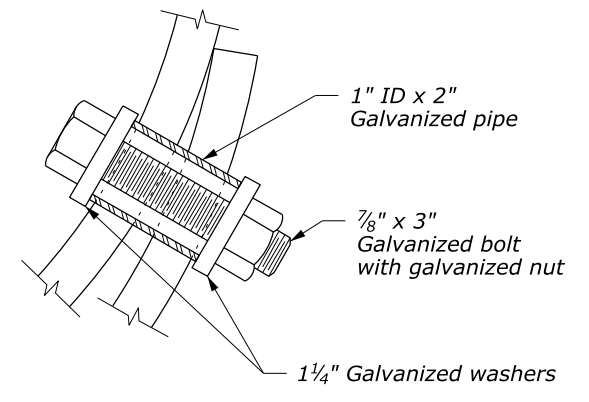


SPILLWAY ASSEMBLY WITH DOWN DRAIN OUTLET ON NON-ERODIBLE MATERIAL

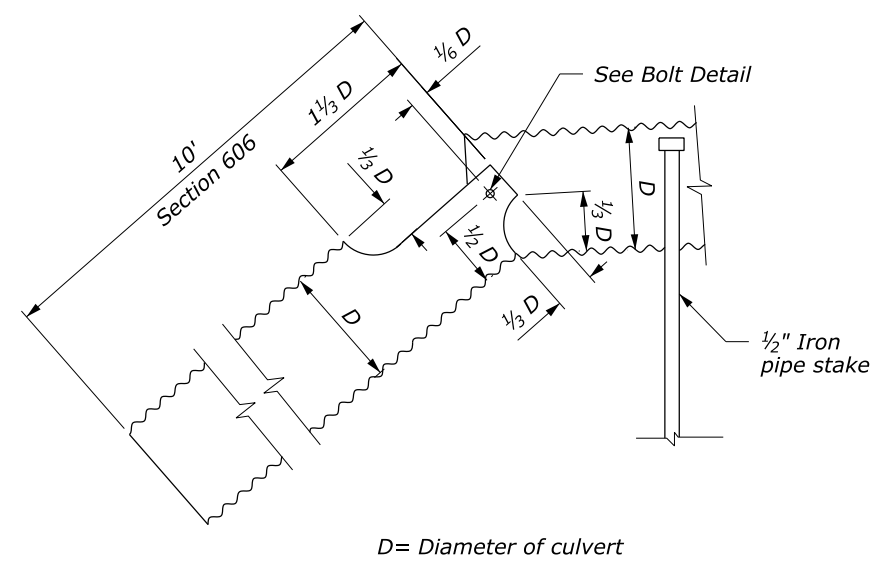
SPILLWAY ASSEMBLY WITH DOWN DRAIN OUTLET ON ERODIBLE MATERIAL

NOTE:

1. Fabricate spillway assembly from annular corrugated pipe, or from helically corrugated pipe with factory annular or reformed ends. Use 0.064 inch galvanized steel or 0.060 inch aluminum.
2. Make all banded connections water tight by placing $\frac{3}{16}$ inch bead of approved caulking under each half of the band before tightening.
3. Payment for Tee Branch connection under Section 602 is included in the linear measurement for culvert pipe for the applicable sizes. Measure Tee Branch connections along the top of the Tee.
4. Place class 2 riprap conforming to Section 251 for protective apron.
5. Approved alternate designs may be used.
6. See Detail W606-14 for Pipe Anchor Assembly Detail.

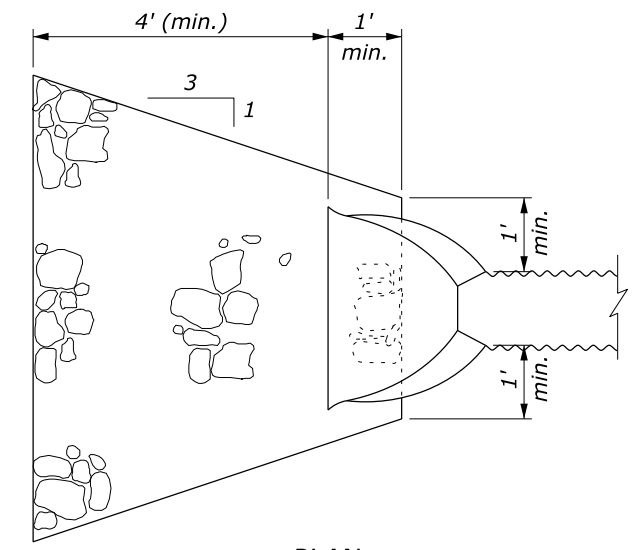


BOLT DETAIL



SPILLWAY ASSEMBLY

D= Diameter of culvert



PROTECTIVE APRON

U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 WESTERN FEDERAL LANDS HIGHWAY DIVISION

U.S. CUSTOMARY DETAIL

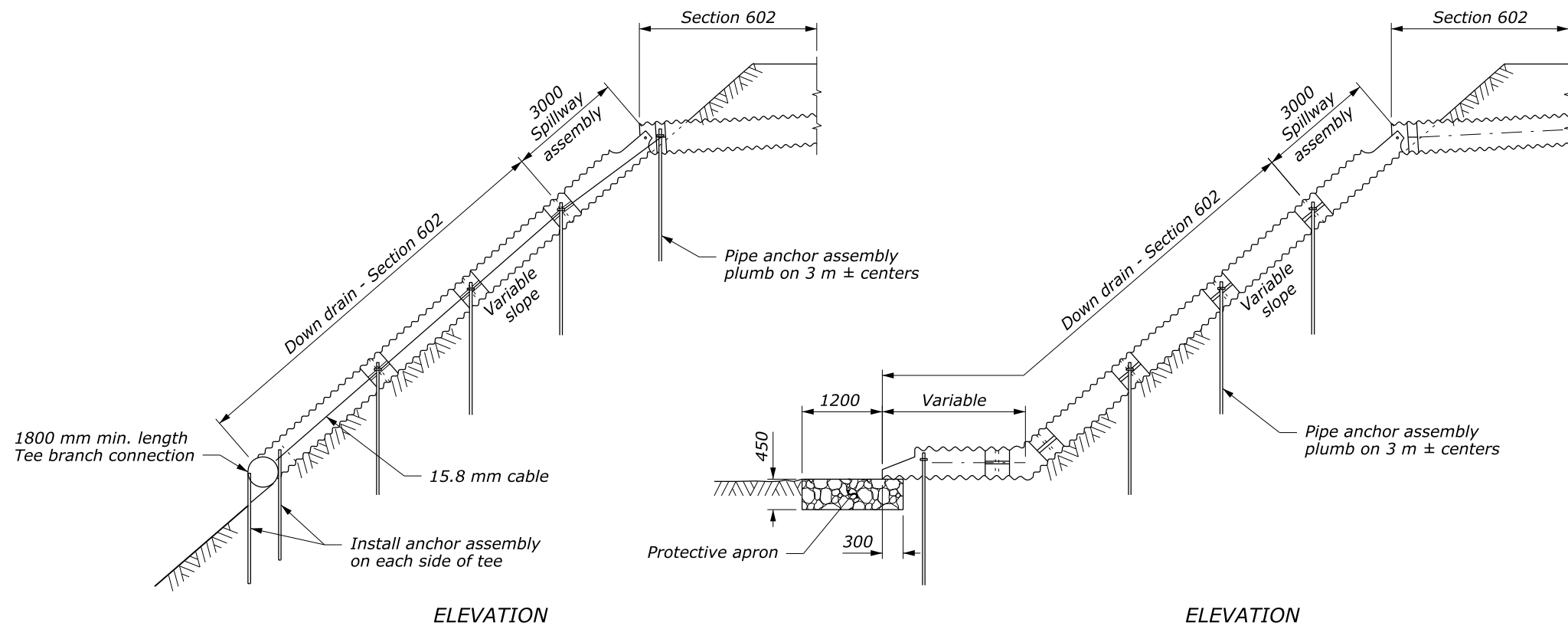
SPILLWAY ASSEMBLY WITH DOWN DRAIN

DETAIL APPROVED FOR USE 4/2009
 REVISIONS: 9/2011

DETAIL
 W606-10

NO SCALE

18 November 2014 9:28 AM c:\myfiles\pw_production\dmso0747\Det.W606-10.dgn [USC]

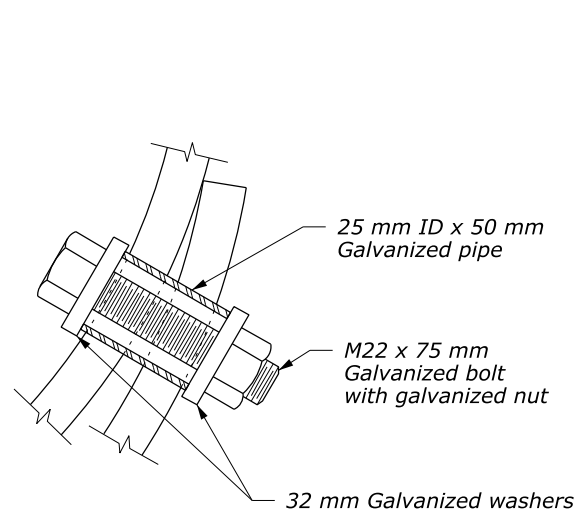


**SPILLWAY ASSEMBLY WITH DOWN DRAIN
OUTLET ON NON-ERODIBLE MATERIAL**

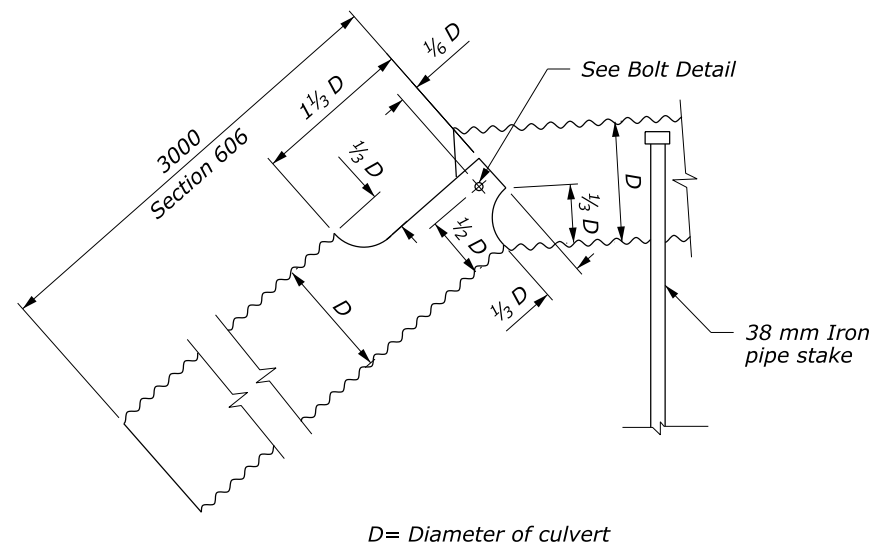
**SPILLWAY ASSEMBLY WITH DOWN DRAIN
OUTLET ON ERODIBLE MATERIAL**

NOTE:

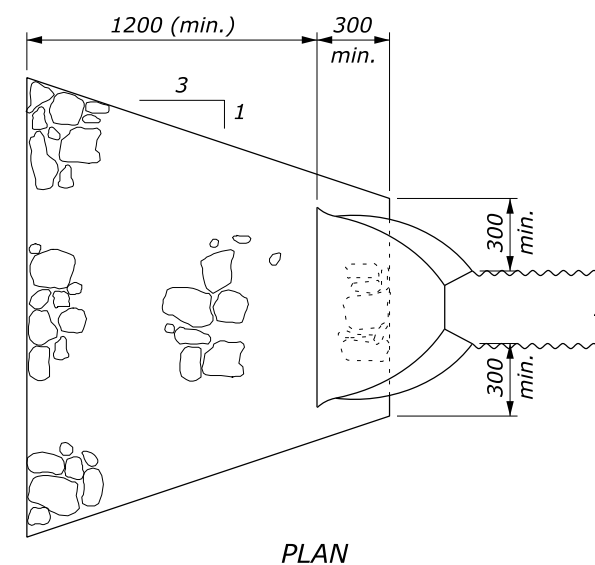
1. Fabricate spillway assembly from annular corrugated pipe, or from helically corrugated pipe with factory annular or reformed ends. Use 1.6 mm galvanized steel or 1.5 mm aluminum.
2. Make all banded connections water tight by placing 5 mm bead of approved caulking under each half of the band before tightening.
3. Payment for Tee Branch connection under Section 602 is included in the linear measurement for culvert pipe for the applicable sizes. Measure Tee Branch connections along the top of the Tee.
4. Place class 2 riprap conforming to Section 251 for protective apron.
5. Approved alternate designs may be used.
6. See Detail WM606-14 for Pipe Anchor Assembly Detail.
7. Furnish hardware in the metric sizes shown. Equivalent US Customary sizes may be used when metric sizes are unavailable.
8. Dimensions without units are millimeters.



BOLT DETAIL



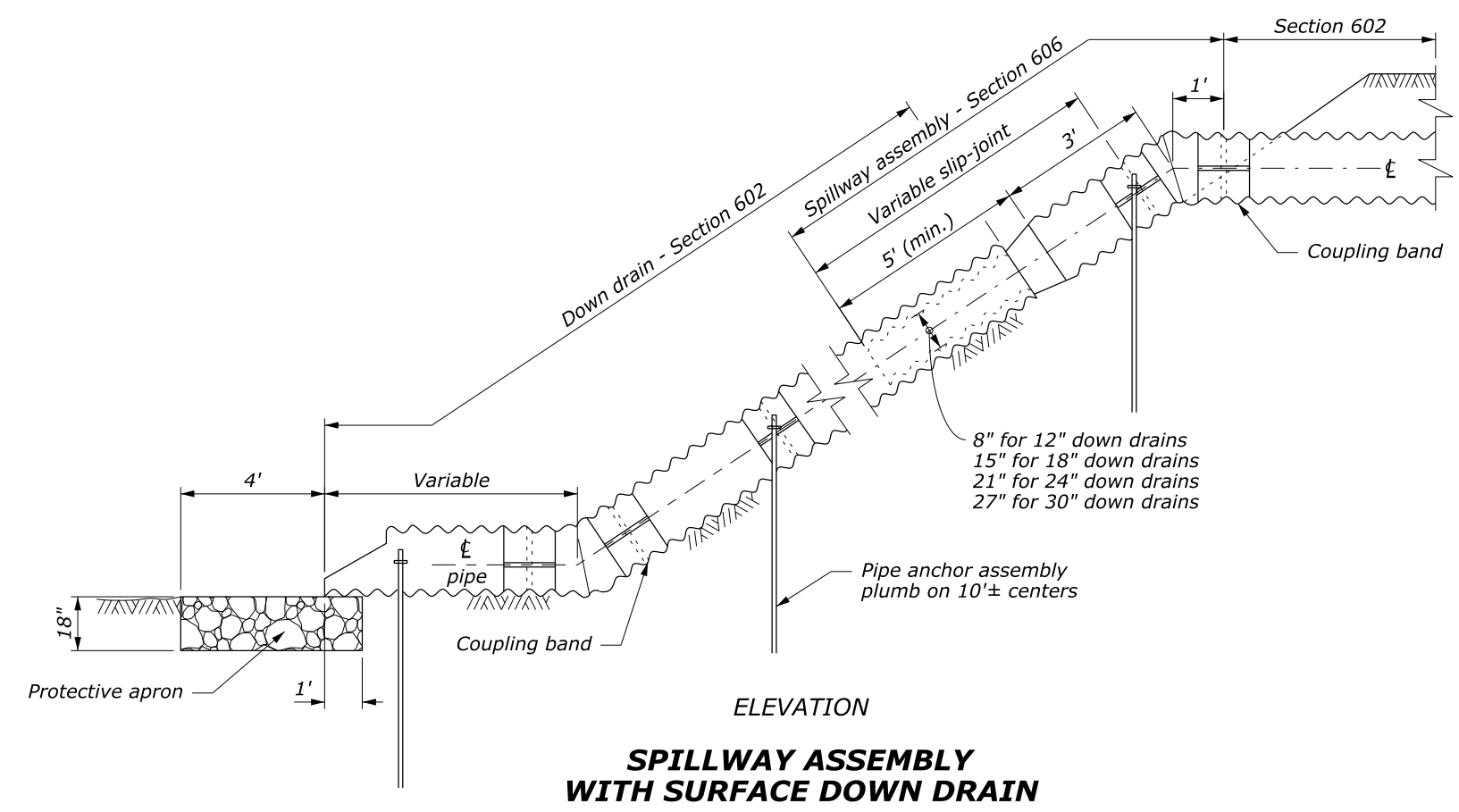
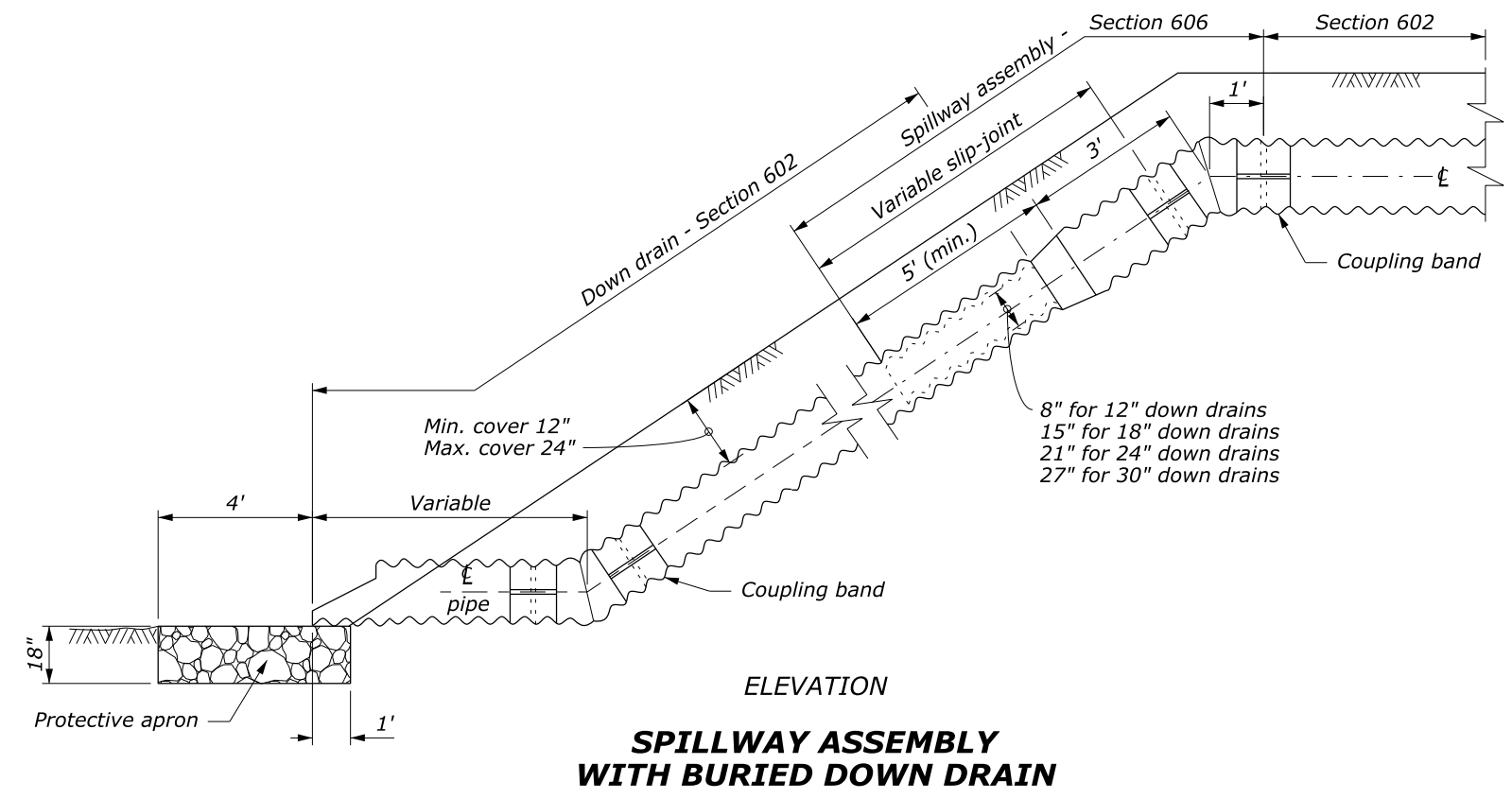
SPILLWAY ASSEMBLY



PROTECTIVE APRON

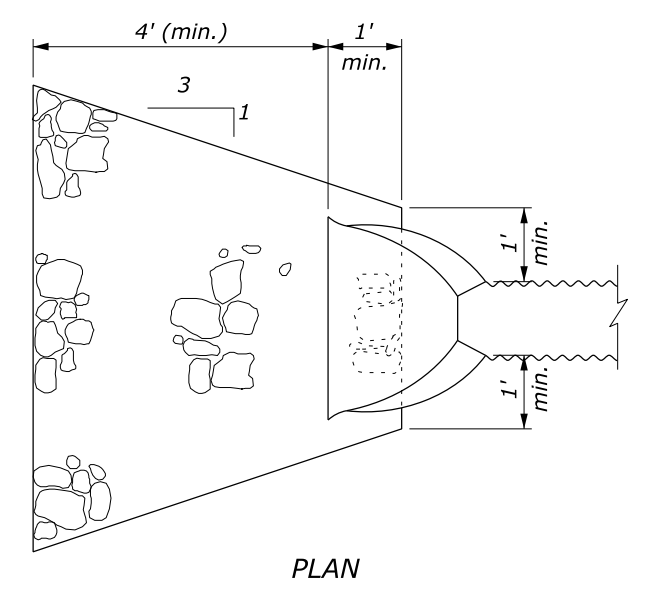
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION WESTERN FEDERAL LANDS HIGHWAY DIVISION	
METRIC DETAIL	
SPILLWAY ASSEMBLY WITH DOWN DRAIN	
DETAIL APPROVED FOR USE 4/2009	DETAIL
REVISED: 9/2011	WM606-10

NO SCALE



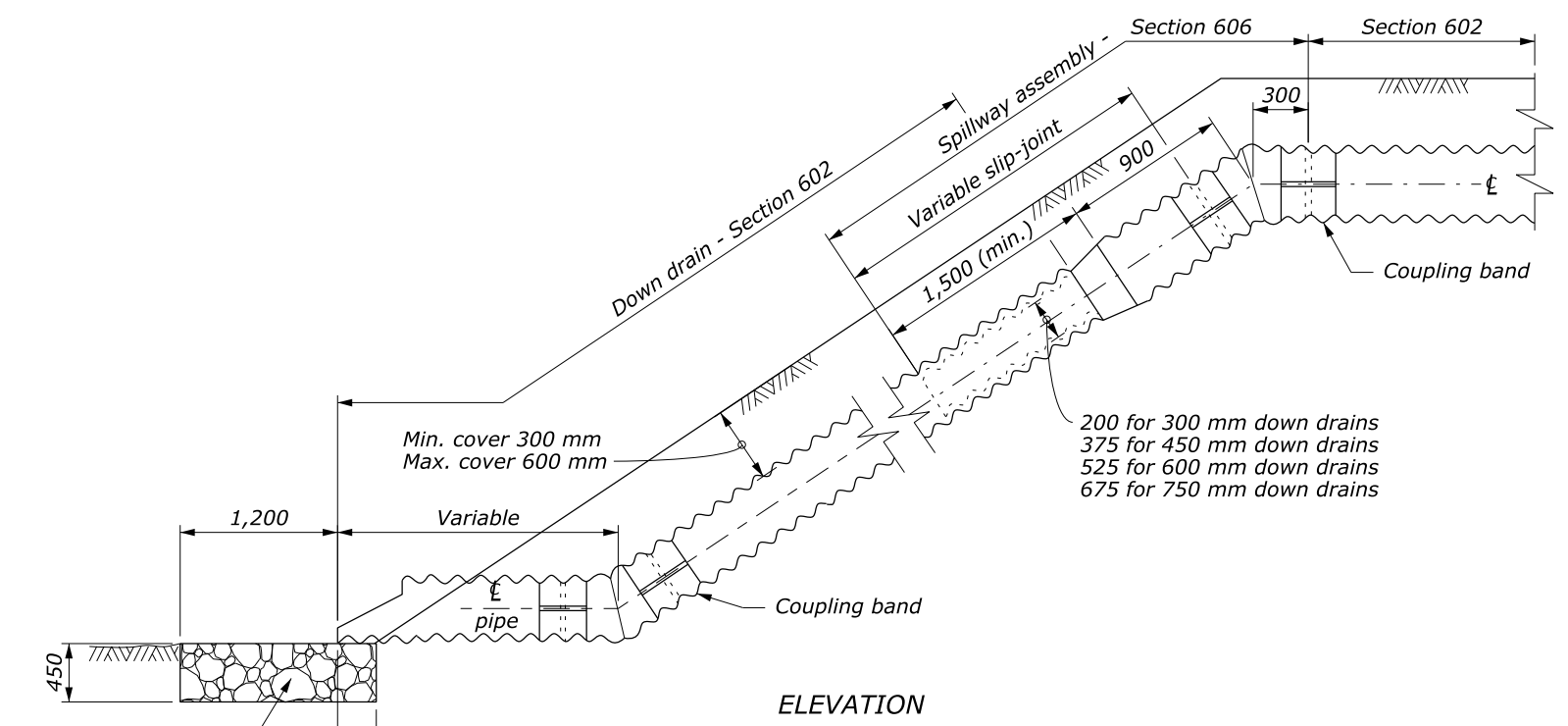
NOTE:

1. Fabricate spillway assembly from annular corrugated pipe, or from helically corrugated pipe with factory annular or reformed ends. Use 0.064 inch galvanized steel or 0.060 inch aluminum.
2. Make all coupling band connections water tight by placing $\frac{3}{16}$ inch bead of approved caulking under each half of the band before tightening.
3. Place class 2 riprap conforming to Section 251 for protective apron.
4. Approved alternate designs may be used.
5. See Detail W606-14 for Pipe Anchor Assembly Detail.

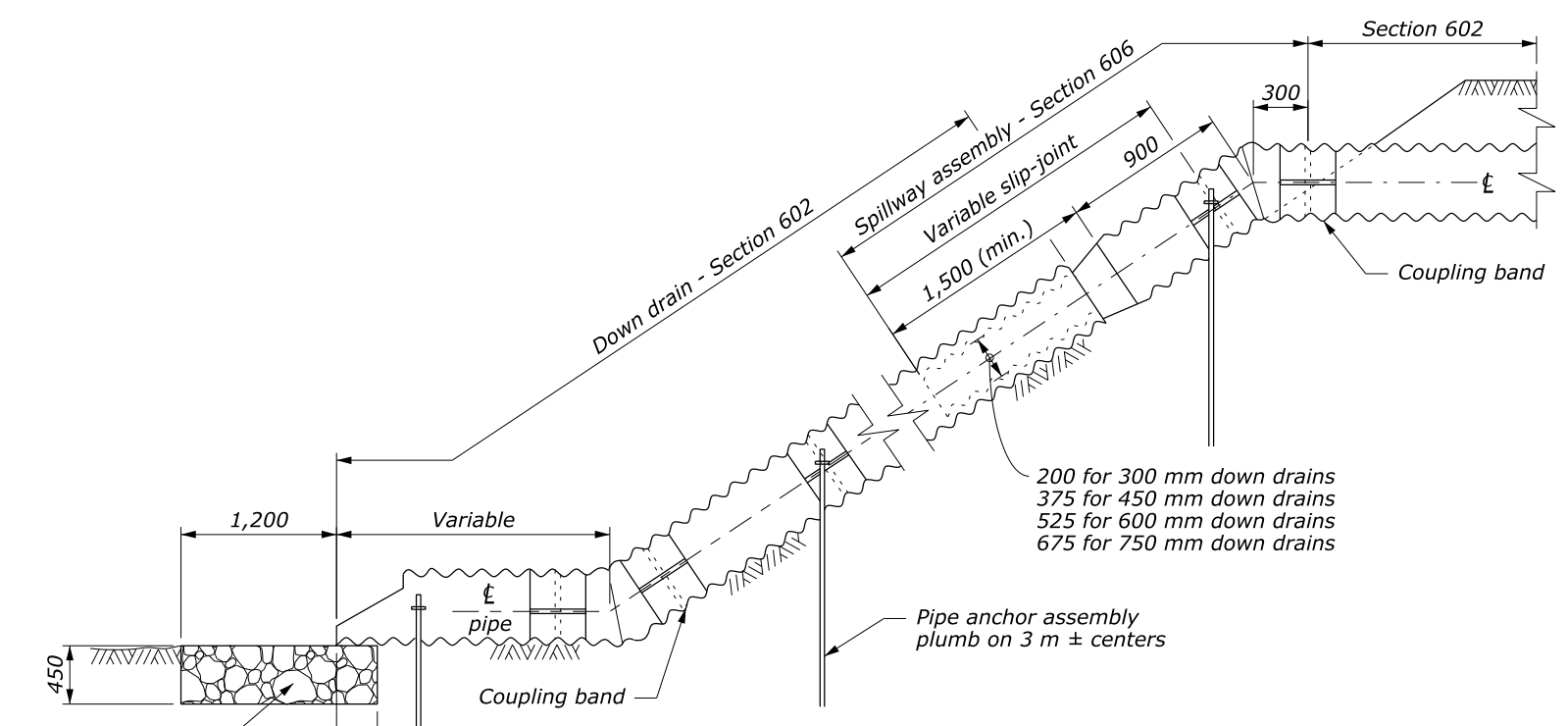


U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION WESTERN FEDERAL LANDS HIGHWAY DIVISION	
U.S. CUSTOMARY DETAIL	
SPILLWAY ASSEMBLY WITH DOWN DRAIN AND SLIP-JOINT	
DETAIL APPROVED FOR USE 9/2009	DETAIL
REVISED: 9/2011	W606-11

NO SCALE



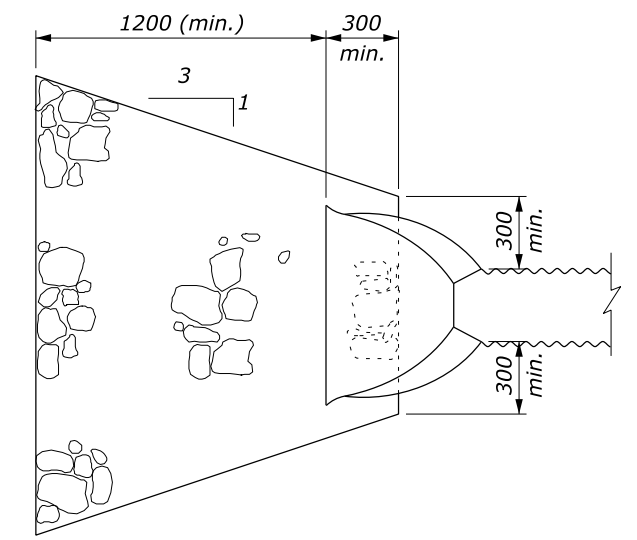
SPILLWAY ASSEMBLY WITH BURIED DOWN DRAIN



SPILLWAY ASSEMBLY WITH SURFACE DOWN DRAIN

NOTE:

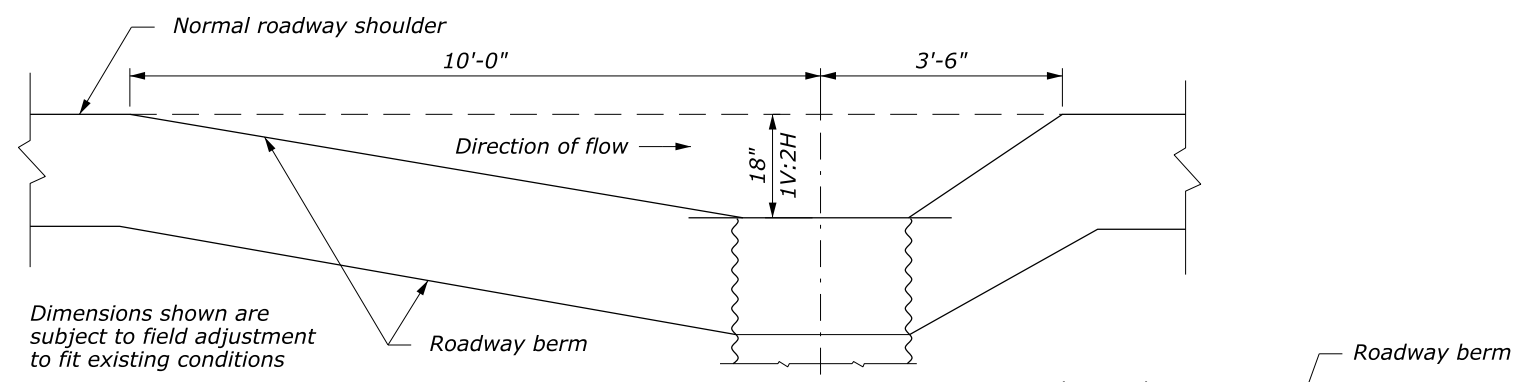
1. Fabricate spillway assembly from annular corrugated pipe, or from helically corrugated pipe with factory annular or reformed ends. Use 1.6 mm galvanized steel or 1.5 mm aluminum.
2. Make all coupling band connections water tight by placing 5 mm bead of approved caulking under each half of the band before tightening.
3. Place class 2 riprap conforming to Section 251 for protective apron.
4. Approved alternate designs may be used.
5. See Detail WM606-14 for Pipe Anchor Assembly Detail.
6. Furnish hardware in the metric sizes shown. Equivalent US Customary sizes may be used when metric sizes are unavailable.
7. Dimensions without units are millimeters.



PROTECTIVE APRON

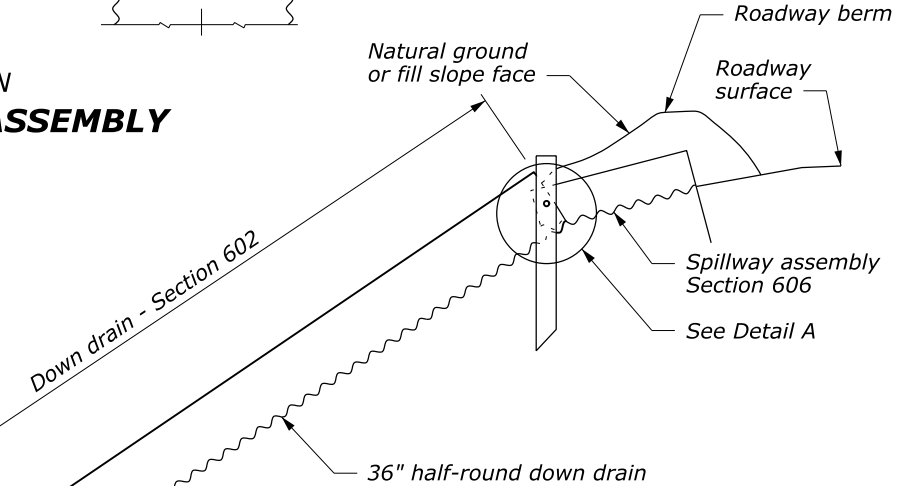
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION WESTERN FEDERAL LANDS HIGHWAY DIVISION	
METRIC DETAIL	
SPILLWAY ASSEMBLY WITH DOWN DRAIN AND SLIP-JOINT	
DETAIL APPROVED FOR USE 9/2009	DETAIL
REVISED: 9/2011	WM606-11

NO SCALE

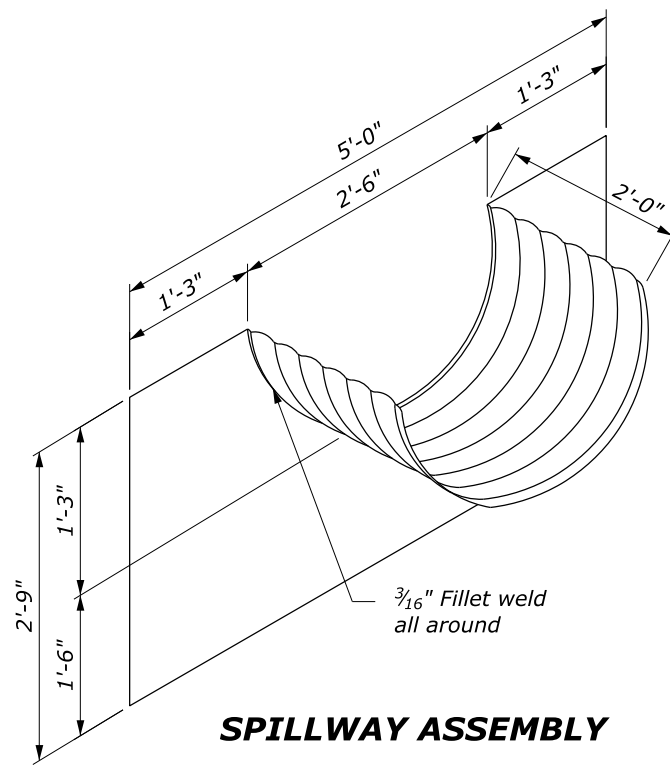
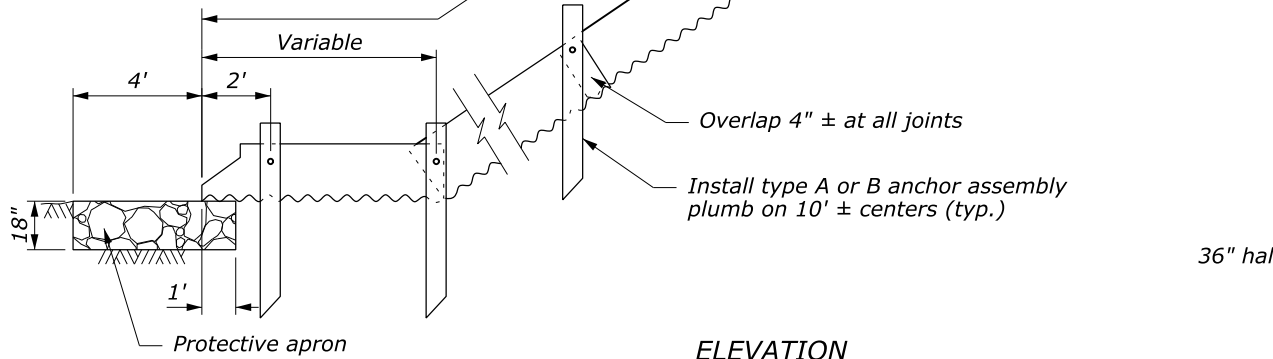


Dimensions shown are subject to field adjustment to fit existing conditions

PLAN
SPILLWAY ASSEMBLY

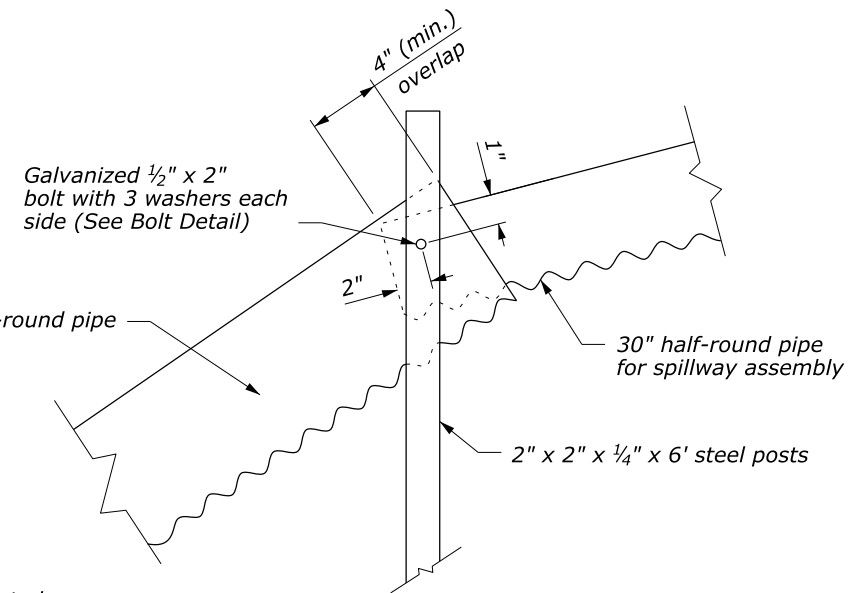


ELEVATION
SPILLWAY ASSEMBLY AND DOWN DRAIN

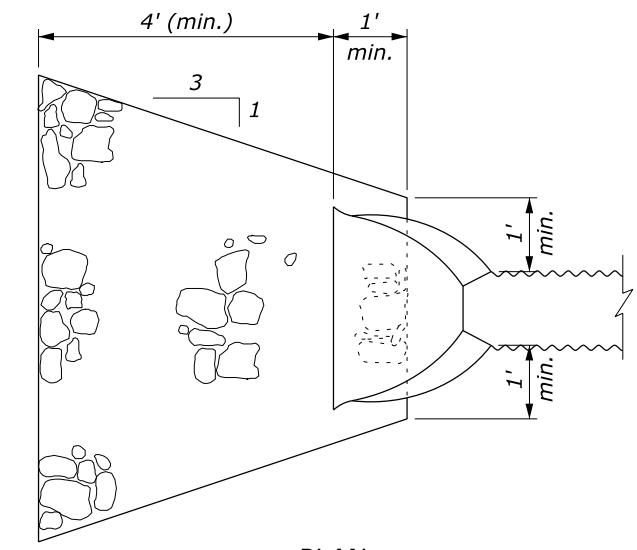


SPILLWAY ASSEMBLY

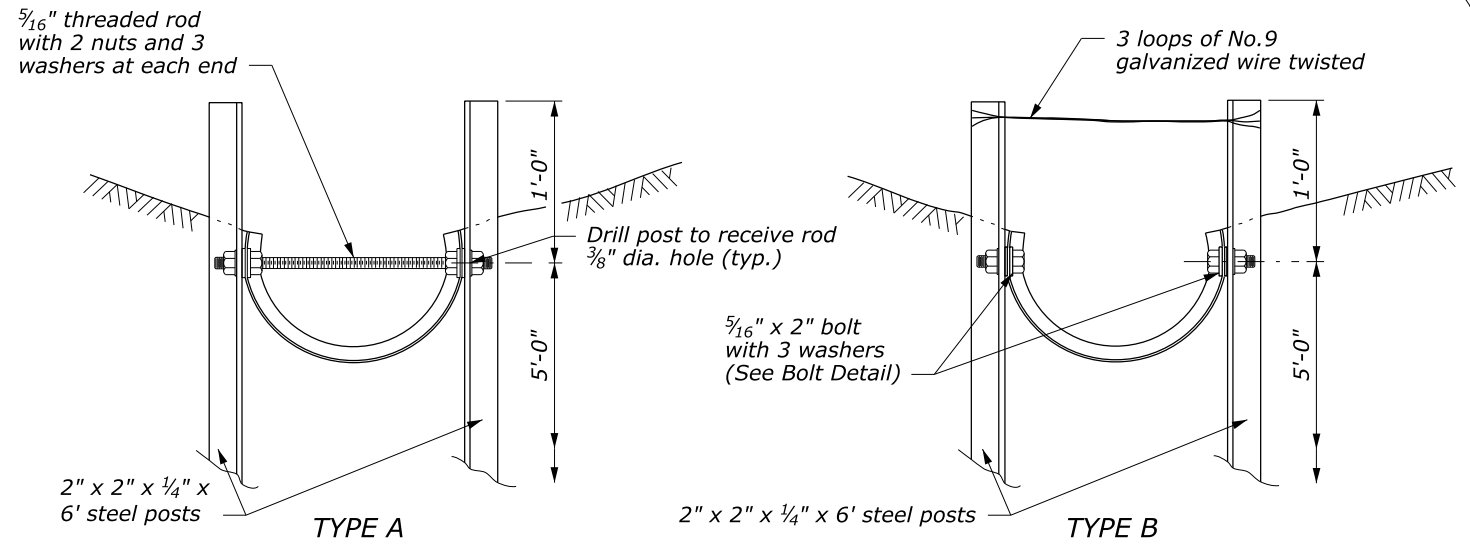
- NOTE:**
1. Fabricate spillway assembly from 0.064 inch thick galvanized steel or 0.060 inch aluminum.
 2. Place Class 2 riprap conforming to Section 251 for protective apron.
 3. Construct down drain from annular corrugated pipe, or from helically corrugated pipe with factory annular or flanged reformed ends.
 4. Approved alternate designs may be used.



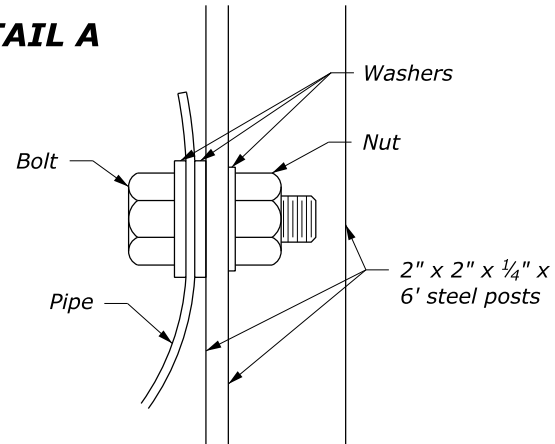
DETAIL A



PLAN
PROTECTIVE APRON



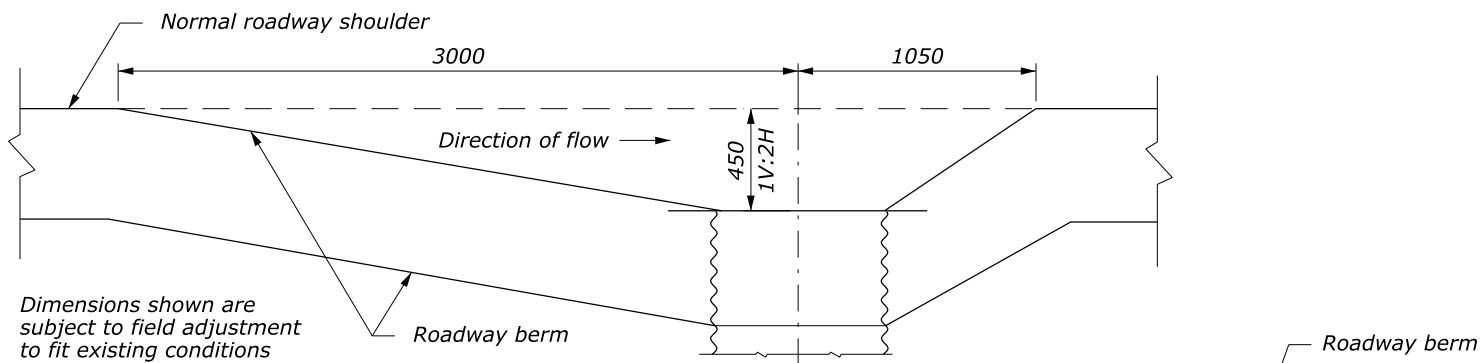
ANCHOR ASSEMBLY



BOLT DETAIL

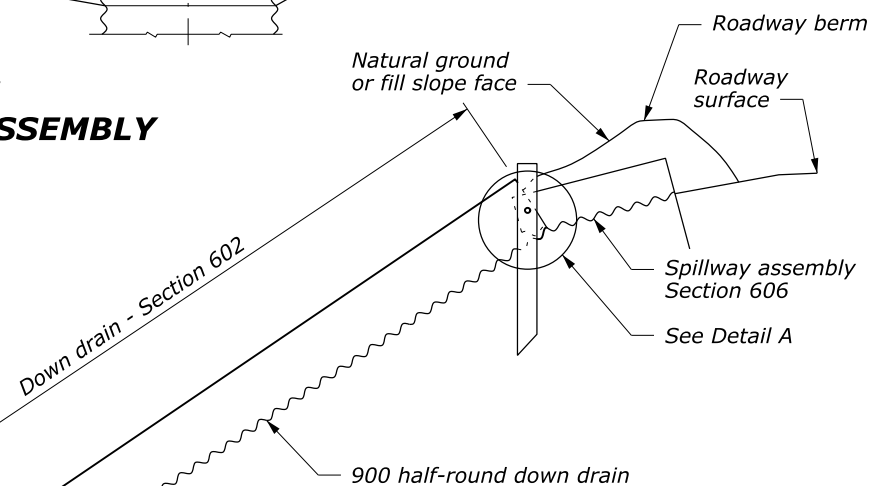
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WESTERN FEDERAL LANDS HIGHWAY DIVISION
U.S. CUSTOMARY DETAIL
**SPILLWAY ASSEMBLY WITH
HALF-ROUND DOWN DRAIN**
DETAIL APPROVED FOR USE 10/2009
REVISIONS:
DETAIL
W606-12

NO SCALE

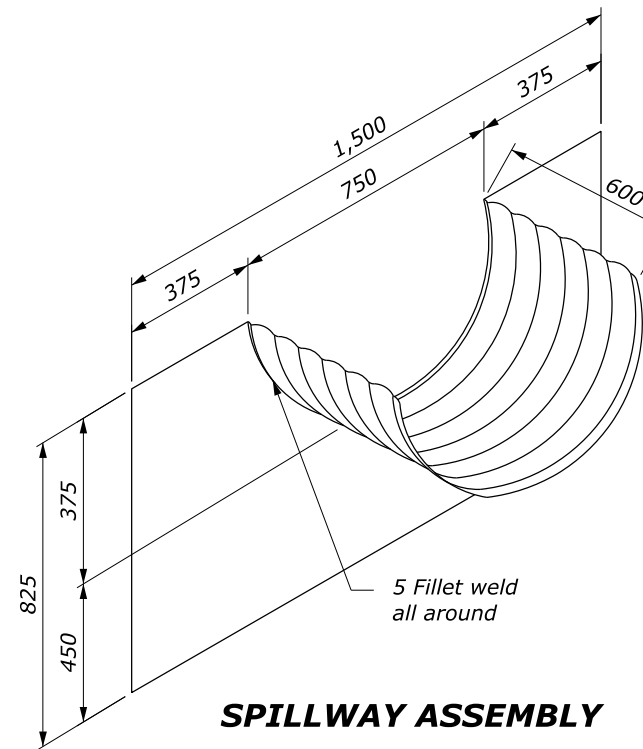


Dimensions shown are subject to field adjustment to fit existing conditions

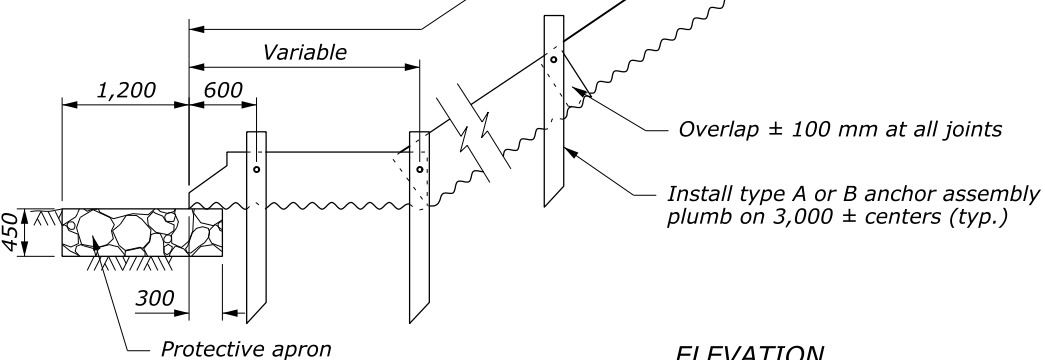
**PLAN
SPILLWAY ASSEMBLY**



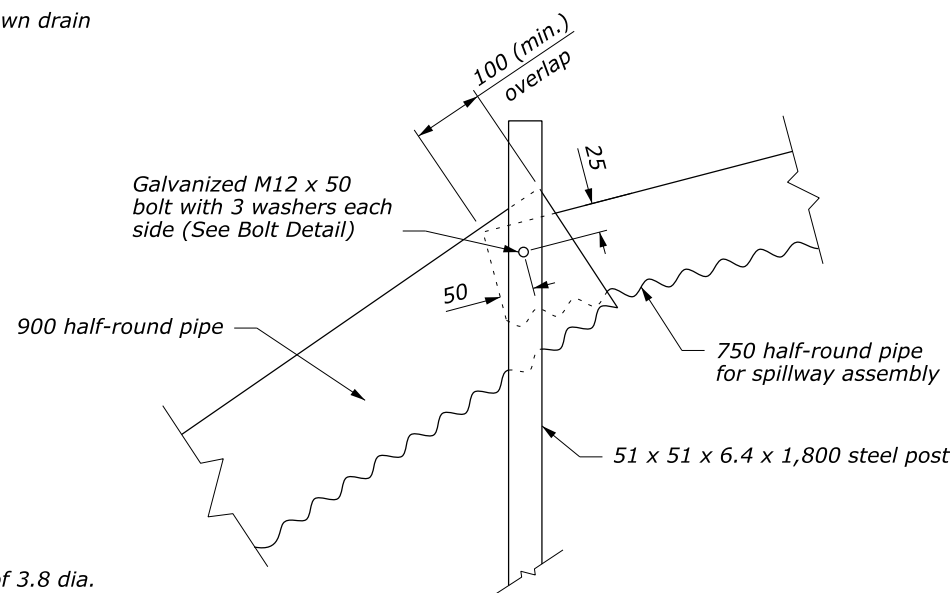
**ELEVATION
SPILLWAY ASSEMBLY AND DOWN DRAIN**



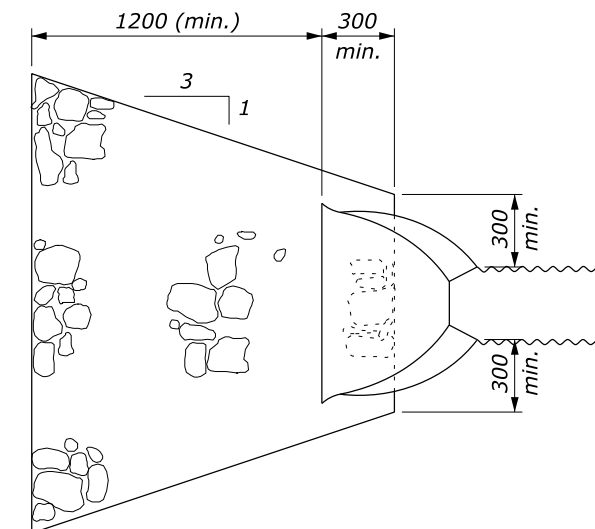
SPILLWAY ASSEMBLY



**ELEVATION
SPILLWAY ASSEMBLY AND DOWN DRAIN**

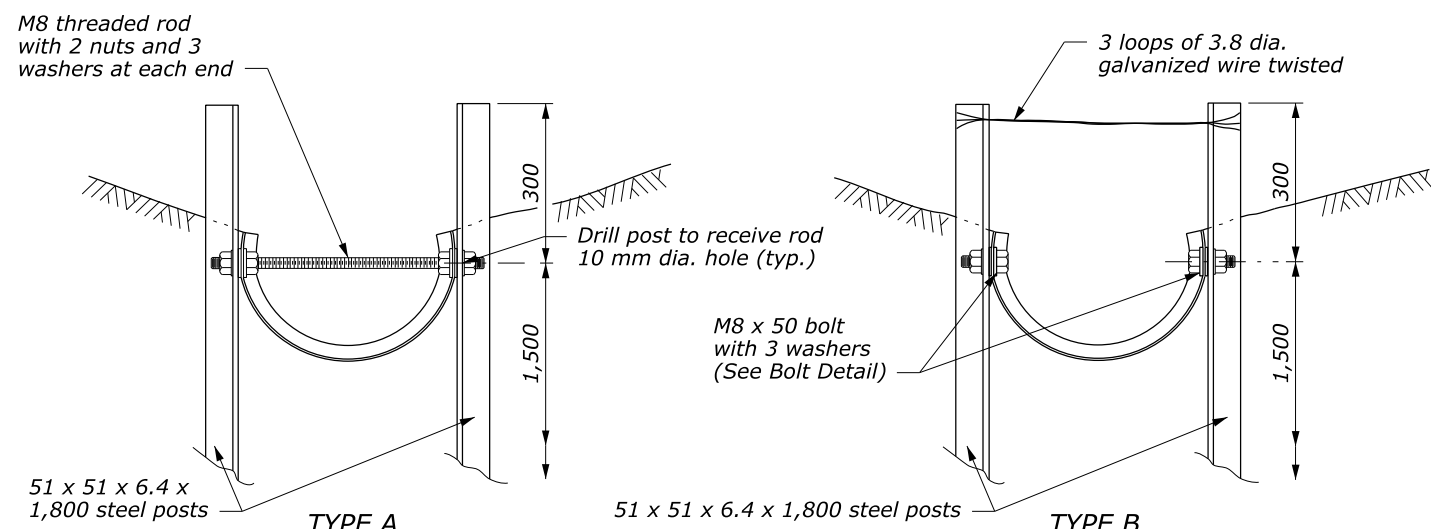


DETAIL A

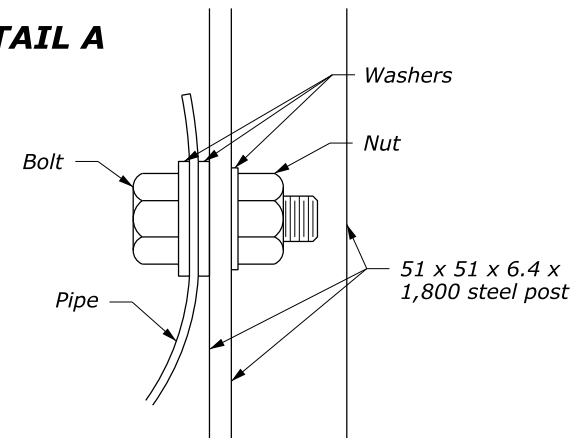


PLAN

PROTECTIVE APRON



ANCHOR ASSEMBLY



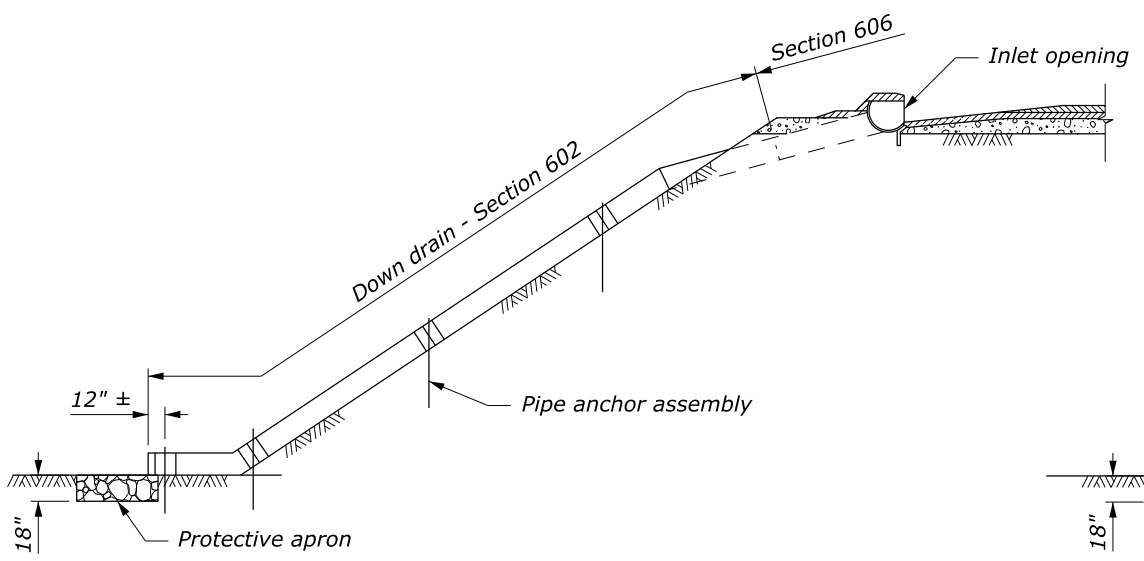
BOLT DETAIL

NO SCALE

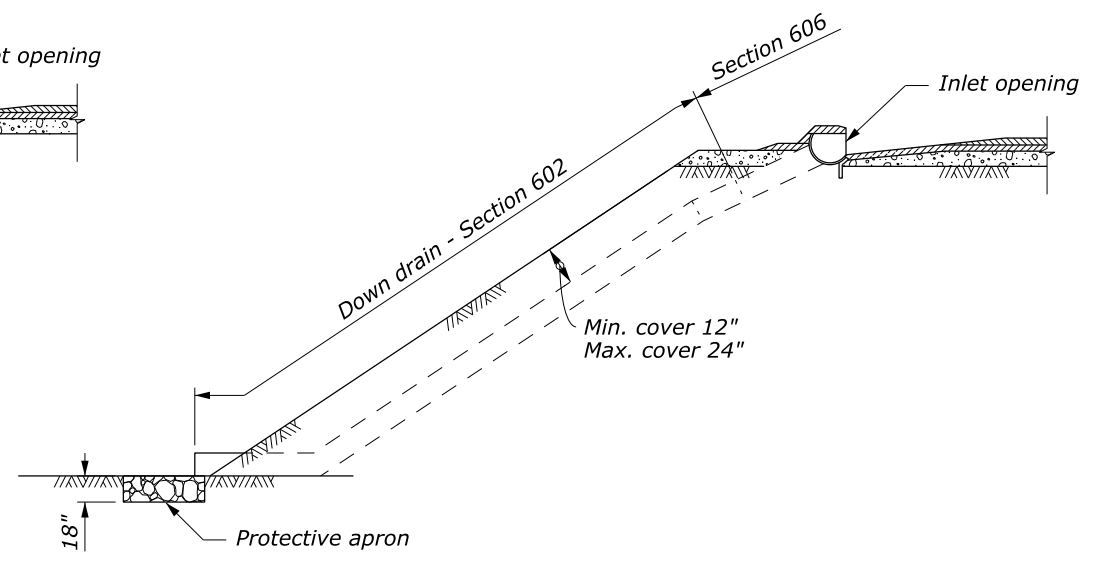
NOTE:

1. Fabricate spillway assembly from 1.6 mm thick galvanized steel or 1.5 mm aluminum.
2. Place Class 2 riprap conforming to Section 251 for protective apron.
3. Construct down drain from annular corrugated pipe, or from helically corrugated pipe with factory annular or flanged reformed ends.
4. Approved alternate designs may be used.
5. Furnish hardware in the metric sizes shown. Equivalent US Customary sizes may be used when metric sizes are not available.
6. Dimensions without units are millimeters.

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION WESTERN FEDERAL LANDS HIGHWAY DIVISION	
METRIC DETAIL	
SPILLWAY ASSEMBLY WITH HALF-ROUND DOWN DRAIN	
DETAIL APPROVED FOR USE 10/2009	DETAIL
REVISED:	WM606-12



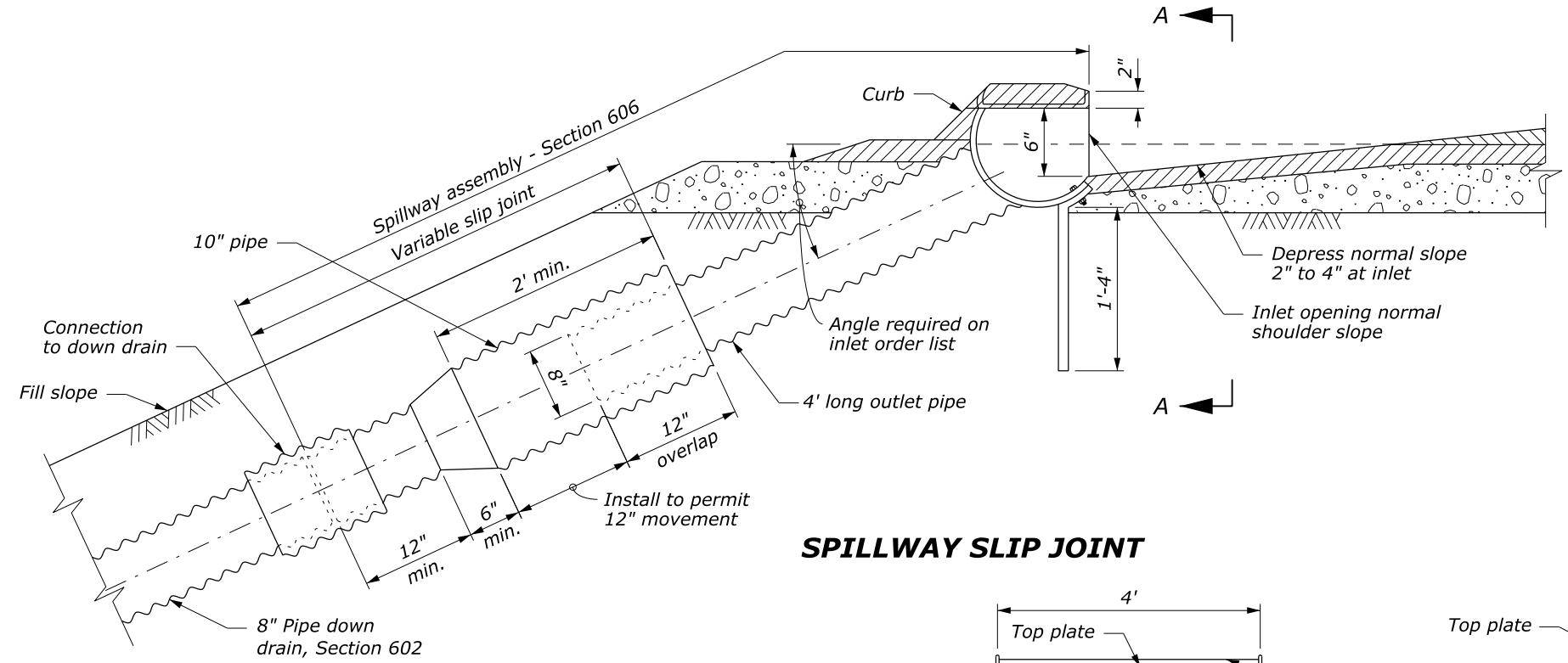
SPILLWAY ASSEMBLY WITH SURFACE DOWN DRAIN



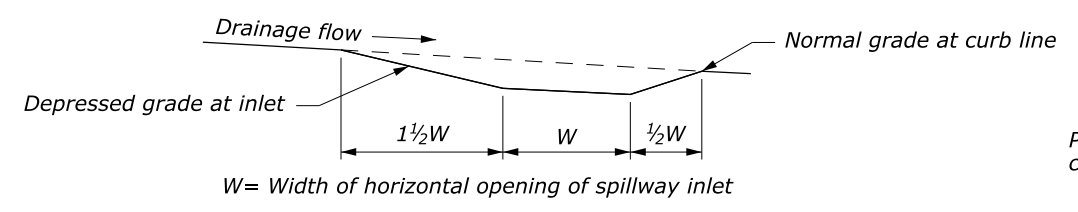
SPILLWAY ASSEMBLY WITH BURIED DOWN DRAIN

NOTE:

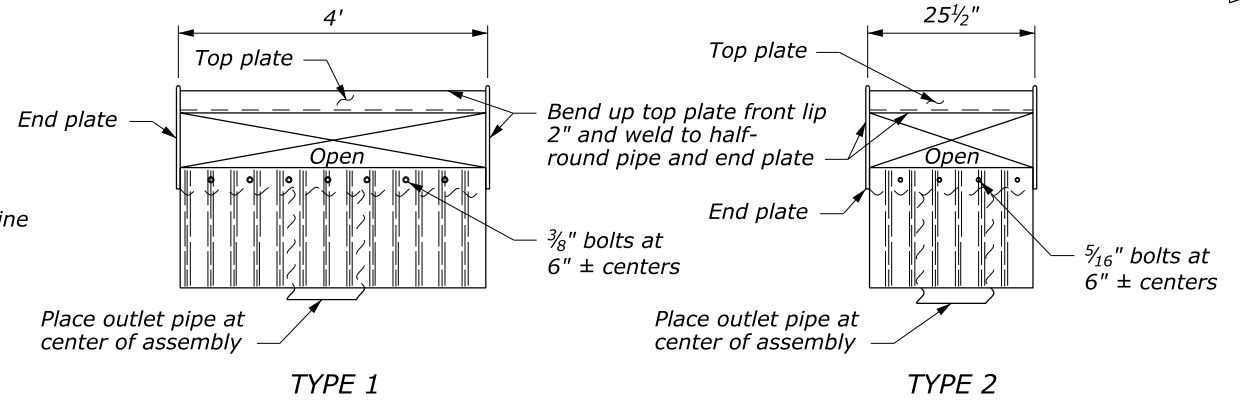
1. Fabricate half-round pipe, outlet pipe, and curtain wall for spillway assembly from 0.64 inch galvanized steel or 0.60 inch aluminum. Fabricate top plate and end plate from 0.18 inch flat steel or 0.20 inch aluminum plate.
2. Make all coupling band connections watertight by placing a $\frac{3}{16}$ inch bead of approved caulking under each half of the band before tightening.
3. Install pipe anchor assemblies at 10 feet \pm spacing on down drain installed above ground.
4. Use type 2 spillway assembly inlets where profile grades are greater than 2%. Use type 1 on grades 2% or flatter.
5. Place class 2 riprap conforming to Section 251 for protective apron.
6. Approved alternate designs may be used.
7. See Detail W606-14 for Pipe Anchor Assembly Detail.



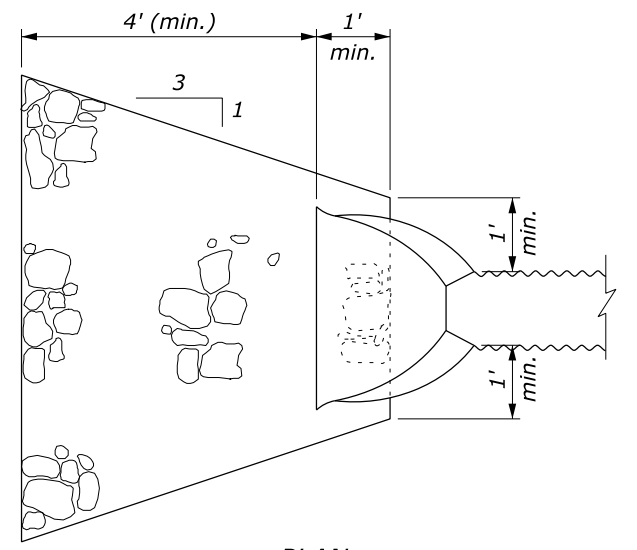
SPILLWAY SLIP JOINT



SCHEMATIC PROFILE OF INLET BASIN



SECTION A-A SPILLWAY ASSEMBLY INLETS



PROTECTIVE APRON

U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 WESTERN FEDERAL LANDS HIGHWAY DIVISION

U.S. CUSTOMARY DETAIL

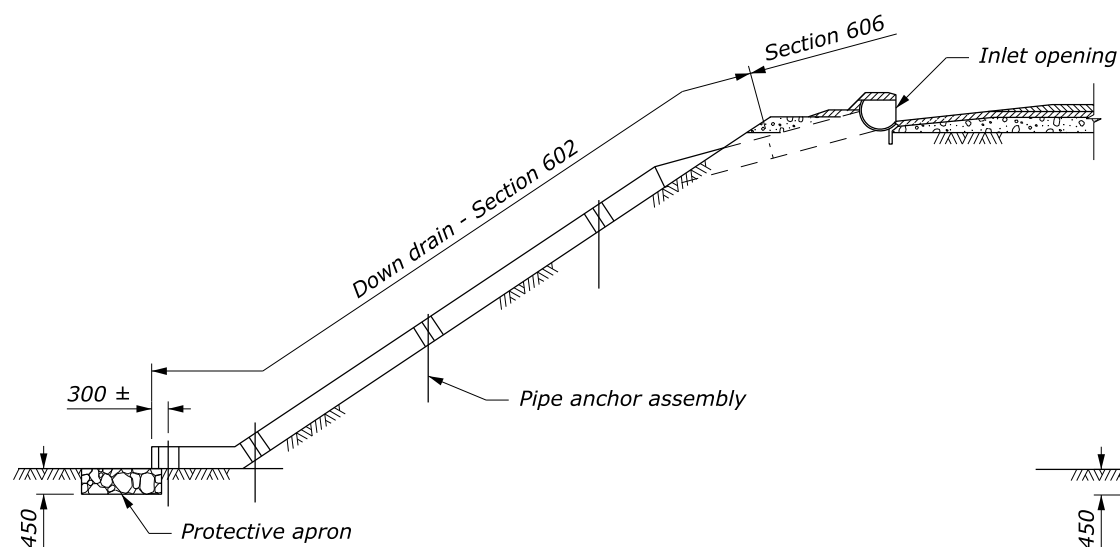
CORRUGATED METAL SPILLWAYS AND INLETS

DETAIL APPROVED FOR USE 10/2009
 REVISIONS:

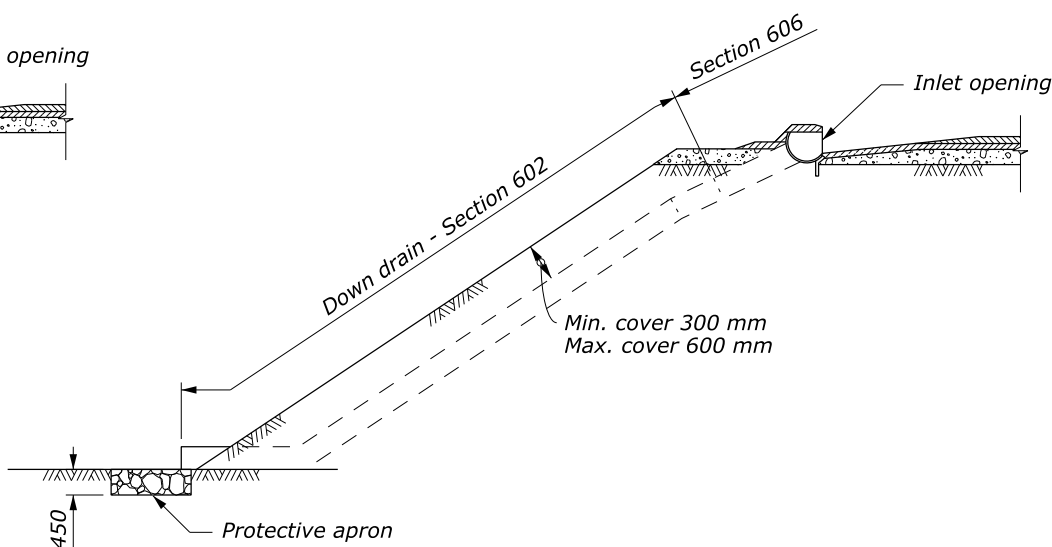
DETAIL
 W606-13

NO SCALE

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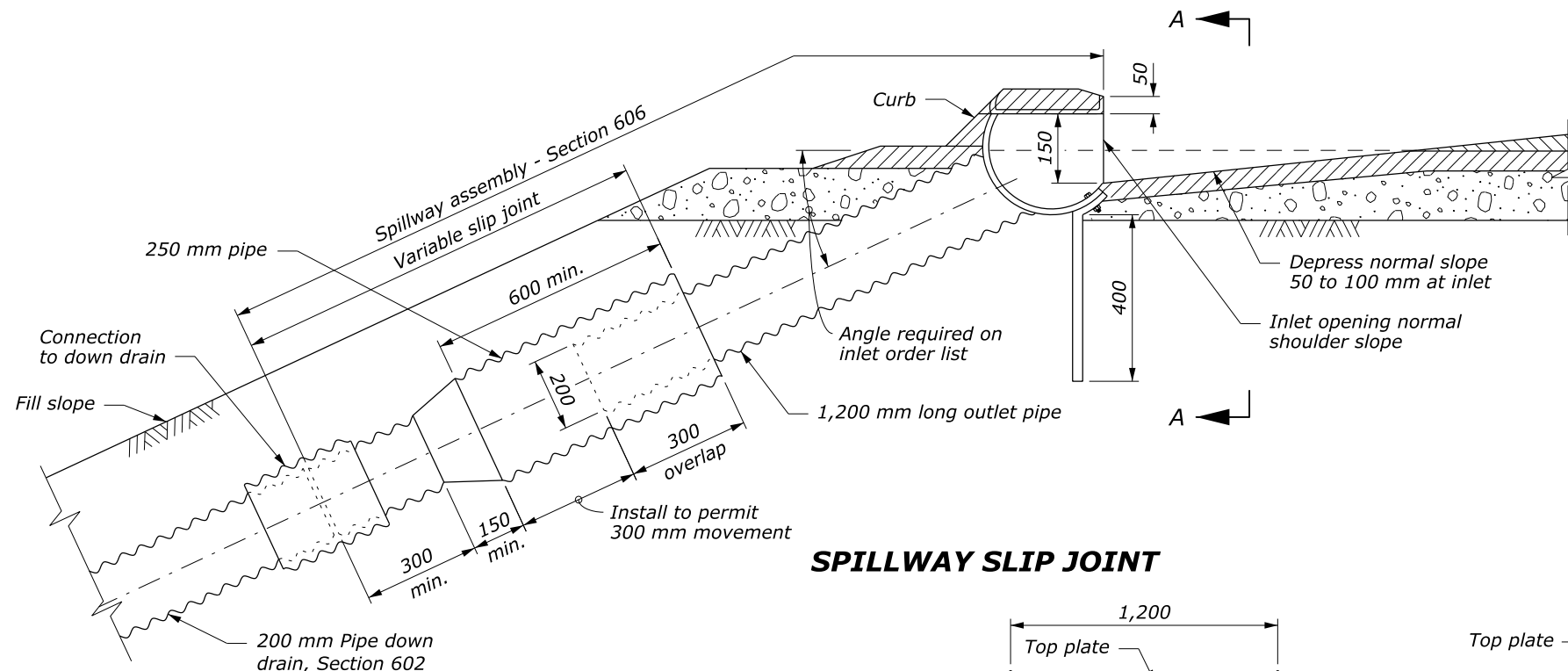
SPILLWAY ASSEMBLY WITH SURFACE DOWN DRAIN



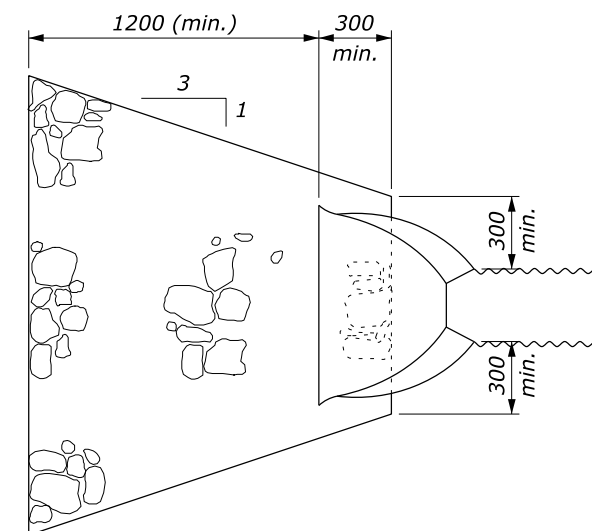
SPILLWAY ASSEMBLY WITH BURIED DOWN DRAIN

NOTE:

1. Fabricate half-round pipe, outlet pipe, and curtain wall for spillway assembly from 1.6 mm galvanized steel or 1.5 mm aluminum. Fabricate top plate and end plate from 4.6 mm flat steel or 5.0 mm aluminum plate.
2. Make all coupling band connections watertight by placing a 5 mm bead of approved caulking under each half of the band before tightening.
3. Install pipe anchor assemblies at 3,000 mm ± spacing on down drain installed above ground.
4. Use type 2 spillway assembly inlets where profile grades are greater than 2%. Use type 1 on grades 2% or flatter.
5. Place class 2 riprap conforming to Section 251 for protective apron.
6. Approved alternate designs may be used.
7. See Detail WM606-14 for Pipe Anchor Assembly Detail.
8. Furnish hardware in the metric sizes shown. Equivalent US Customary sizes may be used when metric sizes are not available.
9. Dimensions without units are millimeters.

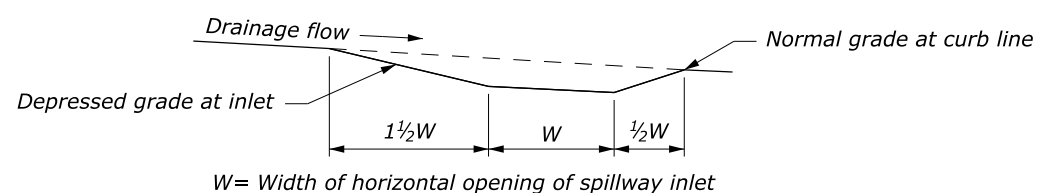


SPILLWAY SLIP JOINT

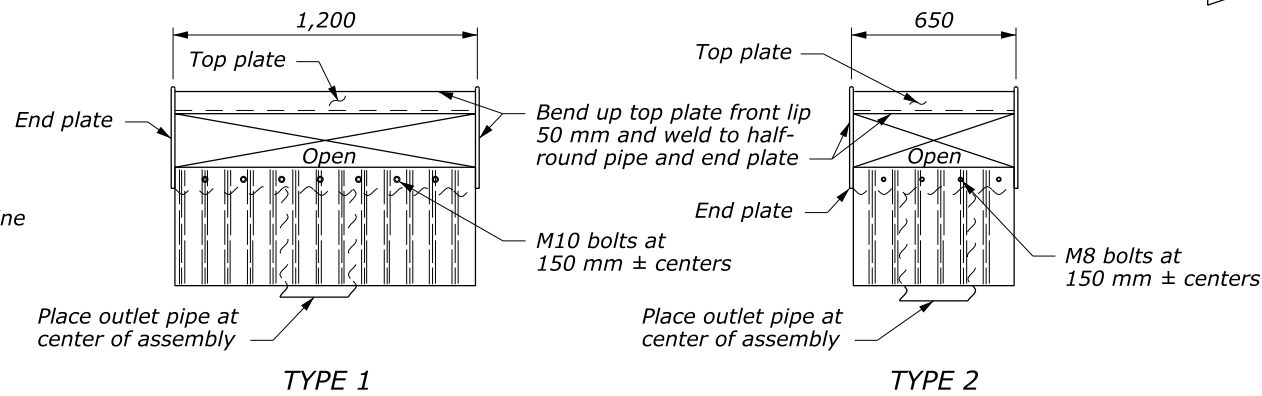


PLAN

PROTECTIVE APRON



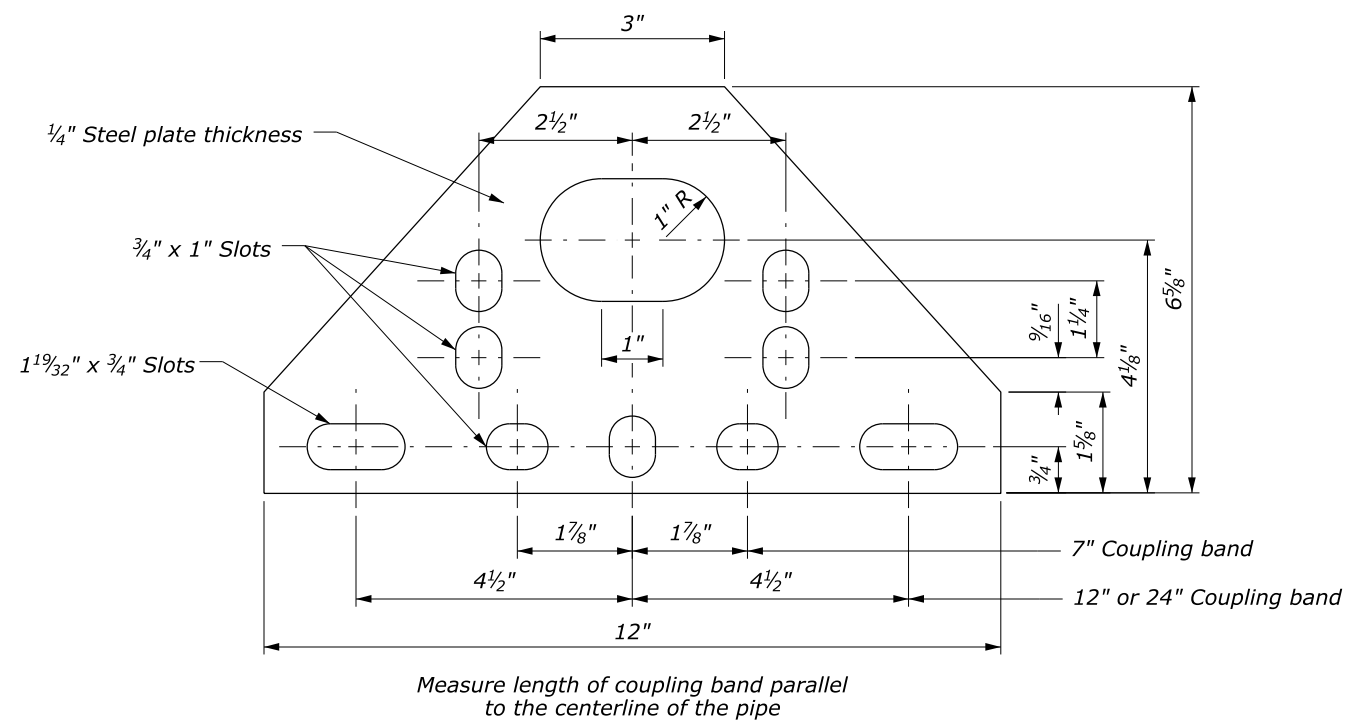
SCHEMATIC PROFILE OF INLET BASIN



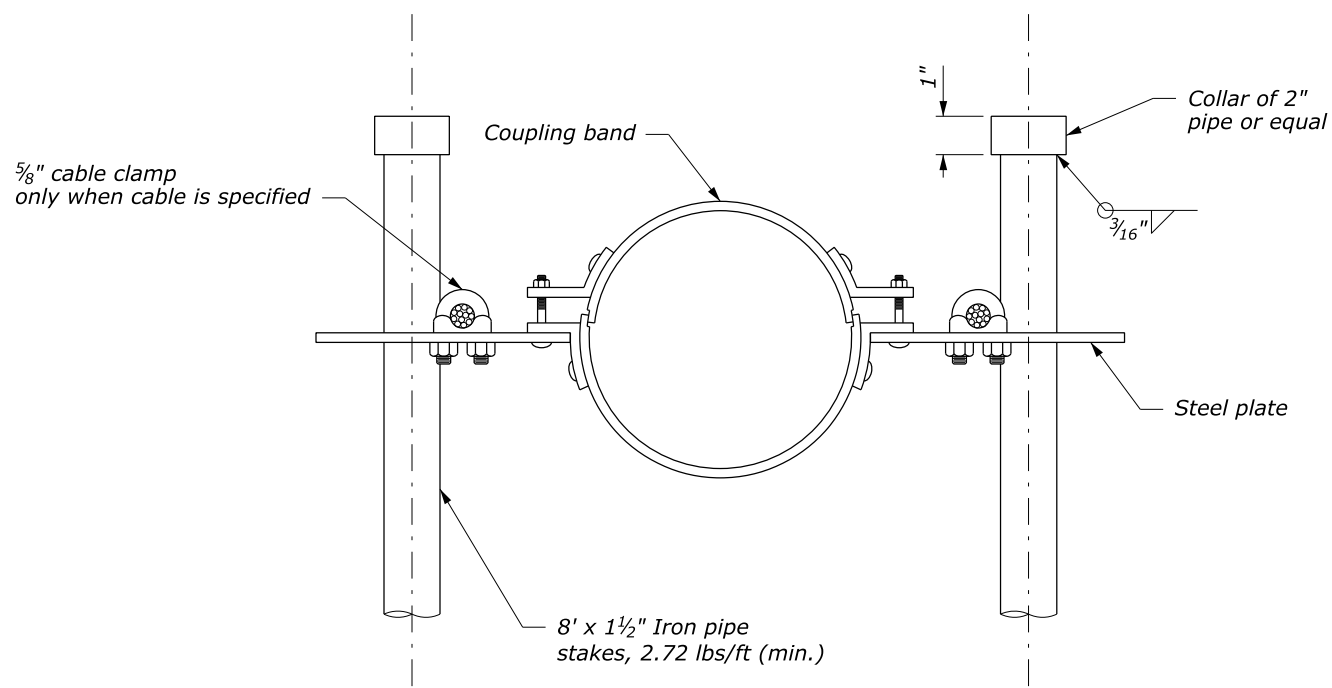
**SECTION A-A
SPILLWAY ASSEMBLY INLETS**

NO SCALE

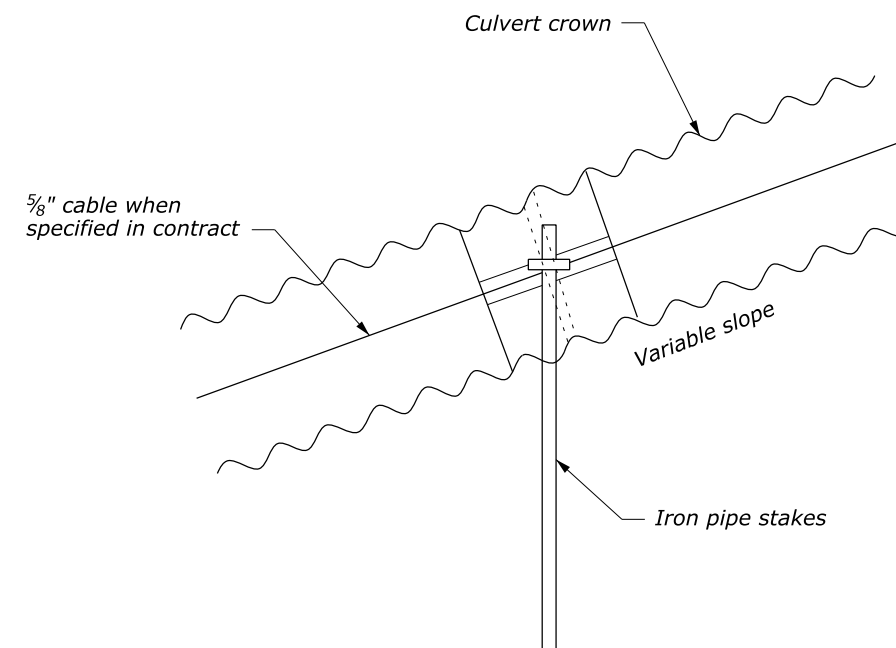
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION WESTERN FEDERAL LANDS HIGHWAY DIVISION	
METRIC DETAIL	
CORRUGATED METAL SPILLWAYS AND INLETS	
DETAIL APPROVED FOR USE 10/2009	DETAIL
REVISED:	WM606-13



STEEL PLATE



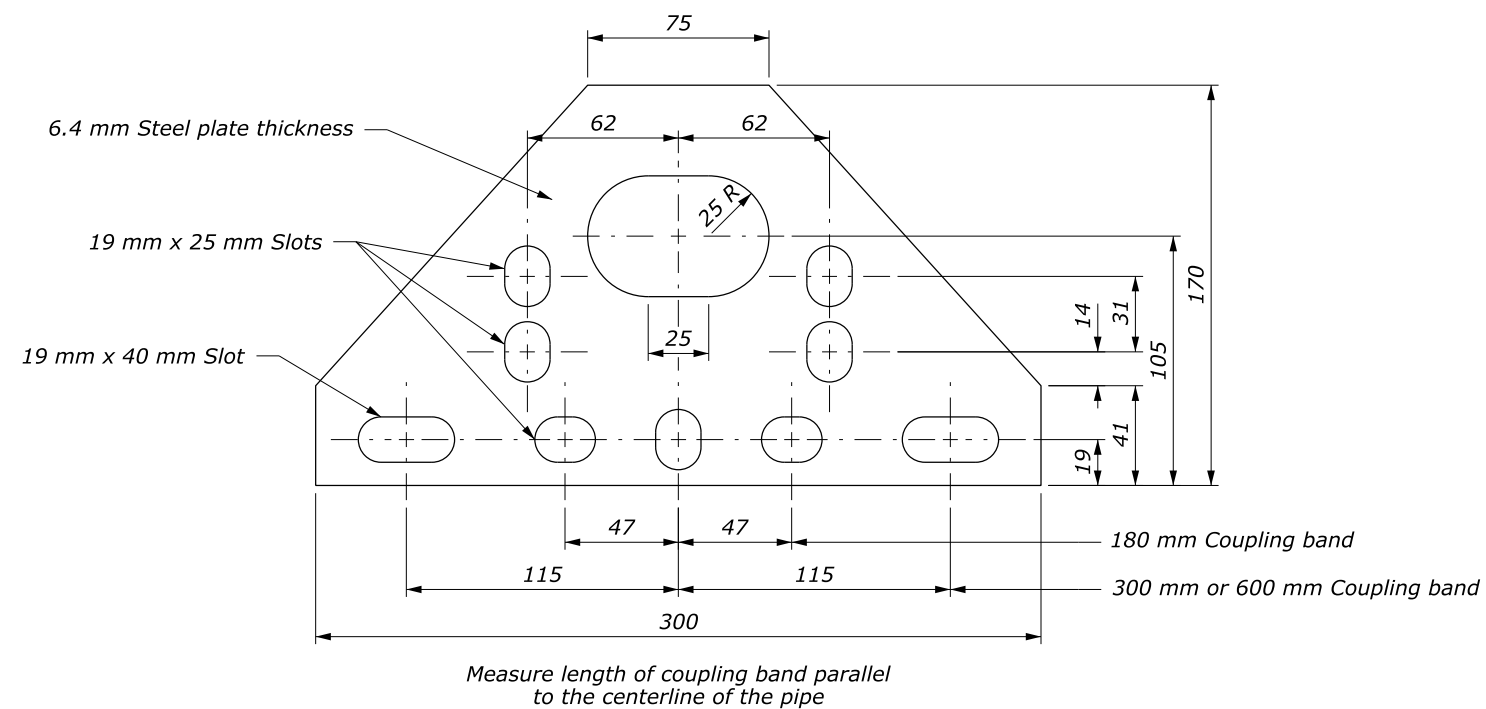
ANCHOR ASSEMBLY



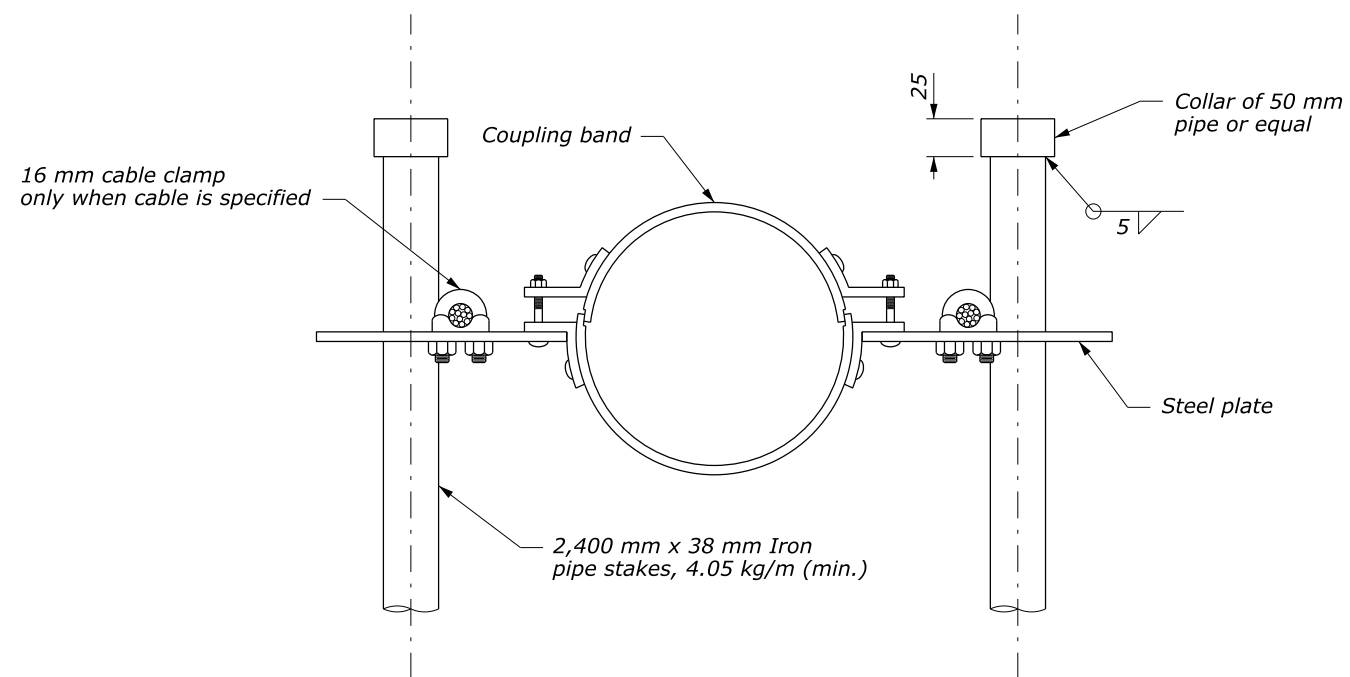
METAL PIPE ASSEMBLY

NOTE:

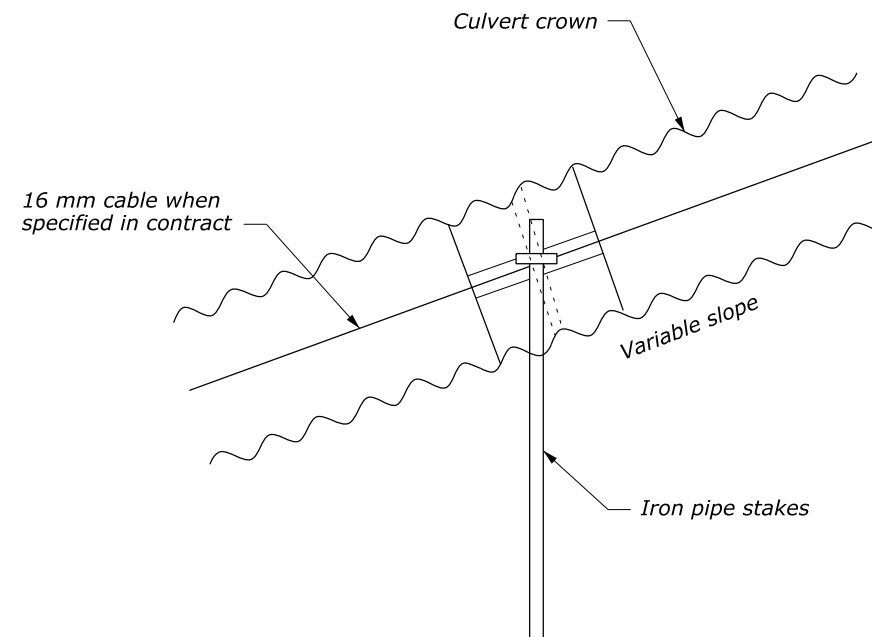
1. All pipe stakes and hardware to be galvanized after fabrication.
2. Approved alternative pipe anchor assemblies may be used.
3. Place slope anchor assemblies on 20' max. centers on slopes 20% or greater.
4. Plate material to be ASTM A36. Galvanize after fabrication.



STEEL PLATE



ANCHOR ASSEMBLY



METAL PIPE ASSEMBLY

NOTE:

1. All pipe stakes and hardware to be galvanized after fabrication.
2. Approved alternative pipe anchor assemblies may be used.
3. Place slope anchor assemblies on 6 m max. centers on slopes 20% or greater.
4. Plate material to be ASTM A36. Galvanize after fabrication.
5. Dimensions without units are millimeters.

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION WESTERN FEDERAL LANDS HIGHWAY DIVISION	
METRIC DETAIL	
PIPE ANCHOR ASSEMBLY	
DETAIL APPROVED FOR USE 4/2009	DETAIL
REVISED: 9/2009	WM606-14