

This mailing contains revisions to
the English version of the

Road Design Details

effective for the **04-18-17** letting.

The green memos, describing the revisions made,
should be retained in the "Revision Letters" section
in the back of the manuals for future reference.

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TO: Holders of Road Design Details **TRANSMITTAL DATE:**
FROM: Office of Design **REVISION DATE:** 04-18-17
SUBJECT: Revision of Manual (English)

INSTRUCTIONS: Questions concerning information contained on the Road Design Details should be directed to the Methods Section, Office of Design, telephone (515) 239-1727 or email daniel.harress@dot.iowa.gov.

Item Description	Description of Revision
Note	The following revisions are effective with the April 18, 2017 letting. Projects let prior to this may reference earlier versions of these Road Design Details.
100s INDEX	
100-11	Added columns for Maintenance and Removal of Cover Assembly.
100-36	New tab for 570-6 detail.
100-37	New tab for 570-7 detail.
102-05	Changed Milepost to Reference Location Sign.
102-06C	Split Station or Milepost column into separate columns and changed Milepost to Reference Location Sign.
102-10	Split Station to Station or Milepost into separate columns and changed Milepost to Reference Location Sign. Removed "Tabulation Of" from title.
102-11	Split Station or Milepost column into separate columns and changed Milepost to Reference Location Sign. Removed "Tabulation Of" from title.
102-12	Split Station to Station or Milepost into separate columns and changed Milepost to Reference Location Sign. Removed "Tabulation Of" from title.
102-14	Split Station or Milepost column into separate columns and changed Milepost to Reference Location Sign.
103-04	Void. Information placed in T Sheets and 103-10.
103-10	New. Partially replaces 103-04.
104-08A	Changed Outlet or Channel Scour Protection column heading to Transition Mat to match similar change to DR-401.
104-13	Added asterisk to Apron Guard (DR-213) column to indicate is it not a bid item.
106-01	Changed Milepost to Reference Location Sign and removed "Tabulation of" from title.
106-02	Changed Milepost to Reference Location Sign, removed "Tabulation of" from title, and added Remarks column.
110-17	Changed Milepost to Reference Location Sign.
112-06	Added column for Special Backfill and dropdown options related to BR-241.
113-10	Added column for depth of sidewalk associated with sidewalk designation.
190-52	Changed Milepost to Reference Location Sign.

100s INDEX (Cont.)	Changed Milepost to Reference Location Sign.
190-54	
192-01	Changed Milepost to Reference Location Sign.
200s INDEX	
232-10	Changed note and provided contact information.
500s INDEX	
570-05	Add bid items for maintenance and removal. Added basis of payment and method of measurement.
570-06	NEW
570-07	NEW
570-09	New
570-10	New
4000s INDEX	
4102	NEW
4301	Void.
4311	Change 3.5:1 foreslope call out to FS:1 foreslope. Modified notes.
4312	New
7000s INDEX	
7156	Added existing shoulder conditions and Section C-C. Increased depth for both pavement types. Changed circle notes 1, 2, 3, and 4. Switch W distance to P to match Sections.

Estimate of Quantities

NO.	DATE	TITLE
100-0A	10-28-97	Estimated Roadway Quantities (1 Division Project)
100-1A	07-15-97	Estimated Project Quantities (1 Division Project)
100-1C	04-17-12	Estimated Project Quantities (Up to a 5 Division Project)
100-1D	10-18-05	Project Description
100-4A	10-29-02	Estimate Reference Information
100-7	10-16-12	Fencing
100-10	10-21-14	Floating Silt Curtains
100-11	04-18-17	Erosion Control for Intake or Manhole Well
100-12A	08-01-08	Estimated Erosion Control Project Quantities P.S. & E. Only
100-13	10-15-13	Silt Ditches
100-14	10-18-16	Silt Basins
100-15	10-15-13	Silt Dikes
100-16	10-19-10	Tabulation of Intercepting Ditches
100-17	04-20-10	Tabulation of Silt Fences
100-18	10-18-16	Silt Fences for Ditch Checks
100-19	04-19-16	Perimeter and Slope Sediment Control Device
100-20	08-01-08	Planting Quantities Listing
100-21	08-01-08	Tabulation of Flowable Mortar Backfill
100-22	04-21-15	Rolled Erosion Control
100-23	04-21-15	Rock Erosion Control
100-24	04-21-15	PCC Pavement
100-25	04-21-15	HMA Pavement
100-26	10-15-13	Incidental Items
100-27	10-20-09	Pavement Smoothness + PCC Texture
100-28	10-19-10	Longitudinal Grooving
100-32	10-18-16	Rock Check Dam
100-33	10-18-16	Temporary Sediment Control Basin
100-34	04-19-16	Stormwater Drainage Basin
100-35	04-19-16	Summary of Stormwater Storage

Estimate of Quantities

NO.	DATE	TITLE
100-36	04-18-17	Open-Throat Curb Intake Sediment Filter
100-37	04-18-17	Grate Intake Sediment Filter Bag

Access and Maintenance Data

NO.	DATE	TITLE
102-3	10-15-13	Access Points and Safety Ramps
102-4	10-18-11	Locations of Road Closure Barricades
102-5	04-18-17	Existing Pavement
102-5A	10-20-15	Existing HMA Pavement for Recycling
102-6C	04-18-17	Full Depth Patches
102-10	04-18-17	Partial Depth PCC Finish Patches
102-11	04-18-17	Partial Depth HMA Finish Patches
102-12	04-18-17	Partial Depth Irregular HMA Finish Patches
102-14	04-18-17	Partial Depth HMA or PCC Repair Patches
102-16	10-21-14	Notches and Runouts for Resurfacing

Soils Data

NO.	DATE	TITLE
103-1	10-19-10	Embankment with Moisture and Density Control
103-3	10-16-12	Proposed Subgrade Treatment
103-4	--	VOID
103-5	10-15-13	Settlement Plates
103-6	04-19-11	Embankment with Moisture Control
103-7	08-01-08	Shrinkage Data
103-10	04-18-17	Topsoil Stripping and Placement
103-11	10-18-16	Select Treatment

Drainage Structure Data

NO.	DATE	TITLE
104-3	04-21-15	Drainage Structure By Road Contractor
104-4	10-20-09	Drainage Structures By Culvert Contractor
104-5A	10-15-13	Intakes and Utility Accesses
104-5B	10-20-15	Storm Sewer
104-5C	04-21-15	List of Subdrain Work
104-6	04-19-16	Wick Drain or Sand Drain Fields
104-8	04-21-15	Bridge End Drains
104-8A	04-18-17	Scour Protection or Rock Flume for Bridge End Drain
104-9	04-21-15	Longitudinal Subdrain Shoulder and Backslope
104-10	08-01-08	Adjustment of Fixtures
104-11	08-01-08	Rebuilding of Intakes and Utility Accesses
104-12	04-21-15	Subdrain and Grading at Side Piers
104-13	04-18-17	Foreslope Flattening and Drainage Structures by Road Contractor (Mainline Pipes)
104-14	10-15-13	Continuous Trench Drain

SECTION

105**Title Sheet Data**

NO.	DATE	TITLE
105-1	09-27-94	Mileage Summary
105-3	10-18-05	Index of Sheets
105-4	10-18-11	Standard Road Plans

SECTION

106**Widening and Resurfacing (Stage Improvement)**

NO.	DATE	TITLE
106-1	04-18-17	Strengthening Courses
106-2	04-18-17	Leveling Courses
106-4	04-16-13	Shoulders for Widening & Resurfacing
106-5	10-21-14	Areas For Pavement or Base Widening
106-7	08-01-08	Fabric Reinforcement for Control of Reflective Cracking
106-8	04-19-11	Longitudinal Joint Repair

Removal and Disposition

NO.	DATE	TITLE
110-1	04-16-13	Removal of Pavement
110-2	04-16-13	Removal of Existing Structures
110-3	08-01-08	Flume Removal
110-4	08-01-08	Curb Removal
110-5	10-20-15	Sidewalk Removal
110-6	08-01-08	Breaking Up Pavement
110-7A	04-17-12	Removal of Steel Beam Guardrail
110-7B	10-19-10	Removal of Cable Guardrail
110-8	08-01-08	Removal of Concrete Drives
110-9	10-18-11	Culvert Abandonment
110-10	08-01-08	Salvage and Removal of Buildings
110-11	08-01-08	Asbestos Removal in Buildings
110-12A	10-18-16	Pollution Prevention Plan
110-13	04-20-10	Delivery and Stockpiling
110-14	04-16-13	Sanitary or Storm Sewer Abandonment or Removal
110-15	04-16-13	Removal of Intakes and Utility Accesses
110-16	04-16-13	Removal of Light Poles and Concrete Footings
110-17	04-18-17	Clearing and Grubbing

SECTION

111**Miscellaneous Construction Forms**

NO.	DATE	TITLE
111-1	04-17-12	Coordinated Operations
111-2	02-28-89	Revisions
111-23	10-29-02	Listing of Project Revisions
111-25	10-18-11	Index of Tabulations

SECTION

112**Pavement Construction Forms**

NO.	DATE	TITLE
112-3	04-16-13	Railroad Approach Sections
112-4	10-21-14	Curbs and Raised Islands
112-5	10-20-15	Concrete Medians
112-6	04-18-17	Bridge Approach Section
112-7	10-19-10	Rumble Strip Panels
112-8	04-15-14	Median Crossovers
112-9	10-15-13	Shoulders
112-10	04-19-11	Milled Rumble Strips

04-18-17

Sidewalks

NO.	DATE	TITLE
113-1	04-16-13	Sidewalks
113-2	04-16-13	Pedestrian Path Closures
113-3	10-18-11	Pedestrian Channelizers
113-10	04-18-17	Sidewalk Compliance

Signing

NO.	DATE	TITLE
190-01	10-15-13	Sign Support Structures
190-10	10-15-13	Overhead Bridge Mounted Sign Bracket Assemblies
190-11	10-15-13	Signing Materials for At-Grade Crossovers
190-25	10-21-14	Reference Location Signs and Delineators
190-50	10-15-13	Materials for Type 'B' Signs
190-51	10-15-13	Materials for Type 'A' Signs
190-52	04-18-17	Materials for Overhead Sign Support Structures
190-54	04-18-17	Signing Materials for Expressway At-Grade Intersections
190-61	10-15-13	Existing Signs to be Reinstalled
190-62	10-15-13	Existing Signs to be Removed
190-65	10-15-13	Special Sign Mounting Brackets
190-66	10-21-14	Summary of Type 'A' Signs

Dynamic Message Signing

NO.	DATE	TITLE
192-01	04-18-17	Materials for Steel Roadside DMS Sign Support

ESTIMATED ROADWAY QUANTITIES (1 DIVISION PROJECT)					
Item No.	Item Code	Item	Unit	Total	As Built Qty.

ESTIMATED PROJECT QUANTITIES (1 DIVISION PROJECT)					
Item No.	Item Code	Item	Unit	Total	As Built Qty.

ESTIMATED PROJECT QUANTITIES (UP TO A 5 DIVISION PROJECT)														
Division 1: Division 2: Division 3: Division 4: Division 5:														
Item No.	Item Code	Item	Unit	Estimated					As Built					
				Division 1	Division 2	Division 3	Division 4	Division 5	Total	Division 1	Division 2	Division 3	Division 4	Division 5

PROJECT DESCRIPTION	

ESTIMATE REFERENCE INFORMATION		
Item No.	Item Code	Description

FENCING																	
* Bid Item																	
Refer to MI-101, MI-102, MI-103, MI-104, 510-3, and 510-5																	
Location				Side	Chain Link				Deer				Field		Channel Crossing		Remarks
From		To			Fence		Gate		Gate		Gate		Length*		Type		
Station	Offset	Station	Offset	Length*	Type	No.*	Type	Fence Length*	Brace Panels*	No.*	Type	Fence Length*	Brace Panels*	No.*	Type	Length*	Type
				LF		EACH		LF	EACH	EACH		LF	EACH	EACH		LF	

FLOATING SILT CURTAINS					
Refer to EC-202					
Station	Hanging	Containment	Clean-out (Containment)	Maintenance of Floating Silt Curtain	Remarks
	LF	LF	LF	LF	

EROSION CONTROL FOR INTAKE OR MANHOLE WELL					
Possible Detail: 570-5					
Location Station	Side	Cover Assembly			Remarks
		Installation	Maintenance	Removal	
		EACH	EACH	EACH	

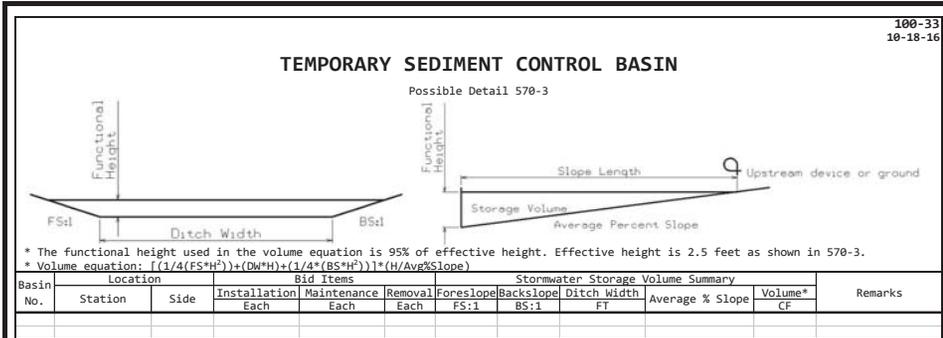
ESTIMATED EROSION CONTROL PROJECT QUANTITIES P.S. & E. ONLY				
No.	Item	Unit	Division	Total

SILT DITCHES			
Refer to EW-403			
Station to Station	Side	LF	Remarks

SILT BASINS										
Possible Standard: EW-403										
* The functional height used in the volume equation is 95% of effective height. Effective height is 3 feet as shown in EW-403.										
* Volume equation: (0.5*Length*(Width*Height+width*(Height-Length*Avg% Slope)))										
Basin No.	Location		Bid Items				Stormwater Storage Volume Summary			
	Station	Side	Installation	Removal	Basin Width	Basin Length	Height	Avg. % Slope	Volume*	Remarks
			EACH	EACH	FT	FT	FT		CF	

SILT DIKES				
Refer to EW-403				
Location		Side	Length	Remarks
Station to Station	LF			

ENGLISH	IOWA DOT	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER
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100-34
04-19-16

STORMWATER DRAINAGE BASIN

Basin No.	Station to Station	Side	Disturbed Area Acres	Discharge Point		Required Storage Volume CF	Remarks
				Station	Side		

100-35
04-19-16

SUMMARY OF STORMWATER STORAGE

Basin No.	Item	Total Storage Volume Provided	Total Storage Volume Required	Remarks
		CF	CF	

100-36
04-18-17

OPEN-THROAT CURB INTAKE SEDIMENT FILTER

Possible Detail: 570-6

Location Station	Side	Installation	Maintenance	Removal	Remarks
		LF	EACH	EACH	

100-37
04-18-17

GRATE INTAKE SEDIMENT FILTER BAG

Possible Detail: 570-7

Location Station	Side	Installation	Maintenance	Removal	Remarks
		EACH	EACH	EACH	

ACCESS POINTS AND SAFETY RAMPS

102-3
10-15-13

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.
 ① Refer to MI-210
 ② Refer to EW-501.
 ③ Refer to EW-501 or EW-502.
 *Predetermined for access point not constructed with this project.

Refer to Cross-Sections

Location		Type	Length of Opening ①			Pipe Culvert ③						Aprons		Driveway Surface Area		Driveway Surfacing Material	Remarks	
Station	Side	A, B, C, Safety Ramp, or Predetermined*	Case	1 1/2" Dropped Curb	3" Dropped Curb	W	① PR	② SR	H	Size	Pipe Length	Lt.	Rt.	No.	HMA	PCC		TON
			1 or 2	LF	LF	FT	FT	FT	FT	IN	LF	LF	LF	No.	SY	SY		TON

LOCATIONS OF ROAD CLOSURE

102-4
10-18-11

BARRICADES

Refer to SI-181 and SI-182.

Location	① W	SI-181	SI-182	Remarks
No.	Station	LF	LF	No.

EXISTING PAVEMENT

102-5
04-18-17

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks
	County	Route	Dir. of Travel	Begin Ref. Loc. Sign	End Ref. Loc. Sign				Type	Depth	Type	Depth	Type	Depth	Type	Depth	Source	Type	Durability Class	Type	

EXISTING HMA PAVEMENT FOR RECYCLING

102-5A
10-20-15

For informational purposes only. When designed RAP is specified, process the RAP to control the uniformity of the final mixture.

Route No.	Location	Year Placed	Layer	Thickness	Asphalt Binder		Mix														
					Grade	Content	Quality Type	Size	Content	% of -4 that is Type 2	% of +4 that is Type 2	% of +4 that is Type 3	% of +4 that is Type 4	% Crushed	% Limestone						

FULL-DEPTH PATCHES

102-6C
04-18-17

Possible Standards: PR-101, PR-102, PR-103, PR-104, PR-105 and PR-140.

Count	Station	Reference Location Sign	Location				Dimension		PCC Patches				HMA Patches	Composite HMA	Subbase Patches	Subbase Patch w/ 'EF' Joint	Patch Subdrain	'CD' Joints	'CT' Joints	'EF' Joints	Anchor Lugs Removal	Remarks
			Lane	Length	Width	Patch Thickness	With Dowels	Without Dowels	C R C	Ramp with Dowels												
							PR-103 SY	PR-102 SY	PR-104 SY	PR-105 SY												
			L, R, or B	FT	FT	IN																

PARTIAL DEPTH PCC FINISH PATCHES

102-10
04-18-17

Location					Estimated Quantities		Remarks
Begin Station	End Station	Begin Reference Location Sign	End Reference Location Sign	Lane	Number of Patches	SF	

PARTIAL DEPTH REGULAR HMA FINISH PATCHES

102-11
04-18-17

Location				Dimension of Patch	Estimated Quantities		Remarks
No.	Station	Reference Location Sign	Lane	Length x Width FT	SY	TON	

PARTIAL DEPTH IRREGULAR HMA FINISH PATCHES

102-12
04-18-17

Location					Estimated Quantities		Remarks
Begin Station	End Station	Begin Reference Location Sign	End Reference Location Sign	Lane	Number of Patches	SY	

PARTIAL DEPTH HMA OR PCC REPAIR PATCHES

102-14
04-18-17

Location						Type HMA or PCC	Dimension of Patch		Est. Quantities			Remarks
No.	Begin Station	End Station	Begin Reference Location Sign	End Reference Location Sign	Lane		Length	Width	PCC	HMA		
									SF	SY	TONS	

ENGLISH IOWA DOT DESIGN TEAM

COUNTY PROJECT NUMBER

SHEET NUMBER

102-16
10-21-14

NOTCHES AND RUNOUTS FOR RESURFACING

Refer to PR-201 and PR-202.

① Bid item. Applies only to Types 'N1' and 'N3' on PR-202. Refer to 100-25 for remaining values.

Location Station	Type of Notch or Runout	(S)	(I)	(DI)	(L)	(M)	Pavement Scarification ①	Remarks
		IN	IN	IN	FT	IN	SY	

ENGLISH

IOWA DOT

DESIGN TEAM

COUNTY

PROJECT NUMBER

SHEET NUMBER

103-1
10-19-10

EMBANKMENT WITH MOISTURE AND DENSITY CONTROL

Moisture content shall be within the limits of minus ___ and plus ___ percentage points of optimum for maximum density within the area described and listed below.

Location		Lane	Depth	Compact	Remarks
Station to Station					
			FT	CY	

103-3
10-16-12

PROPOSED SUBGRADE TREATMENT

(For Additional Details see Soils Survey Sheet No. _____ to _____.)

No.	Location		Side	Type	Description			Type		Quantity		Polymer Grid	Available From		Remarks
	Begin Station	End Station			Depth	Width	Area	Material	Shrink %	CY	TON		SY	Quantity	
					FT	FT	SF					CY			

103-5
10-15-13

SETTLEMENT PLATES

Refer to Standard Road Plan EW-212

No.	Location		Remarks
	Station	Offset	

103-6
04-19-11

EMBANKMENT WITH MOISTURE CONTROL

Moisture content shall be within the limits of minus ___ and plus ___ percentage points of Optimum Moisture Content for maximum density within the area described and listed below.

Moisture Control is required for all Class 10 fill placed in all locations and depths. Stability berms placed outside the normal foreslope template and topsoil will not require Moisture Control.

Moisture Control is also required on all select subgrade treatments.

Proposed Subgrade Treatment:
Quantity:

103-7
08-01-08

SHRINKAGE DATA

Material	%	Remarks

103-10
04-18-17

TOPSOIL STRIPPING AND PLACEMENT

Road Identification	Location			Topsoil Stripping Thickness	Topsoil Placement Thickness	Remarks
	Dir. of Traffic	Begin Station	End Station			
				IN	IN	

WICK DRAIN OR SAND DRAIN FIELDS

Possible Standards: DR-301, DR-304, DR-305 and Tabulation 104-5C.

* Not a bid item.

Location	Sand Drains		Wick Drains		Horizontal Strip Drains			Granular Material for Blanket and Subdrain	Drain DR-301 Type 2	Porous Backfill*	Subdrain Outlets			Remarks			
	Station to Station	Number of Drains*	Total Length	Number of Drains*	Total Length	Longitudinal	Transverse				Total Length	DR-304	DR-305		NO.	TYPE	NO.
			LF		LF												
								CY	LF	CY							

BRIDGE END DRAINS

- ① Refer to Standard Road Plan SW-538
- ② Not a Bid Item

Location		Shoulder		Polymer Grid ②	Installation Information					Modified Subbase ②	Remarks			
Bridge Station	Bridge Corner	Distance DI-1 or DI-2 ①	Panels Required		PCC	Elevation			Length					
						A B C or D	Sq.Yds.	Sq.Yds.	Form Grade			A	B	C

SCOUR PROTECTION OR ROCK FLUME FOR BRIDGE END DRAIN

Refer to Standard Road Plan DR-401 and DR-402

Location		Bid Items			PCC Paved Shoulder			Scour Protection (DR-401)			Rock Flume (DR-402)			Remarks
Bridge Station	Bridge Corner	Distance DI-1 or DI-2	PCC Paved Shoulder	Bridge End Drain	Panels Required	Polymer Grid	Modified Subbase	Transition Mat	Turf Reinforced Mat (TRM), Type 2	Macadam Stone Base	Engineering Fabric	Erosion Stone		
													FT	

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

- ① Refer to EW-203, EW-204, or EW-211.
- *Not a bid item

Location				Longitudinal Subdrain (DR-303)						Subdrain Outlet		Porous* Backfill	Class "A" Crushed Stone	Remarks	
Line No.	Road or Lane Ident.	Station to Station	Side	Shoulder		Backslope		Bridge Berm ①		DR-303, DR-304, or DR-305					
				Depth	Size	Length	Size	Length	Size	Type	Length				Station
				IN	IN	FT	IN	FT	IN		FT				

ADJUSTMENT OF FIXTURES

No.	Location Station	Type of Fixture	Adjustment

REBUILDING OF INTAKES AND UTILITY ACCESSES

No.	Location Station	Type	Adjustment

SUBDRAIN AND GRADING AT SIDE PIERS

Refer to EW-211

- ① Lane(s) to which the pier is adjacent
- ② Not a Bid Item

Location		Grading			Longitudinal Subdrain (Shoulder)					Remarks				
No.	Direction of Traffic ①	Station	Type No.	Dimensions			Outlet Location	6" C.M.P. Outlet	Plastic Pipe		Porous Backfill ②	Class "A" Crushed Stone ②		
				Lin. Ft.	AL	TL							W	A

STRENGTHENING COURSES						106-1 04-18-17
Location				Runouts (Lin. Ft.)	Hot Mix Asphalt Pavement	
Being Ref. Location Sign	End Ref. Location Sign	Begin Station	End Station	Back	Ahead	Tons
				Thickness Inches		

LEVELING COURSES						106-2 04-18-17
Location				Hot Mix Asphalt Pavement		Remarks
Being Ref. Location Sign	End Ref. Location Sign	Begin Station	End Station	Average Thickness Inches	Tons	

SHOULDERS FOR WIDENING & RESURFACING						106-4 04-16-13
*Not a Bid Item						
Begin Station	End Station	Side	Length of Shoulder Type in Stations			
			A	B	C	D*

AREAS FOR PAVEMENT OR BASE WIDENING														106-5 10-21-14	
Refer to Standard Road Plans PV-105 or PV-203															
① Bid Item ② Estimated for two applications to achieve lifts and one application of 0.10 Gal/SY adjacent to existing pavement. Priming of subgrade or finished base is not required. Calculations assume a HMA unit weight (lbs/cf) of 145, a Special Backfill unit weight (lbs/cf) of 140, and a Tack Coat unit weight (gal/sy) of 0.05.															
Station to Station	Side	Pavement Type	L Length FT	W Width FT	T Thickness IN	HMA Base Widening ① TONS	HMA Base Widening ① SY	PCC Base Widening ① SY	PCC Pavement Widening ① SY	Tack Coat		Asphalt Binder ① TONS	Class 13 Excavation, Widening ① CY	Special Backfill ① TONS	Remarks
										Lifts GAL	Vertical Edge GAL	Tack Coat ② GAL			

TABULATION OF FABRIC REINFORCEMENT FOR CONTROL OF REFLECTIVE CRACKING					106-7 08-01-08
Begin Station	End Station	Side	Width	Area	
			Lin. Ft.	Sq. Yds.	

LONGITUDINAL JOINT REPAIR						106-8 04-19-11
Begin Station	End Station	Length FT	Side	Width IN	Pay Length LF	Remarks

POLLUTION PREVENTION PLAN	110-12A 10-18-16
fieldbook entries made by the inspector. C. IDR - Inspector's Daily Report - this contains the inspector's daily diary and bid item postings. D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs). E. Signature Authority - Representative from Designer, Contractor/Subcontractor, or RCE/Inspector authorized to sign various storm water documents.	

CERTIFICATION STATEMENT I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	
Signature	
Printed or Typed Name	
Signature	
Printed or Typed Name	

DELIVERY AND STOCKPILING						110-13 04-20-10
Item Description	Quantity	Units	Delivery Location	Contact Name & Number	Remarks	

SANITARY OR STORM SEWER ABANDONMENT OR REMOVAL						110-14 04-16-13
* Not a bid item						
Location/Description	Sanitary or Storm Sewer	Abandonment, Plug Only or Abandonment, Plug and Fill or Removal	Length of Pipe		Fill Material*	Remarks
			≤ 36 inch diameter	> 36 inch diameter	Flowable Mortar or CLSM	
			LF	LF	CY	

REMOVAL OF INTAKES AND UTILITY ACCESSES				110-15 04-16-13
No.	Location/Description	Type	Remarks	

REMOVAL OF LIGHT POLES AND CONCRETE FOOTINGS						110-16 04-16-13
No.	Location		Removal of Light Pole	Removal of Concrete Footing for Light Pole	Remarks	
	Station	Offset				
		Left Right				

CLEARING AND GRUBBING															110-17 04-18-17							
Location		Work and Material Type	Trees, Stumps, and Logs and Down Timber Material Diameters												All Other Materials		Estimated Quantities			Remarks		
Station to Station or Ref. Loc. Sign to Ref. Loc. Sign or Description	Direction of Travel		3"-6"	>6"-9"	>9"-12"	>12"-15"	>15"-18"	>18"-24"	>24"-30"	>30"-36"	>36"-42"	>42"-48"	>48"-60"	>60"-72"	>72"	Length	Width	Units	Area		Herbicide Application	

ENGLISH	IOWA DOT	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER
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112-3 04-16-13				
RAILROAD APPROACH SECTIONS				
Crossing		Pavement Type		
Location Station	Angle	HMA SY	PCC SY	Remarks

CURBS AND RAISED ISLANDS							112-4 10-21-14
Refer to PV-20, PV-102, and 6000s Detail Series.							
① Bid Item							
Point No.	Station	Offset	Island Interior Area (1) SY	Curb and Gutter Curb Type	Gutter Width FT	Length (1) LF	Remarks

CONCRETE MEDIANS						112-5 10-20-15
* Bid item						
Begin Station	End Station	Type	Area* SY	Modified Subbase CY	Special Backfill CY	Remarks

BRIDGE APPROACH SECTION															112-6 04-18-17			
Refer to the BR Series.																		
* Not a bid item																		
Bridge Station	End	Location		Approach Pavement			Standard Road Plans BR Series			Subdrain					Remarks			
		Skew Ahead		Pay Length	Non-Reinf. Pavement Area SY	Single-Reinf. Pavement Area SY	Double-Reinf. Pavement Area SY	Approach	Fixed or Movable Abutment	Abutting Pavement	Perforated Subdrain 4" LF	Subdrain Outlet STA	Porous Backfill CY	Class 'A' Crushed Stone Backfill CY		Modified Subbase TON	Polymer Grid SY	Special Backfill TON
		Degrees																
		LEFT	RIGHT	Inches														

112-7 10-19-10				
RUMBLE STRIP PANELS				
Refer to Standard Road Plan PV-10.				
Location		Pavement		Remarks
Road Ident.	Station	New	Existing	

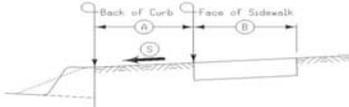
MEDIAN CROSSOVERS														112-8 04-15-14
Refer to PV-500 Series.														
* Not a bid item														
Road Ident.	Location Station	Standard Road Plan No.	Detour Pavement SY	Special Backfill TON	Granular Shoulder TON	Embankment in Place CY	Class 10 Excavation CY	Class 13 Excavation CY	Removal of Pavement SY	Saw Cut* LF	18" Unclassified Roadway Pipe LF	36" OMP Slotted Drain/ 6" Grate LF	Beveled Pipe and Guard No.	Remarks

SHOULDERS																		112-9 10-15-13							
① Lane(s) to which the shoulder is adjacent.																									
② Bid Item																									
③ Applies only for Paved Shoulders constructed on project with existing granular shoulders.																									
④ Does not include shrink.																									
Calculations assume a HMA unit weight (lbs/cf) of 0, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.																									
Road Identification	① Direction Of Traffic	Location			Side	② P Width FT	② G Width FT	② L Length FT	③ Class 13 Excavation CY	Hot Mix Asphalt		Binder TONS	Paved Shoulder SY	Reinforced Paved Shoulder SY	Quantities				Modified Subbase CY	Granular Shoulder		Earth Shoulder Construction Alternates			Remarks
		Station to Station		Special Backfill						Granular Shoulder					Earth Shoulder Construction Alternates										
				HMA Alternate						PCC Alternate	TON				TON/STA	TON	TON/STA	TON		TON/STA	STA	HMA CY	PCC CY		

MILLED RUMBLE STRIPS										112-10 04-19-11
* Calculated at 18" width for Shoulder.										
Road Identification	Location		Length		Type (Centerline, Rt or Lt Shoulder)	Fog Seal* (Milled Rumble Strip) GAL	Effective Shoulder Width			Remarks
	Station to Station		PCC STA	HMA STA			PCC Paved FT	HMA Paved FT	Granular\ Earth FT	

113-1
04-16-13

SIDEWALKS
See MI-220 and 5 Sheets



Road Identification	Station to Station	Side	(A)	(B)	(S)	4" PCC Sidewalk	6" PCC Sidewalk	8" PCC Sidewalk	Detectable Warnings	Remarks
			FT	FT	%	SY	SY	SY	SF	

113-2
04-16-13

PEDESTRIAN PATH CLOSURES

Refer to TC-601.

*Assumes 6 foot wide barricade.
Closures may need to be removed and re-established.

Location	Side	Type III Barricades*	Remarks
		No.	

113-3
10-18-11

PEDESTRIAN CHANNELIZERS

Station to Station	Length	Remarks
	LF	

113-10
04-18-17

SIDEWALK COMPLIANCE

See 5 Sheets

- * Does not include curb
- (1) Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.
- (2) Refer to tabulation 113-01 for bid quantities.

Point to Point	Sidewalk Designation	8" PCC Sidewalk	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant?	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES								
			FT	FT	%	Pos. or Neg.	(1)	%			Point	Station	Offset	Elevation					

190-54
04-18-17

SIGNING MATERIALS FOR EXPRESSWAY AT-GRADE INTERSECTIONS

NO.	COUNTY	JURISDICTION	ROUTE 1	ROUTE 2	REFERENCE LOCATION SIGN	STATION	TYPICAL	SIGNS								TYPE	POSTS LENGTH		PSST Post Anchor	SPECIAL MOUNTING BRACKETS	STOP ISLANDS PRESENT	REMARKS
								R1-1B	R1-2	R5-1A	R6-1A	R6-1C	R6-3B	R6-3C	OM-1		28-FT	24-FT				
								EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH		EACH	EACH				

190-61
10-15-13

EXISTING SIGNS TO BE REINSTALLED

SIGN DESCRIPTION	DIRECTION OF TRAVEL	LOCATION STATION	NUMBER OF POSTS	SQUARE TUBE STEEL POSTS	WOOD POSTS		INSTALLATION		SEE SIGNING NOTES
					4" x 4" LF	4" x 6" LF	TYPE	DIM 'X'	

190-62
10-15-13

EXISTING SIGNS TO BE REMOVED

SIGN NUMBER OR DESCRIPTION	LOCATION STATION	DIRECTION OF TRAVEL	TYPE 'A' SIGN ASSEMBLY	TYPE 'B' SIGN ASSEMBLY	REMOVE & REINSTALL EXISTING SIGNS		CONCRETE FOUNDATION	SUPPORT STRUCTURE & FOUNDATION	APPLICABLE SIGNING NOTES	REMARKS
			(RA)	(RB)	(RR)	(RR)				
			EACH	EACH	EACH	EACH				

190-65
10-15-13

SPECIAL SIGN MOUNTING BRACKETS

BRACKET TYPE	QUANTITY
	EACH

190-66
10-21-14

SUMMARY OF TYPE 'A' SIGNS

Sign Number	Quantity EACH	Size IN	Total Sign Area SF

ENGLISH IOWA DOT DESIGN TEAM

COUNTY PROJECT NUMBER

SHEET NUMBER

192-1
04-18-17

MATERIALS FOR STEEL ROADSIDE DMS SIGN SUPPORT

DMS NUMBER/NAME	LOCATION				HORIZONTAL OFFSET TO CENTER OF POST	SKEW ANGLE DEGREES	OFFSETS TO NEAR CORNERS OF FOOTING		LENGTH OF POST FT	FOUNDATION QUANTITIES		
	ROUTE	STATION	REFERENCE LOCATION SIGN	DIRECTION OF TRAVEL			Y1	Y2		EXCAVATION (CLASS 20)	REINFORCING-EPOXY-COATED STEEL	STRUCTURAL CONCRETE
							FT	FT		CY	LB	CY

Roadside Development

NO.	DATE	TITLE
231-1	10-18-11	Planting
231-2	10-16-12	Herbicide
232-3A	10-20-15	Erosion Control (Rural Seeding)
232-3B	10-20-15	Erosion Control (Urban Seeding)
232-3C	10-20-15	Erosion Control (Native Grass Seeding)
232-7	10-16-12	Erosion Control (Salvage and Removal Projects)
232-10	04-18-17	Emerald Ash Borer
232-11	10-20-15	Erosion Control (Stabilizing Crop Seeding)

230 Roadside Development

231-1
10-18-11
PLANTING

Exercise all necessary caution in construction operations within the rest area to prevent injury to all plantings and landscaping.

231-2
10-16-12
HERBICIDE

For all herbicide applications, the following provisions shall apply.

1. Follow all laws, rules and regulations related to the handling of pesticides, including but not limited to:
 - a. Follow all herbicide label directions, restrictions, and precautions.
 - b. The company responsible for the herbicide applicator must be licensed with Iowa Department of Agriculture and Land Stewardship (IDALS) as a commercial pesticide applicator company.
 - c. The person applying the herbicide must be certified through IDALS as a pesticide applicator in Category 6, Right-of-Way. For herbicide applications that require an aquatic certification, the applicator must also be certified as a pesticide applicator in Category 5, Aquatics.
 - d. Use herbicide and adjuvant products labeled for the application site:
 - i. For applications on the primary highway right-of-way, use only products labeled for use on highway rights-of-way or roadsides.
 - ii. For applications to or over water, use only products labeled for corresponding use in aquatic sites, unless intermittent pockets of standing water, such as tire ruts, and the product is labeled for such use.
 - iii. For applications to areas in the water conveyance portion of the ditch that do not contain water at the time of application, use only products labeled for non-irrigation ditch banks or aquatic sites.
 - e. Do not apply any herbicide to or over standing or flowing water unless required coverage is obtained under a National Pollutant Discharge and Elimination System (NPDES) Pesticide Discharge Permit through Iowa DNR. If standing or flowing water is encountered in areas when they need to be sprayed, notify Iowa DOT (Roadside Development) to determine if submittal of a Notice of Intent (NOI) is required.
2. Schedule work according to weather conditions and take measures to avoid off-target damage, such as runoff, leaching, drift and volatilization.
 - a. Do not spray herbicide 24 hours prior to forecast precipitation that is expected to cause significant runoff conditions.
 - b. For areas with saturated soil, such as ditch bottoms, do not spray herbicide 24 hours prior to forecast precipitation, unless using products labeled for aquatic sites.
 - c. For conventional applications, avoid applications when wind speed exceeds 10 mph. For invert applications, avoid applications when wind speed exceeds 15 mph.
 - d. For conventional foliar applications, use a drift retardant and maintain drift control throughout the application period by adding more to the tank as it breaks down from agitation.
 - e. Avoid spraying volatile products when temperatures are forecast to exceed 85° F within 3 days.
 - f. Check the IDALS Sensitive Crops Directory and do not spray adjacent to a listed operation when wind is blowing towards it.
3. Respond to allegations of any off-target damage attributed to handling and spraying of herbicide.
4. Provide the following documents to the Engineer for approval not less than 2 weeks prior to the application.
 - a. A copy of the herbicide and adjuvant labels, including any applicable supplemental labels.
 - b. A copy of the herbicide and adjuvant Material Safety Data Sheets (MSDS.)
5. Have copies of the herbicide and adjuvant labels and MSDS on-hand and at locations of storage, transport, and application.

231-2
10-16-12
HERBICIDE

6. Schedule work to maximize efficiency of the herbicide application in relation to weather conditions and plant growth stage. Follow any label recommendations given as "for best results."
 - a. For weed applications:
 - i. To determine if weeds are "actively growing," use as a guideline that there needs to have been at least 1 hour of temperature above 65° F and 1 hour of sun in the day prior to, of, or forecast before a rain the day after the application.
 - ii. For spring applications to thistles, apply after basal leaves of Canada thistles are fully extended, and after rosettes of musk thistle are at least 8 inches diameter, but before flower stage.
 - iii. For fall applications to thistles, apply prior to the second hard freeze of 28° F, unless otherwise listed in the label directions.
 - b. For tree and brush applications:
 - i. For foliar applications and cut stump/surface applications with water-soluble products, apply after leaves are fully opened in the spring and prior to leaf discoloration in the fall.
 - ii. For cut stump applications with oil soluble products, do not apply during periods of heavy sap flow. Use as a guideline that heavy sap flow occurs in late winter to early spring when nighttime temperatures below 32° F are followed by daytime temperatures above 32° F with sunny conditions.
 - iii. For cut stump and basal bark applications, add sufficient dye so that treated areas are visible to inspection 7 days after application.
7. Notify the Engineer prior to calibrating, mixing and applying herbicides, including incidental items.
8. Provide copies of daily spray logs to the RCE at the end of each week of spraying (form provided by Iowa DOT).
9. If Contractor does not complete spray item on schedule, the Engineer may adjust the schedule.

232-3A
10-20-15
EROSION CONTROL (RURAL SEEDING)

- Following the completion of work in a disturbed area, place seed, fertilizer, and mulch on the disturbed area lying 8 feet adjacent to shoulder and median as follows:
- Use seed mix and fertilizer meeting the requirements of Article 2601.03,C,3 and Section 4169 of the Standard Specifications.
- Use mulch meeting the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.
- Preparing the seedbed and furnishing and applying seed, fertilizer, and mulch is incidental to mobilization and will not be paid for separately.

232-3B
10-20-15
EROSION CONTROL (URBAN SEEDING)

- Following the completion of work in a disturbed area, place seed, fertilizer, and mulch on the disturbed area as follows:
- Use seed mix and fertilizer meeting the requirements of Article 2601.03,C,4 and Section 4169 of the Standard Specifications.
- Use mulch meeting the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.
- Preparing the seedbed and furnishing and applying seed, fertilizer, and mulch is incidental to mobilization and will not be paid for separately.

232-3C
10-20-15
EROSION CONTROL (NATIVE GRASS SEEDING)

- Following the completion of work in a disturbed area, place seed and mulch on the disturbed area lying 8 feet or more beyond the shoulder as follows:
- SEED MIX:
- | | |
|--|-----------------------------|
| Big bluestem (<i>Andropogon gerardii</i>) | 6 lbs. PLS/Acre (7.0 kg/ha) |
| Indiangrass (<i>Sorghastrum nutans</i>) | 6 lbs. PLS/Acre (7.0 kg/ha) |
| Little bluestem (<i>Schizachyrium scoparium</i>) | 6 lbs. PLS/Acre (7.0 kg/ha) |
| Partridge Pea (<i>Chamaecrista fasciculata</i>) | 4 lbs. PLS/Acre (4.5 kg/ha) |
| Sideoats grama (<i>Bouteloua curtipendula</i>) | 4 lbs. PLS/Acre (4.5 kg/ha) |
| Canada wildrye (<i>Elymus canadensis</i>) | 2 lbs. PLS/Acre (2.2 kg/ha) |
| Switchgrass (<i>Panicum virgatum</i>) | 1 lbs. PLS/Acre (1.1 kg/ha) |
| Oats (<i>Avena sativa</i>) | 32 lbs./Acre (36.0 kg/ha) |
- Furnish Big bluestem, Indiangrass, Canada wildrye and Little bluestem that is debarbed or equal to facilitate the application of seed.
- Furnish seed certified as Source Identified Class (Yellow Tag) Source G0-Iowa. Oats are excluded from this requirement.
- Use seed meeting requirements of Article 4169.02 of the Standard Specifications.
- Use mulch meeting the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.
- Preparing the seedbed and furnishing and applying seed and mulch is incidental to mobilization and will not be paid for separately.

232-7
10-16-12
EROSION CONTROL (SALVAGE AND REMOVAL PROJECTS)

- Following the completion of work in a disturbed area, place seed and fertilize the disturbed area as follows:
- SEEDING:
3 lbs. of Tall Fescue (Fawn) per 1000 sq. ft.
- FERTILIZER:
17 lbs. of 13-13-13 (or equivalent) commercial fertilizer per 1000 sq. ft.
- ESTIMATED AREA: _____ acres.
- Preparing the seedbed and furnishing and applying seed and fertilizer is incidental to mobilization and will not be paid for separately.

232-10
04-18-17
EMERALD ASH BORER

- Any living, dead, cut or fallen material of the ash (*Fraxinus* spp.) including trees, nursery stock, logs, firewood, stumps, roots, branches, and composted or uncomposted ash chips can be freely moved within the yellow areas of the most recent Federal EAB Quarantine & Authorized Transit.
- https://www.aphis.usda.gov/plant_health/plant_pest_info/emerald_ash_b/downloads/eab_quarantine_map.pdf
- Obtain appropriate Compliance Agreements from USDA APHIS PPQ prior to moving any of the above listed ash articles to areas outside the yellow zone on the map.
- For questions, concerns, and general assistance, contact:
USDA APHIS PPQ, Iowa office, 515-414-3295
- Or
Iowa Department of Agriculture & Land Stewardship
515-725-1470
Entomology@IowaAgriculture.gov

232-11
10-20-15
EROSION CONTROL (STABILIZING CROP SEEDING)

- Following the completion of work in a disturbed area, place stabilizing crop, fertilizer, and mulch on the disturbed area as follows:
- Use seed mix and fertilizer meeting the requirements of Article 2601.03,C,1 and Section 4169 of the Standard Specifications.
- Use mulch meeting the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.
- Preparing the seedbed and furnishing and applying seed, fertilizer, and mulch is incidental to mobilization and will not be paid for separately.

ENGLISH	IOWA DOT	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER
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SECTION

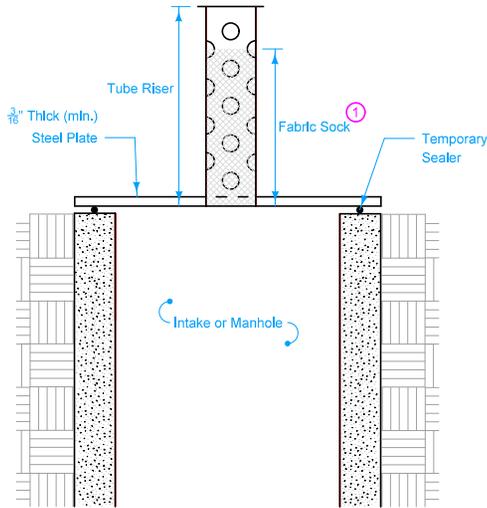
560**MISCELLANEOUS**

NO.	DATE	TITLE
560-2	03-28-95	Mailbox Turnouts (Granular Surfaced)
560-3	10-16-12	Grading Blister at Light Pole Footing
560-4	10-21-14	HMA Wedge for Superelevation
560-5	04-21-15	Painted Islands
560-6	10-18-16	Shared-use Trail or Sidewalk Behind Steel Beam Guardrail at Bridge Approach

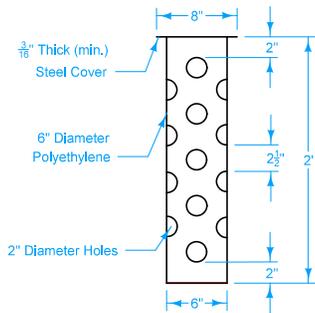
SECTION

570**EROSION CONTROL**

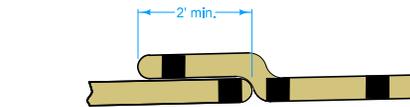
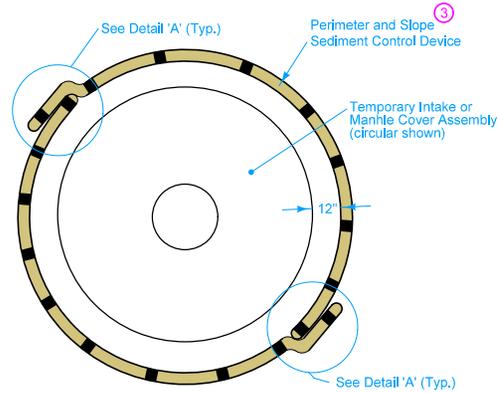
NO.	DATE	TITLE
570-1	10-18-16	Slash Mulch Berm
570-2	04-19-16	Rock Check Dam
570-3	10-18-16	Temporary Sediment Control Basin
570-4	10-18-16	Silt Fence Installation for Shallow or No Ditch
570-5	04-18-17	Erosion Control for Intake or Manhole Well
570-6	04-18-17	Open-Throat Curb Intake Sediment Filter
570-7	04-18-17	Grate Intake Sediment Filter Bag
570-9	04-18-17	Erosion Control for Trenchless Construction
570-10	04-18-17	Stabilized Construction Entrance



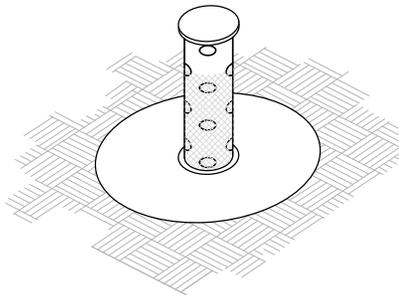
SECTION VIEW



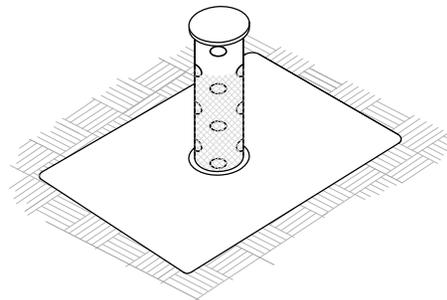
TUBE RISER (2)



DETAIL 'A' (4)
(Overlap Joint)



ISOMETRIC VIEW
(Circular)



ISOMETRIC VIEW
(Rectangular)

TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY

PERIMETER AND SLOPE SEDIMENT CONTROL

Method of Measurement for Temporary Intake or Manhole Cover Assembly will be by count.

Basis of Payment for Temporary Intake or Manhole Cover Assembly will be at the contract unit price for each device installed.

Method of Measurement for Maintenance of Temporary Intake or Manhole Cover Assembly will be by count.

Basis of Payment for Maintenance of Temporary Intake or Manhole Cover Assembly will be at the contract unit price for each occurrence. Payment is full compensation for inspecting fabric sock and replacing when flow capacity has been reduced to 50%.

Method of Measurement for Removal of Temporary Intake or Manhole Cover Assembly will be by count.

Basis of Payment for Removal of Temporary Intake or Manhole Cover Assembly will be at the contract unit price for each device removed.

- (1) Wrap fabric sock around tube riser. Use fabric complying with Article 4196.01, B, 1 with a minimum flow rate of 90 gallons per minute per square foot. Ensure top of sock is below form grade elevation.
- (2) Tube riser may be such that it can be pushed down and pulled up.
- (3) Place Perimeter and Slope Sediment Control Devices around all intake or manhole wells. Use 20 inch diameter device.
- (4) Extra material required to install overlaps will not be included in the installation length.

Possible Contract Items:

- Temporary Intake or Manhole Cover Assembly
- Maintenance of Temporary Intake or Manhole Cover Assembly
- Removal of Temporary Intake or Manhole Cover Assembly
- Perimeter and Slope Sediment Control Device

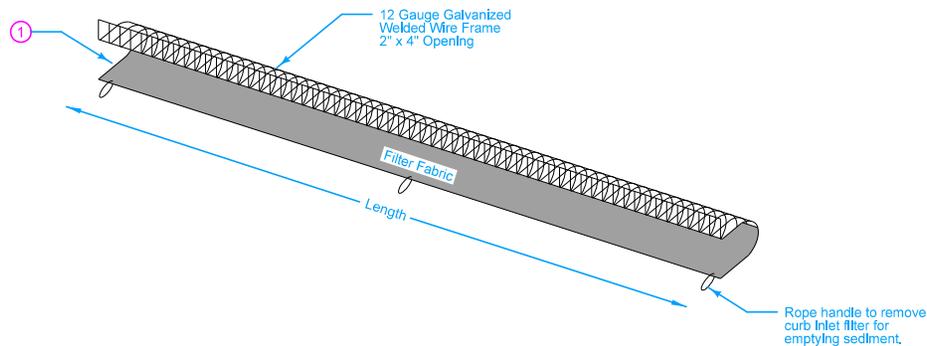
Possible Tabulations:

- 100-11
- 100-19

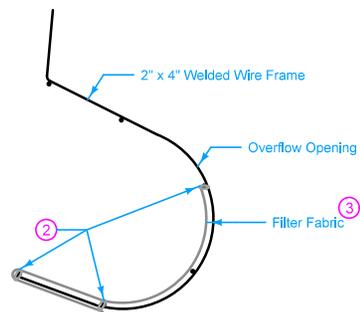
IOWA DOT	REVISION	
	1	04-18-17
	570-5	
ROAD DESIGN DETAIL		SHEET 1 of 1

REVISIONS: Add bid items for maintenance and removal. Added basis of payment and method of measurement.

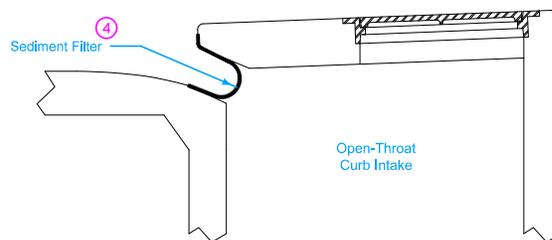
**EROSION CONTROL FOR INTAKE
OR MANHOLE WELL**



OPEN-THROAT CURB INTAKE SEDIMENT FILTER



SEDIMENT FILTER CROSS SECTION



SEDIMENT FILTER PLACEMENT

Remove sediment filter upon stabilization of sediment sources.

Measurement for Open-throat Curb Intake Sediment Filter will be in feet to the nearest foot.

Basis of Payment for Open-throat Curb Intake Sediment Filter will be at the contract unit price per foot. Payment is full compensation for furnishing all equipment, labor, and materials required to install the Open-throat Curb Intake Sediment Filter as shown.

Method of Measurement for Maintenance of Open-throat Curb Intake Sediment Filter will be by count.

Basis of Payment for Maintenance of Open-throat Curb Intake Sediment Filter will be at the contract unit price for each occurrence. Payment is full compensation for clean out and disposal of material when sediment accumulation depth reaches 2 inches, and for any other repair needed during the project.

Measurement for Removal of Open-throat Curb Intake Sediment Filter will be by count.

Basis of Payment for Removal of Open-throat Curb Intake Sediment Filter will be at the contract unit price for each Open-throat Curb Intake Sediment Filter removed. Payment is full compensation for all labor and equipment required for removal.

- ① Trim frame as needed to tightly fit in the intake throat. Overlap fabric a minimum of 3 inches and securely fasten.
- ② Securely attach filter fabric to the wire frame leaving an overflow opening above the filter fabric.
- ③ Woven material meeting the requirements of Table 4196.01-1 of the Standard Specifications, except a maximum apparent opening size US Sieve No. 10 and a minimum flow rate of 145 gallons per minute per square foot.
- ④ Insert sediment filter to create a compression fit in the intake throat.

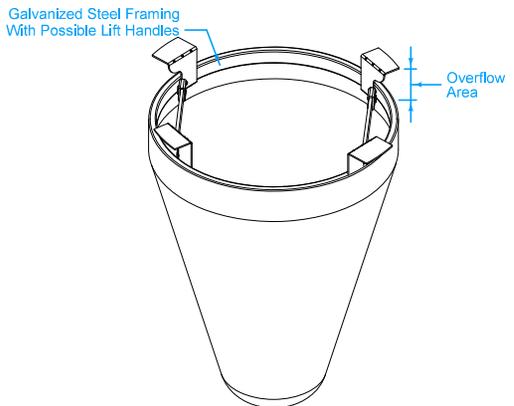
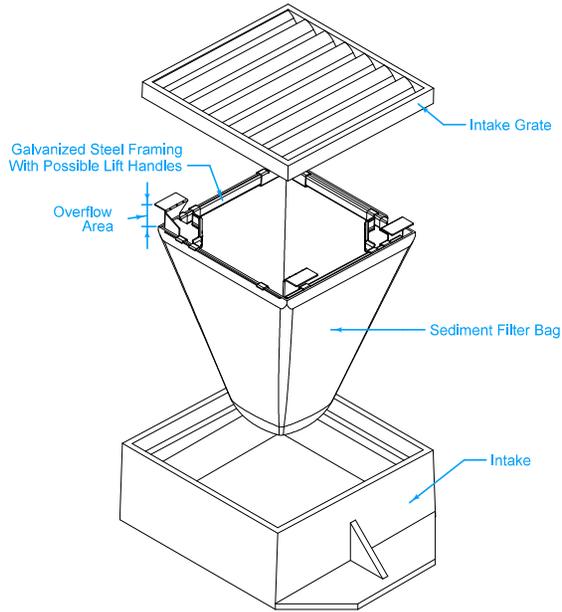
Possible Contract Items:
 Open-throat Curb Intake Sediment Filter
 Maintenance of Open-throat Curb Intake Sediment Filter
 Removal of Open-throat Curb Intake Sediment Filter

Possible Tabulation:
 100-36

IOWA DOT	REVISION	
	NEW	04-18-17
ROAD DESIGN DETAIL		570-6
		SHEET 1 of 1

REVISIONS: NEW

OPEN-THROAT CURB INTAKE
SEDIMENT FILTER



SEDIMENT FILTER BAG FOR CIRCULAR GRATE

Remove sediment filter bag upon stabilization of sediment sources.

Measurement for Grate Intake Sediment Filter Bag will be by count.

Basis of Payment for Grate Intake Sediment Filter Bag will be at the contract unit price for each device installed. Payment is full compensation for furnishing all equipment, labor, and materials required to install the Grate Intake Sediment Filter Bag as shown.

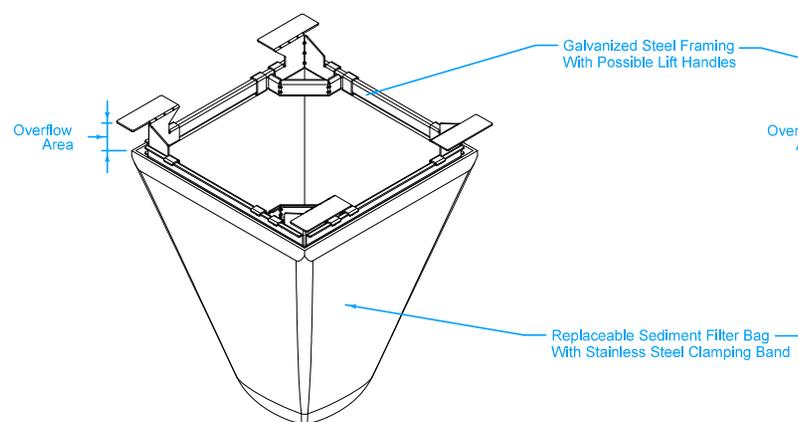
Method of Measurement for Maintenance of Grate Intake Sediment Filter Bag will be by count.

Basis of Payment for Maintenance of Grate Intake Sediment Filter Bag will be at the contract unit price for each occurrence. Payment is full compensation for clean out and disposal of material when capacity reaches 50%, and for any other repair needed during the project.

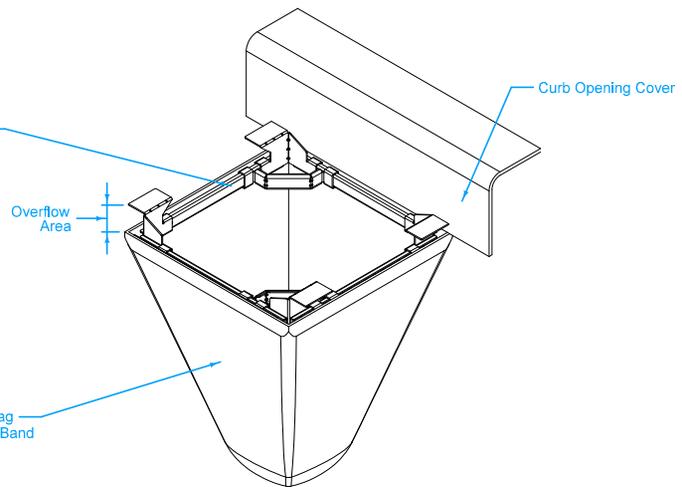
Measurement for Removal of Grate Intake Sediment Filter Bag will be by count.

Basis of Payment for Removal of Grate Intake Sediment Filter Bag will be at the contract unit price for each device removed. Payment is full compensation for all labor and equipment required for removal.

TYPICAL SEDIMENT FILTER BAG PLACEMENT



SEDIMENT FILTER BAG FOR SQUARE OR RECTANGULAR GRATE



SEDIMENT FILTER BAG FOR COMBINATION GRATE WITH CURB OPENING

① Woven material meeting the requirements of Table 4196.01-1 of the Standard Specifications, except a maximum apparent opening size US Sieve No. 10 and a minimum flow rate of 145 gallons per minute per square foot.

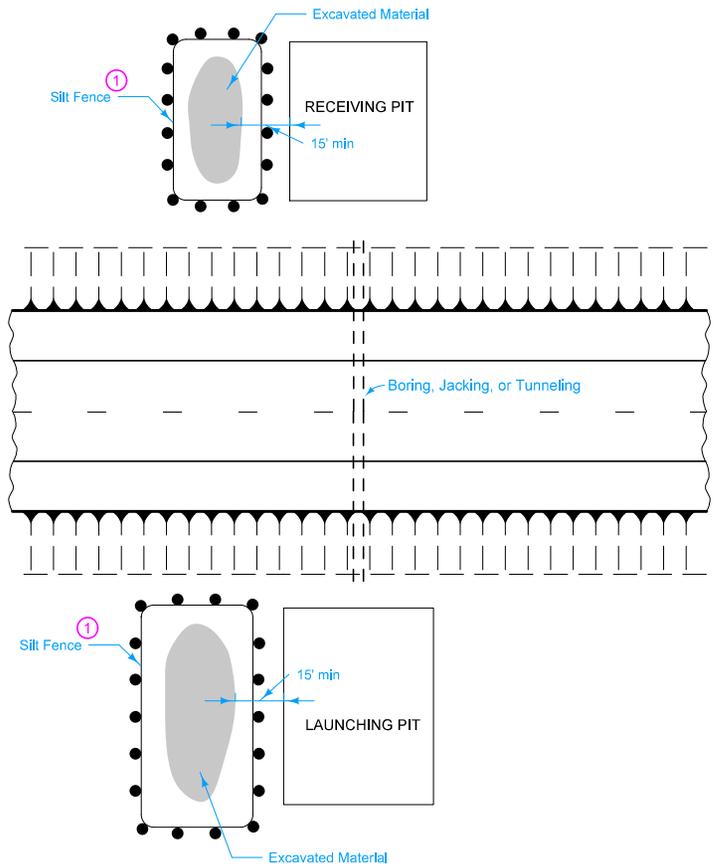
Possible Contract Items:
 Grate Intake Sediment Filter Bag
 Maintenance of Grate Intake Sediment Filter Bag
 Removal of Grate Intake Sediment Filter Bag

Possible Tabulation:
 100-37

IOWA DOT	REVISION
	NEW 04-18-17
ROAD DESIGN DETAIL	570-7
REVISIONS: NEW	SHEET 1 of 1

**GRATE INTAKE
SEDIMENT FILTER BAG**

① Install silt fence to enclose excavated material.



Possible Contract Items:
Silt Fence
Removal of Silt Fence or Silt Fence for Silt Ditch Check

Possible Tabulations:
100-17

	REVISION	
	NEW	04-18-17
ROAD DESIGN DETAIL	570-09	
	SHEET 1 of 1	

REVISIONS: NEW

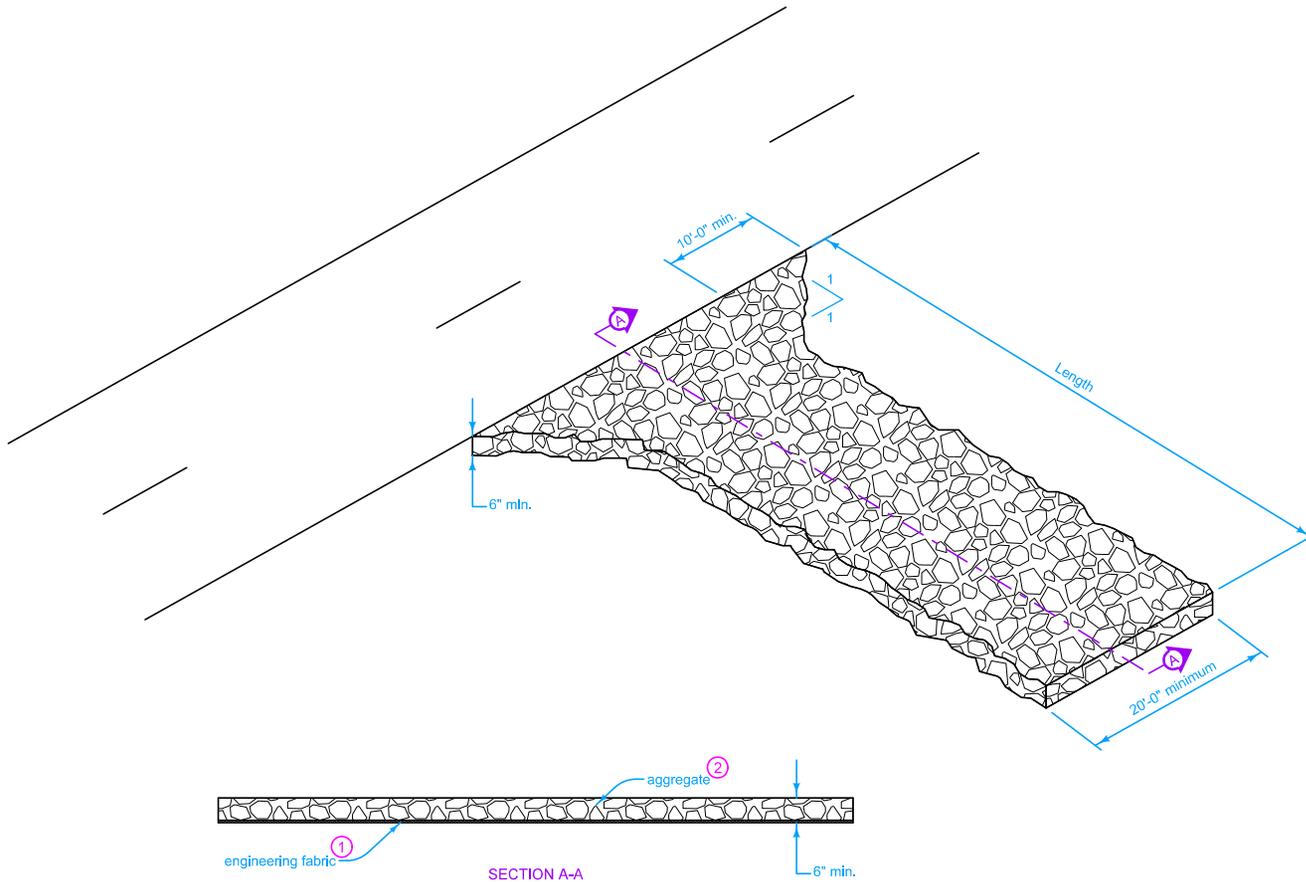
**EROSION CONTROL FOR
TRENCHLESS CONSTRUCTION**

Obtain the Engineer's approval for location and length of stabilized entrances prior to constructing.

Method of Measurement for Stabilized Construction Entrance will be in linear feet measured along the length of the entrance at the entrance centerline.

Basis of Payment for Stabilized Construction Entrance will be at the contract unit price per linear foot. Payment is full compensation for furnishing all materials and work necessary for installation, maintenance, and removal of stabilized construction entrance. Maintenance includes installing additional material or cleaning required to maintain the entrance in a functional condition.

- ① Place engineering fabric prior to placing aggregate. Use fabric for Embankment Erosion Control complying with Section 4196 of the Standard Specifications.
- ② Use aggregate meeting Gradation No. 13 of Section 4109 of the Standard Specifications.



Possible Contract Item:
Stabilized Construction Entrance

	REVISION	
	NEW	04-18-17
ROAD DESIGN DETAIL		570-10
		SHEET 1 of 1

REVISIONS: NEW

STABILIZED CONSTRUCTION ENTRANCE

SECTION

4100**Roadway Ditches**

NO.	DATE	TITLE
4101	04-20-10	Typical Cross Section Intercepting Ditch
4102	04-18-17	Typical Cross Section Temporary Intercepting Ditch
4104	04-21-15	Typical Cross Section Earth Excavation Bench Backslope
4107	10-15-13	Typical Cross Section Stepped Backslope
4108	10-15-13	Typical Cross Section Possible Borrow in R.O.W. with Berm
4109	10-15-13	Typical Cross Section Possible Borrow in R.O.W.
4110	10-15-13	Typical Cross Section Excavation in Rock
4111	10-15-13	Excavation in Rock Using Pre-Splitting Method

SECTION

4200**Channel Change Ditches**

NO.	DATE	TITLE
4201	09-07-73	Typical Cross Section Type 1 Channel
4202	09-07-73	Typical Cross Section Type 2 Channel
4203	12-08-95	Typical Details for Outlet Ditch Through Foreslope Berm
4204	10-03-00	Details of Typical Special Ditch

SECTION
4300

MISCELLANEOUS

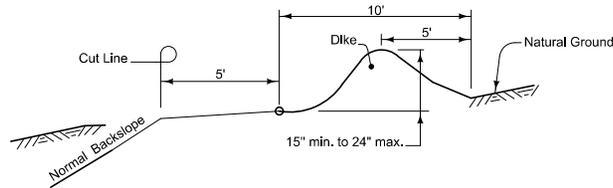
NO.	DATE	TITLE
4301	--	VOID
4302	04-03-01	Typical Details for Obliteration Existing Roadbed
4309	10-20-09	Immediate Placement of Embankment at Culvert Extension
4311	10-18-16	Barnroof Foreslope at Drainage Structure
4312	04-18-17	Barnroof Foreslope at Skewed Drainage Structure
4315	04-15-08	Culvert Abandonment with Flowable Mortar (Rectangular structures less 8' in either height or width or circular structures less than 10' Dia.)
4316	04-15-08	Culvert Abandonment with Flowable Mortar (Rectangular structures at least 8' in both height and width or circular structures 10' Dia. or larger)
4317	10-16-12	Fill for Culverts used in Bridge Replacements
4318	10-15-13	Fill for Culvert used in Bridge Replacements with Restricted Height
4320	10-18-11	Foreslope Benching for Slide Repair

SECTION
4400

EROSION CONTROL

NO.	DATE	TITLE

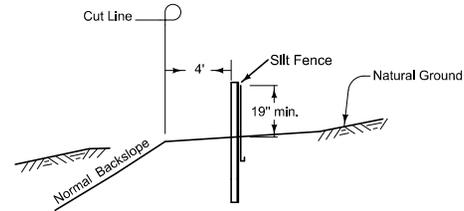
4101
04-20-10



Refer to plans for locations of intercepting ditches. Dike for intercepting ditch shall be made by taking earth from roadway side. Do not excavate back of dike.

TYPICAL CROSS SECTION
INTERCEPTING DITCH

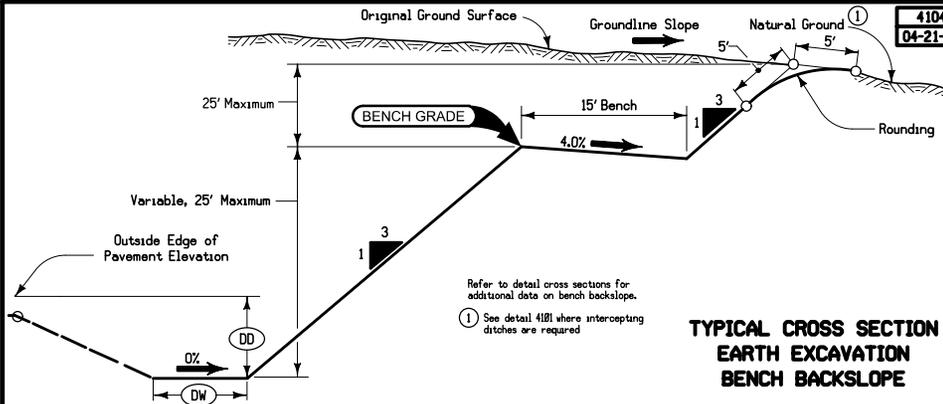
4102
04-18-17



Refer to plans for locations of temporary intercepting ditches.
Refer to Standard Road Plan EC-201 for silt fence installation details.
Refer to Tab 100-16

TYPICAL CROSS SECTION
TEMPORARY INTERCEPTING DITCH

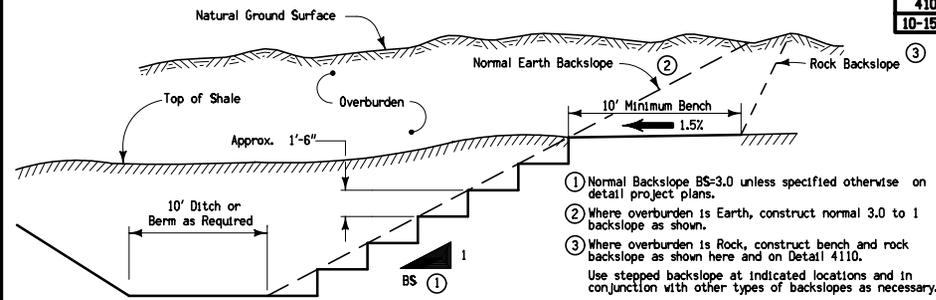
4104
04-21-15



Refer to detail cross sections for additional data on bench backslope.
① See detail 4101 where intercepting ditches are required

TYPICAL CROSS SECTION
EARTH EXCAVATION
BENCH BACKSLOPE

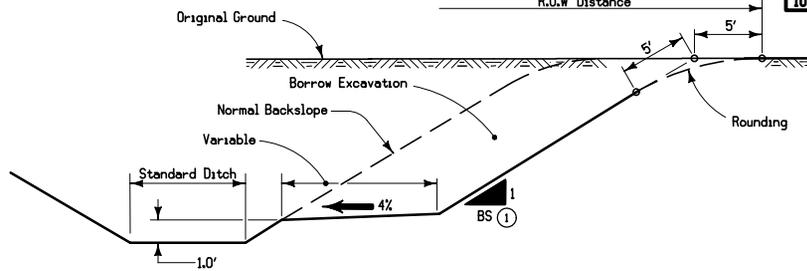
4107
10-15-13



① Normal Backslope BS=3.0 unless specified otherwise on detail project plans.
② Where overburden is Earth, construct normal 3.0 to 1 backslope as shown.
③ Where overburden is Rock, construct bench and rock backslope as shown here and on Detail 4110.
Use stepped backslope at indicated locations and in conjunction with other types of backslopes as necessary.
Refer to detail cross sections and appropriate other drawings for additional data pertaining to backslopes.

TYPICAL CROSS SECTION
STEPPED BACKSLOPE

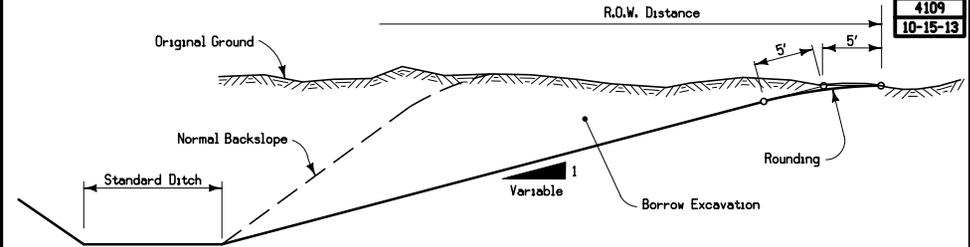
4108
10-15-13



Use borrow backslope at those locations shown on plans or specifically required by the Engineer.
① Normal Backslope BS=2.5 unless specified otherwise on detail project plans.
See Detail 4101 where intercepting ditches are required.

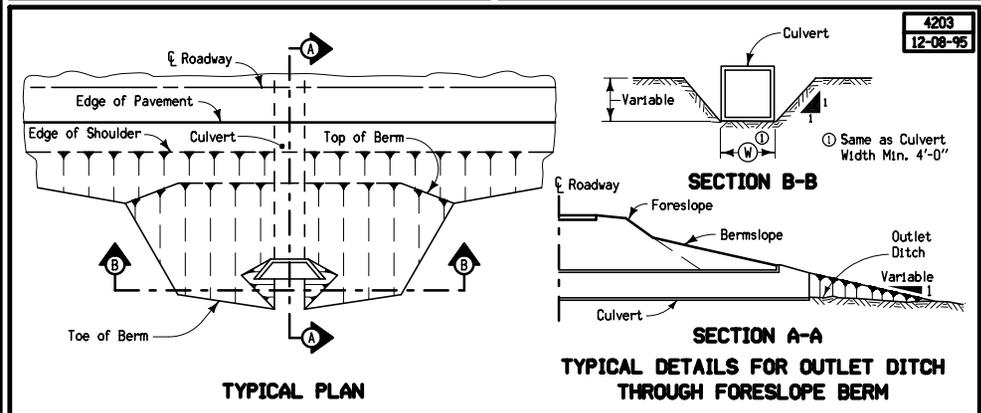
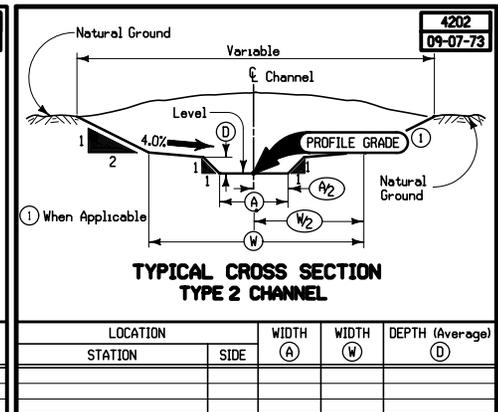
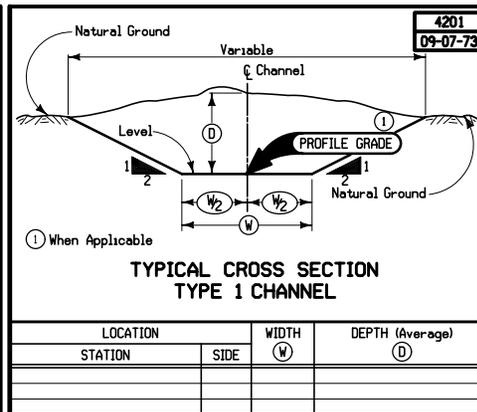
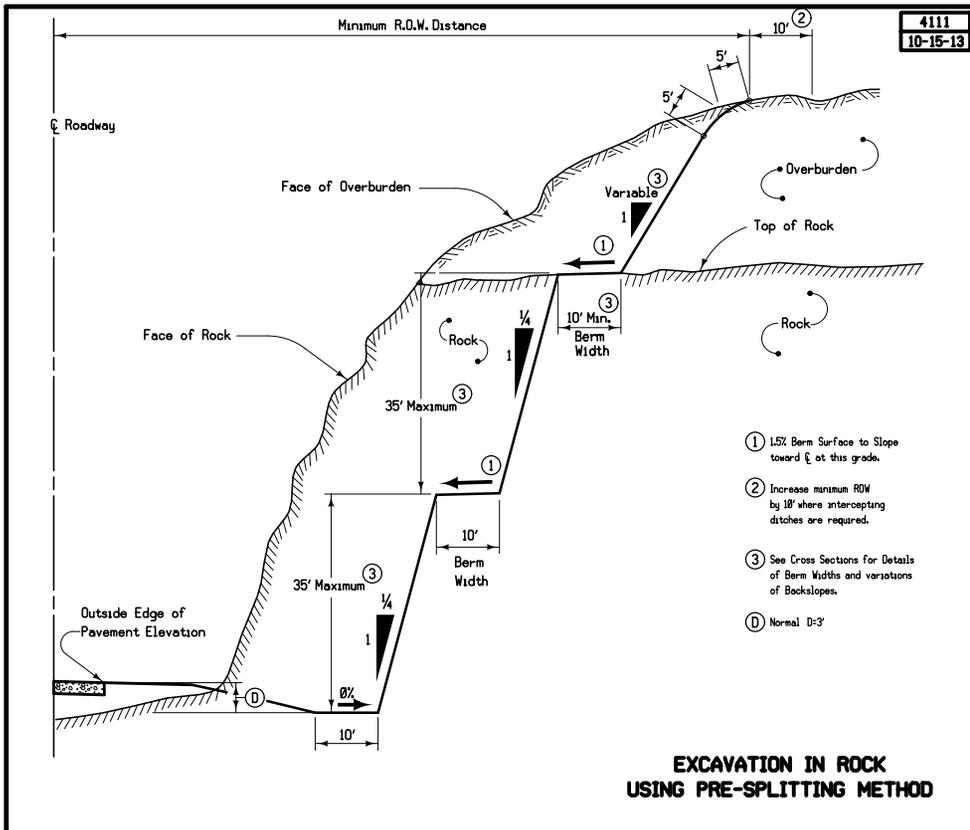
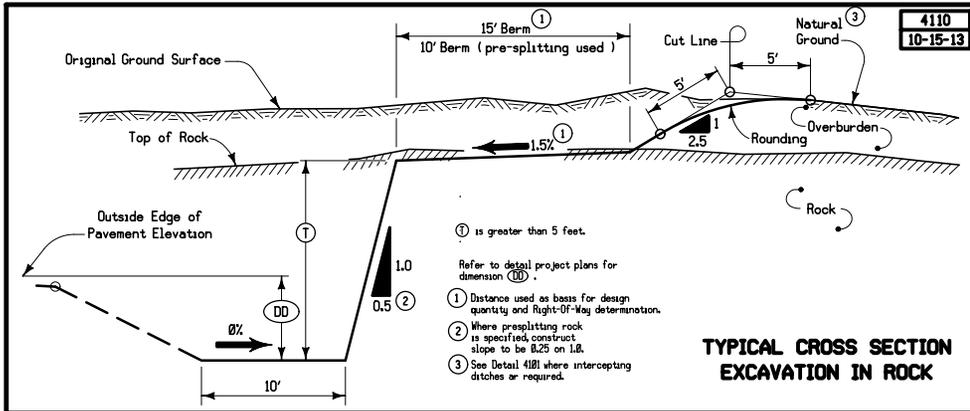
TYPICAL CROSS SECTION
POSSIBLE BORROW IN R. O. W.
WITH BERM

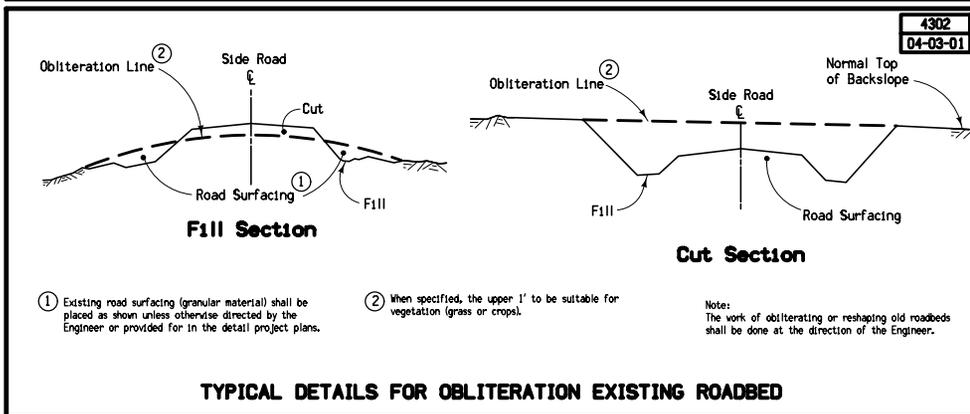
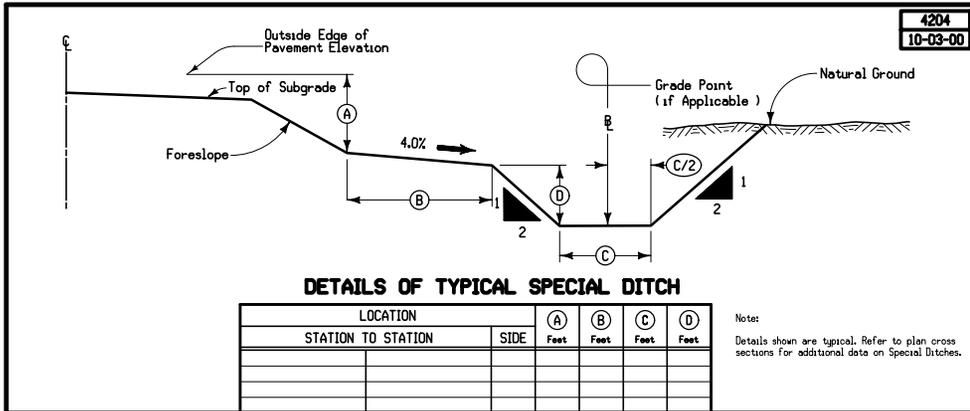
4109
10-15-13

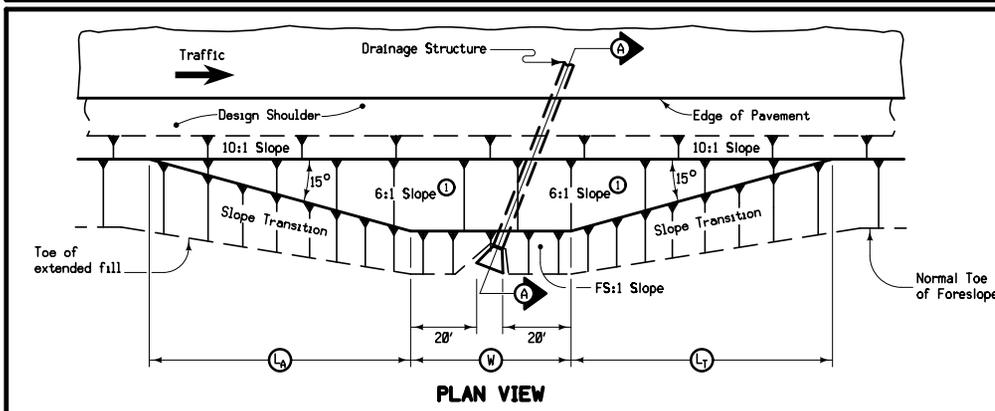
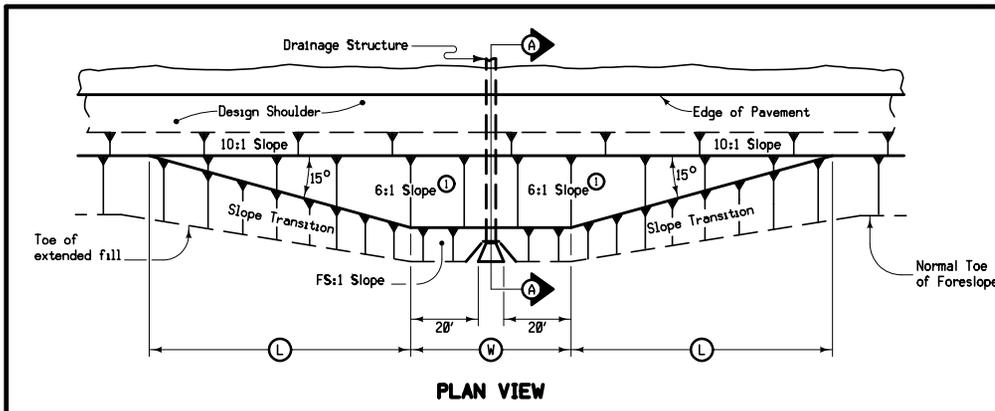
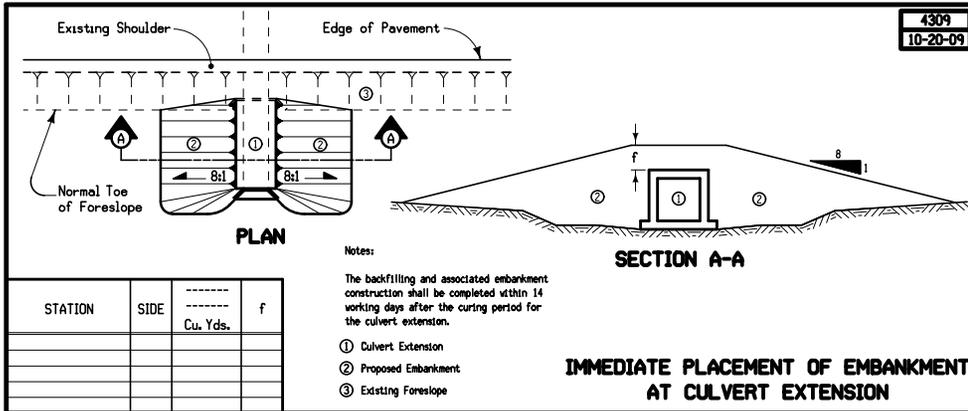


Use borrow backslope at those locations shown on plans or specifically required by the Engineer.
See Detail 4101 where intercepting ditches are required.

TYPICAL CROSS SECTION
POSSIBLE BORROW IN R. O. W.

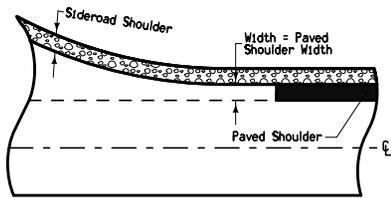




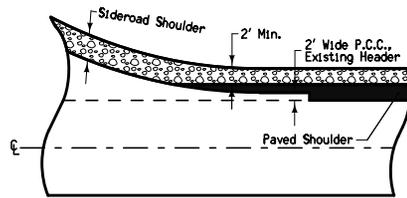


PAVING

NO.	DATE	TITLE
7101	10-19-10	Typical Details of PCC Pavement Header
7102	04-21-15	HMA Pavement Header
7117	10-02-01	Granular Shoulder Construction Thru Entrances
7130	07-21-87	Beginning or Ending Transition for Detour Pavement
7131	10-19-04	Ramp Transition - 18' Loop to Tangent 16' Ramp
7134	10-15-13	Typical Fillet Section for Type 'B' Granular Surfaced Shoulder (Adjacent to HMA Resurfacing)
7135	10-15-13	Typical Section for Type 'B' Granular Shoulder (Adjacent to HMA Resurfacing)
7137	10-15-13	HMA Shoulder Resurfacing
7145	04-15-03	Aggregate for Paved Shoulder Fillet
7146	04-15-03	Earth for Paved Shoulder Fillet
7148	10-21-14	Fillet for Non-Paved Entrances or Side Roads
7149	04-15-14	Fillet Extension for Non-Paved Side Roads
7151	10-15-13	Typical Section Retrofit Paved Shoulder
7152	10-15-13	Typical Section Retrofit HMA Paved Shoulders
7154	04-20-10	Paved Shoulder Detail at Ramp Tapers (Non-Interstate)
7154A	10-20-09	Paved Shoulder Detail at Turn Lanes
7154B	10-20-09	Paved Shoulder Detail at Returns
7155	10-21-03	Paved Shoulder Detail at Climbing/Passing Lanes
7156	04-18-17	Paved Shoulder at Guardrail



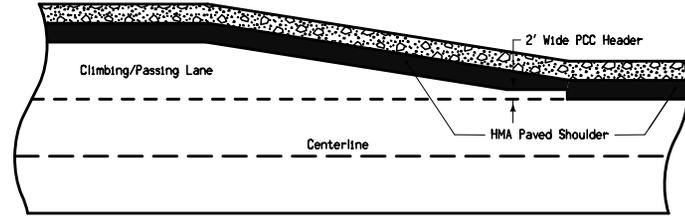
With Newly Constructed Returns



At UAC Returns

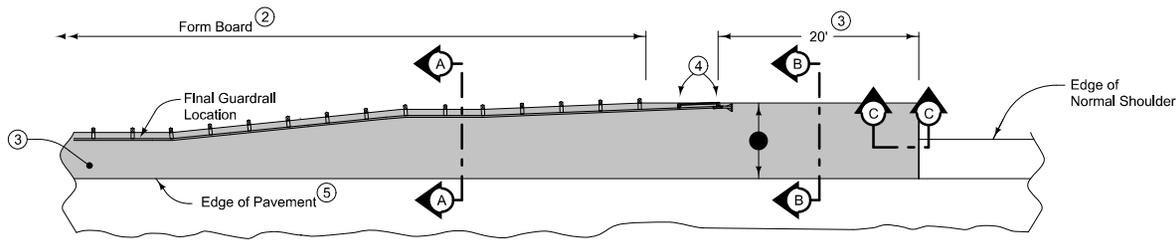
**PAVED SHOULDER
DETAIL AT RETURNS**

7154B
10-20-09



**PAVED SHOULDER DETAIL
AT CLIMBING/PASSING LANES**

7155
10-21-03



PLAN VIEW

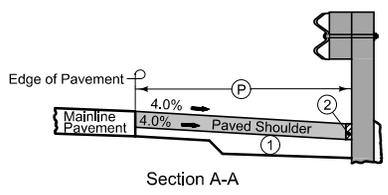
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at P/2 from edge of mainline pavement when P is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

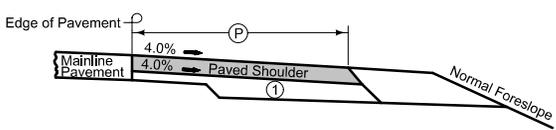
Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

- ① For subgrade treatment, refer to other details in the plan.
- ② PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown. Refer to note 4 for final 2 posts.
- ③ Continue paved shoulder to existing paved shoulder or 20 feet beyond the center of the first post.
- ④ Shoulder may be notched for final 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
- ⑤ 'KT-1 joint for PCC shoulder. 'B' joint for HMA shoulder.

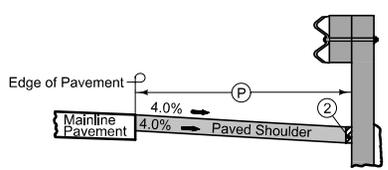


Section A-A

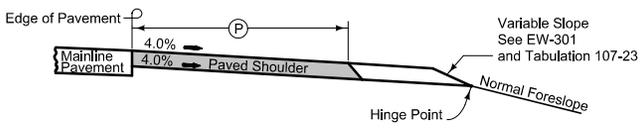


Section B-B

NEW CONSTRUCTION

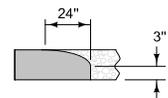


Section A-A



Section B-B

EXISTING SHOULDER



Section C-C
Roll down at granular shoulder or earth.

PAVED SHOULDER AT GUARDRAIL