

# 139

Letting April 27, 2018

## Notice to Bidders, Specifications and Proposal



**Illinois Department  
of Transportation**

Springfield, Illinois 62764

**Contract No. 91552  
CHAMPAIGN County  
Section 16-00443-00-RS  
Route FAS 527 (Ch 16)  
Project 0V0M-151 ()  
District 5 Construction Funds**

Plans Included  
Herein

Prepared by

Checked by

F

(Printed by authority of the State of Illinois)



## NOTICE TO BIDDERS

- 1. TIME AND PLACE OF OPENING BIDS.** Electronic bids are to be submitted to the electronic bidding system (iCX-Integrated Contractors Exchange). All bids must be submitted to the iCX system prior to 10:00 a.m. April 27, 2018 at which time the bids will be publicly opened from the iCX SecureVault.
- 2. DESCRIPTION OF WORK.** The proposed improvement is identified and advertised for bids in the Invitation for Bids as:

**Contract No. 91552  
CHAMPAIGN County  
Section 16-00443-00-RS  
Project 0V0M-151 ()  
Route FAS 527 (Ch 16)  
District 5 Construction Funds**

**Resurfacing on CH 16 from US 45 to IL Route 130.**

- 3. INSTRUCTIONS TO BIDDERS.** (a) This Notice, the invitation for bids, proposal and letter of award shall, together with all other documents in accordance with Article 101.09 of the Standard Specifications for Road and Bridge Construction, become part of the contract. Bidders are cautioned to read and examine carefully all documents, to make all required inspections, and to inquire or seek explanation of the same prior to submission of a bid.  
  
(b) State law, and, if the work is to be paid wholly or in part with Federal-aid funds, Federal law requires the bidder to make various certifications as a part of the proposal and contract. By execution and submission of the proposal, the bidder makes the certification contained therein. A false or fraudulent certification shall, in addition to all other remedies provided by law, be a breach of contract and may result in termination of the contract.
- 4. AWARD CRITERIA AND REJECTION OF BIDS.** This contract will be awarded to the lowest responsive and responsible bidder considering conformity with the terms and conditions established by the Department in the rules, Invitation for Bids and contract documents. The issuance of plans and proposal forms for bidding based upon a prequalification rating shall not be the sole determinant of responsibility. The Department reserves the right to determine responsibility at the time of award, to reject any or all proposals, to readvertise the proposed improvement, and to waive technicalities.

By Order of the  
Illinois Department of Transportation

Randall S. Blankenhorn,  
Secretary

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FOR  
SUPPLEMENTAL SPECIFICATIONS  
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2018

This index contains a listing of SUPPLEMENTAL SPECIFICATIONS, frequently used RECURRING SPECIAL PROVISIONS, and LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS.

ERRATA Standard Specifications for Road and Bridge Construction  
(Adopted 4-1-16) (Revised 1-1-18)

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## BDE SPECIAL PROVISIONS

The following special provisions indicated by an "X" are applicable to this contract. An \* indicates a new or revised special provision for the letting.

<u>File Name</u>	<u>Pg.</u>	<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80099		Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2014
80382		Adjusting Frames and Grates	April 1, 2017	
80274		Aggregate Subgrade Improvement	April 1, 2012	April 1, 2016
80192	38	X Automated Flagger Assistance Device	Jan. 1, 2008	
80173	40	X Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2017
80241		Bridge Demolition Debris	July 1, 2009	
50261		Building Removal-Case I (Non-Friable and Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50481		Building Removal-Case II (Non-Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50491		Building Removal-Case III (Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50531		Building Removal-Case IV (No Asbestos)	Sept. 1, 1990	April 1, 2010
80366	42	X Butt Joints	July 1, 2016	
80386		Calcium Aluminate Cement for Class PP-5 Concrete Patching	Nov. 1, 2017	
80396		Class A and B Patching	Jan. 1, 2018	
80384	43	X Compensable Delay Costs	June 2, 2017	
80198		Completion Date (via calendar days)	April 1, 2008	
80199		Completion Date (via calendar days) Plus Working Days	April 1, 2008	
80293		Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet	April 1, 2012	July 1, 2016
80311		Concrete End Sections for Pipe Culverts	Jan. 1, 2013	April 1, 2016
80277	47	X Concrete Mix Design – Department Provided	Jan. 1, 2012	April 1, 2016
80261		Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
80387		Contrast Preformed Plastic Pavement Marking	Nov. 1, 2017	
* 80029	48	X Disadvantaged Business Enterprise Participation	Sept. 1, 2000	April 2, 2018
80378		Dowel Bar Inserter	Jan. 1, 2017	Jan. 1, 2018
80388	59	X Equipment Parking and Storage	Nov. 1, 2017	
80229	60	X Fuel Cost Adjustment	April 1, 2009	Aug. 1, 2017
80304		Grooving for Recessed Pavement Markings	Nov. 1, 2012	Nov. 1, 2017
80246		Hot-Mix Asphalt – Density Testing of Longitudinal Joints	Jan. 1, 2010	April 1, 2016
80347		Hot-Mix Asphalt – Pay for Performance Using Percent Within Limits - Jobsite Sampling	Nov. 1, 2014	Jan. 1, 2018
80383		Hot-Mix Asphalt – Quality Control for Performance	April 1, 2017	Nov. 1, 2017
80376	63	X Hot-Mix Asphalt – Tack Coat	Nov. 1, 2016	
80392	64	X Lights on Barricades	Jan. 1, 2018	
80336		Longitudinal Joint and Crack Patching	April 1, 2014	April 1, 2016
* 80393		Manholes, Valve Vaults, and Flat Slab Tops	Jan. 1, 2018	March 2, 2018
80045	66	X Material Transfer Device	June 15, 1999	Aug. 1, 2014
* 80394		Metal Flared End Section for Pipe Culverts	Jan. 1, 2018	April 1, 2018
80165		Moisture Cured Urethane Paint System	Nov. 1, 2006	Jan. 1, 2010
80349		Pavement Marking Blackout Tape	Nov. 1, 2014	April 1, 2016
80371		Pavement Marking Removal	July 1, 2016	
80390	68	X Payments to Subcontractors	Nov. 2, 2017	
80377		Portable Changeable Message Signs	Nov. 1, 2016	April 1, 2017
80389	69	X Portland Cement Concrete	Nov. 1, 2017	
80359		Portland Cement Concrete Bridge Deck Curing	April 1, 2015	Nov. 1, 2017
80385		Portland Cement Concrete Sidewalk	Aug. 1, 2017	
80300		Preformed Plastic Pavement Marking Type D - Inlaid	April 1, 2012	April 1, 2016
80328	70	X Progress Payments	Nov. 2, 2013	
34261		Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2006
80157	71	X Railroad Protective Liability Insurance (5 and 10)	Jan. 1, 2006	

<u>File Name</u>	<u>Pg.</u>		<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80306	73	X	Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)	Nov. 1, 2012	Jan. 1, 2018
80395			Sloped Metal End Section for Pipe Culverts	Jan. 1, 2018	
80340			Speed Display Trailer	April 2, 2014	Jan. 1, 2017
80127			Steel Cost Adjustment	April 2, 2014	Aug. 1, 2017
* 80397	83	X	Subcontractor and DBE Payment Reporting	April 2, 2018	
80391	84	X	Subcontractor Mobilization Payments	Nov. 2, 2017	
80317			Surface Testing of Hot-Mix Asphalt Overlays	Jan. 1, 2013	April 1, 2016
80298			Temporary Pavement Marking (NOTE: This special provision was previously named "Pavement Marking Tape Type IV".)	April 1, 2012	April 1, 2017
20338			Training Special Provision	Oct. 15, 1975	
80318			Traversable Pipe Grate for Concrete End Sections (Note: This special provision was previously named "Traversable Pipe Grate".)	Jan. 1, 2013	Jan. 1, 2018
80288	85	X	Warm Mix Asphalt	Jan. 1, 2012	April 1, 2016
80302	87	X	Weekly DBE Trucking Reports	June 2, 2012	April 2, 2015
80071			Working Days	Jan. 1, 2002	

The following special provisions are in the 2018 Supplemental Specifications and Recurring Special Provisions.

<u>File Name</u>	<u>Special Provision Title</u>	<u>New Location</u>	<u>Effective</u>	<u>Revised</u>
80368	Light Tower	Article 1069.08	July 1, 2016	
80369	Mast Arm Assembly and Pole	Article 1077.03(a)(1)	July 1, 2016	
80338	Portland Cement Concrete Partial Depth Hot-Mix Asphalt Patching	Recurring CS #35	April 1, 2014	April 1, 2016
80379	Steel Plate Beam Guardrail	Articles 630.02, 630.05, 630.06, and 630.08	Jan. 1, 2017	
80381	Traffic Barrier Terminal, Type 1 Special	Article 631.04	Jan. 1, 2017	
80380	Tubular Markers	Articles 701.03, 701.15, 701.18, and 1106.02	Jan. 1, 2017	



Local Public Agency	County	Section Number
Champaign County Highway Dept.	Champaign	16-00443-00-RS

The following Special Provision supplement the "Standard Specifications for Road and Bridge Construction", adopted

April 1, 2016, the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways", and the "Manual of Test Procedures of Materials" in effect on the date of invitation of bids, and the Supplemental Specification and Recurring Special Provisions indicated on the Check Sheet included here in which apply to and govern the construction of the above named section, and in case of conflict with any parts, or parts of said Specifications, the said Special Provisions shall take precedence and shall govern.

**INTENT OF SECTION:**

The intent of this section is to rehabilitate the existing pavement of CH 16 from US 45 in Pesotum to IL-130. The proposed improvements include cold-in-place recycling of the existing pavement, full-width hot-mix asphalt mainline paving, aggregate shoulders and incidental paving.

**DESCRIPTION OF WORK:**

The work under this contract consists of the following:

- 1) Cold-In-Place Recycling with Foamed Asphalt, 4"
- 2) Surface Profile Milling
- 3) Full-width HMA Paving (22') in two 1.5" lifts
- 4) Incidental HMA Paving of Side roads, entrances and mailbox turnouts
- 5) Aggregate Wedge Shoulders
- 6) Pavement Marking Paint
- 7) Reset Survey Monuments and Record Section Corners

**COMMITMENTS:**

There are no commitments on file for this project.

**TIME CONSTRAINTS:**

It is the intent of the County that all cold-in-place recycling work, including curing time is completed by August 4, 2018. HMA surface course paving shall be completed by August 18, 2018.

**COMPLETION DATE:**

The completion date for the project is September 1, 2018.

**TRAFFIC CONTROL:**

Traffic control shall be in accordance with the applicable sections of the Standard Specifications for Road and Bridge Construction, the applicable guidelines in the Illinois Manual of Uniform Traffic Control Devices for Streets and Highways, these Special Provisions, and any special details and highway standards contained herein and in the plans.

Special attention is called to Article 107.14 of the Standard Specifications, the listed supplemental specifications and recurring special provisions, and the following highway standards relating to traffic control.

**NOTE:** The Bridge at the East end of the project will be under construction in 2018 and IL 130 will not be accessible from CH 16.

Champaign County Highway Dept.

Champaign

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**Highway Standards:**

000001 701011 701306 701311  
701336 701901 BLR21

**Road Closures for Construction Purposes:**

The Contractor will be allowed to close the road to complete various pay items. The length of the closed section should correspond to the estimated production rate per work day. The Contractor shall work diligently to complete the proposed work in a timely and expeditious manner to minimize the inconvenience to the travelling public.

**Method of Payment for Traffic Control:**

All work and materials required to comply with the proposed TRAFFIC CONTROL shall be paid for at the contract unit price per LUMP SUM for TRAFFIC CONTROL AND PROTECTION, SPECIAL and no additional compensation will be allowed.

**TEMPORARY ACCESS:**

It is the intent of the County to provide temporary access to private residences, businesses and side roads during the scheduled road closures. Local residents shall be allowed access in accordance with Articles 107.09 and 107.14 of the Standard Specifications. At no time shall a private entrance remain closed for an extended period of time, as determined by the Engineer. The Contractor shall construct temporary ramps whenever the drop off at the edge of pavement exceeds 2 inches. Temporary ramps will be required at all butt joint locations to accommodate local traffic.

This work will not be paid for separately, but will be considered included in the HMA pavement removal pay items, and no additional compensation will be allowed.

**COLD-IN-PLACE RECYCLING (CIR) WITH FOAMED ASPHALT, 4"**

This work will be performed in accordance with LR400-4, and per Foamed Bitumen Mix Design included herein. The QC/QA testing procedures and requirements for this work are described in LR1000-1, included herein.

The locations for the cold-in-place recycling are as follows:

- 1) CH 16 mainline pavement from RR crossing near US 45 to Str. 3339 (Sta. 14+19 to 44+24), 22' wide Omit 40' at Str. 3339 (Sta. 44+24 to 44+64)
  - 2) CH 16 mainline pavement from Str. 3339 to Str. 4548 (Sta. 44+64 to 244+08), 22' wide Omit 375' at Str. 4548 (Sta. 244+08 to 247+83)
  - 3) CH 16 mainline pavement from Str. 4548 to Str. 0251 (Sta. 247+83 to 327+11), 22' wide
- See the proposed typical sections and the location map for details.

The Contractor shall be responsible for reestablishment of the road centerline at its original location following the completion of the CIR, using the control points and offsets provided by the County.

**Method of Payment:**

The above mentioned work will be paid for per contract unit price for pay items described in LR400-6 and LR 403-1. The completed CIR project shall be in compliance with LR 403-1 Surface Test requirements. Any additional milling required by the Engineer will be paid for at the contract unit price per square yard for SURFACE PROFILE MILLING.

Champaign County Highway Dept.

Champaign

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**SURFACE PROFILE MILLING:**

The purpose of this work is to provide a smooth CIR subbase for the proposed Hot-Mix Asphalt paving. The completed 4 inch CIR subbase shall be free of any irregularities or high spots, with uniform cross-slopes, as proposed by the plans. The Engineer will identify any areas that require corrections, once the Cold-In-Place Recycling is completed. These irregularities shall be milled off to the satisfaction of the Engineer, and the reestablished centerline shall be clearly marked by the Contractor, using the control points and offsets provided by the County. The Hot Mix Asphalt paving shall not commence until the subbase is approved by the Engineer.

**Method of Payment:**

This work will be paid for at the contract unit price per SQUARE YARD for SURFACE PROFILE MILLING, which price shall include all equipment, labor and transportation of the removed material as described herein, and no additional compensation will be allowed.

**FULL-WIDTH PAVING:**

It is the intent of the County that all paving will be accomplished in one, full width pass (see proposed typical section for details). HMA paver used by the Contractor shall meet the requirements of Article 1102.03 of the Standard Specifications. The paver shall be capable of uniform spreading and finishing of the HMA material throughout the entire width of the mat. The Contractor shall take special care to ensure achieving proper texture and density at the outside edges of the mat. HMA Surface course paving shall meet the requirements of 406 of the Standard Specifications.

Method of Payment: This work will be paid for at the contract unit price per ton for HMA LEVEL BINDER, MACHINE METHOD, IL-9.5 FG, and at the contract unit price per ton for HMA SURFACE COURSE, MIX C, N50 (see Proposed Typical Section for mixture requirements).

**MIXTURE REQUIREMENTS (GN 406H):**

The following mixture requirements are applicable for this project.

Location	CH 16	CH 16
Mixture Use	Level Binder	Surface & Incidental
AC/PG	PG 64-22	PG 64-22
Design Air Voids	4.0% @ Ndes=50	4.0% @ Ndes=50
Mix Comp (Gradation)	IL 9.5 FG	IL 9.5
Friction Aggregate	N.A.	Mix C
Mixture Weight	112	112
Quality Management Program	QC/QA	QC/QA
Sublot Size	N.A.	N.A.

**ANTI-STRIP ADDITIVE:**

The price for the anti-strip agent, if required by the approved mix design, will be considered included in the contract unit price for Hot-Mix Asphalt pay items and no additional compensation will be allowed.

**INCIDENTAL HMA SURFACING:**

This work will be done in accordance with Article 408 of the Standard Specifications. It will consist of paving the following along CH 16: 11 side road returns, 28 private entrances, 11 mail box returns, and 32 field entrances as shown on plan details or as directed by the Engineer.

This work will be paid for at the contract unit price per TON for INCIDENTAL HMA SURFACING, which price will include all equipment, labor and transportation of the material as described herein, and no additional compensation will be allowed.

**PCC DRIVEWAY PAVEMENT, 6"**

This work will be done in accordance with Article 423 of the Standard Specifications except that earth excavation will not be measured separately for payment, nor paid for separately. Earth excavation will be considered as included in the unit price per Square Yard for PCC Driveway Pavement, 6".

**DRIVEWAY PAVEMENT REMOVAL**

This work will be done in accordance with Article 440 of the Standard Specifications. Full-depth saw cuts are considered included in the pay item and will not be paid for separately.

**AGGREGATE WEDGE SHOULDERS, TYPE B**

This work will be done in accordance with Article 481 of the Standard Specifications. Article 481.02 should be modified to include: Contractor shall use one type of material for the entire project.

**SHORT TERM PAVEMENT MARKING:**

Article 703.04, Sentence 2 shall be revised to, "Centerline or lane line markings shall consist of an abbreviated pattern of single stripes 1 foot in length and a minimum of 4 in (100mm) wide at a maximum spacing of 40 ft (12m) between stripes.

**CONSTRUCTION LAYOUT:**

This work shall consist of furnishing all labor, materials and equipment necessary for layout of the project. All layout shall involve coordination between the Engineer and the Contractor in the field. If the Contractor chooses to make substantial changes to the lines and grades shown on the drawings, the Contractor must get prior written approval from the Engineer. Substantial changes to the lines and grades shown shall mean a change in concept from what is shown on the plans. Minor revisions to fit field conditions do not require prior written approval.

This work will be paid for at the contract LUMP SUM price for CONSTRUCTION LAYOUT, which price shall include all labor, materials, and equipment to perform the layout work as described.

Champaign County Highway Dept.

Champaign

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**PRESERVATION OF STONES AND OTHER MARKERS:**

This work will be according to Section 668 of the Standard Specifications for Road and Bridge Construction as modified herein.

668.02 General. The Contractor shall employ a registered Illinois Professional Land Surveyor to perpetuate the section and subsection corners of the US Federal Land Survey System as prescribed by State Statute. The Surveyor shall research the Champaign County Recorder's Office to obtain copies of all recorded monument records within the project limits. All section and subsection corners monumented by stones and other markers encountered in the field shall be cross-tied prior to construction operations and all section and subsection corners which are not visible at the surface but can be recovered from at least two sound original accessory ties shown on the recorded monument records shall also be included in this work and restored to the finished surface. The Surveyor shall reference the exact location of the existing monument, reset a suitable monument within the paved surface which is stable and depressed ¼" below the finished roadway surface, and prepare a monument record. The new monument record shall be filed in the Champaign County Recorder of Deeds and a copy of the recorded monument record shall be supplied to the Champaign County Highway Department.

668.03 Basis of Payment. This work will be paid for at the contract unit price per EACH as Z0064505 SECTION CORNER MARKERS which shall include all professional services and recording fees as well as all labor, equipment and materials required to physically set the new monument and no additional compensation will be allowed.

**HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH**

This work will be in accordance with Section 440 of the Standard Specifications. The Contractor is expected to remove 3" of material at the face of curb, reducing that removal to 0" at the edge of lane line as shown in the project details. This will produce a wide edge mill over the parking lane in front of St. Mary's church. This work will be measured and paid for at the contract unit price per square yard for HMA Surface Removal, variable depth and no additional compensation will be allowed.

**STATUS OF UTILITIES:**

Utility adjustment or relocation should not be required by this project. The Illinois Underground Utility Facilities Damage Prevention Act requires persons excavating to contact the one call system (JULIE 800-892-0123) before digging.

The following Utility and Contact information was gathered from design stage Julie requests X2721481 for Pesotum township and X2721490 for Crittenden Township.

Ameren CILCO	Martin Fuller 618-236-6281
Ameren CIPS	Martin Fuller 618-236-6281
State of Illinois CMS	Jerry Pickett 217-785-7500
Eastern Illinois Electric Coop.	Alan Schweighart 217-379-2131x173
Frontier Communications (North)	Kalin Hinshaw 815-895-1515
Mediacom	Del Lingafelter 217-348-5533x7808
Windstream KDL, Inc.	Thomas Decker 319-790-7228
Marathon Pipeline, LLC	Todd Wadkins 217-382-2234
Metro Communications Company	Jason Koonce 217-728-3605
Panhandle Eastern Pipeline	Mike Cox 217-625-2841x5511
Illinois American Water Company	C. Andy McCarrey 217-373-3286
Trunkline Gas / Tuscola – GP	Joseph Mills 217-253-3212
Liberty Utilities	Mike Beatty 573-979-0220



# S Drain Engineering of IL, LLC

P.O. Box 045 Charleston, IL 61920

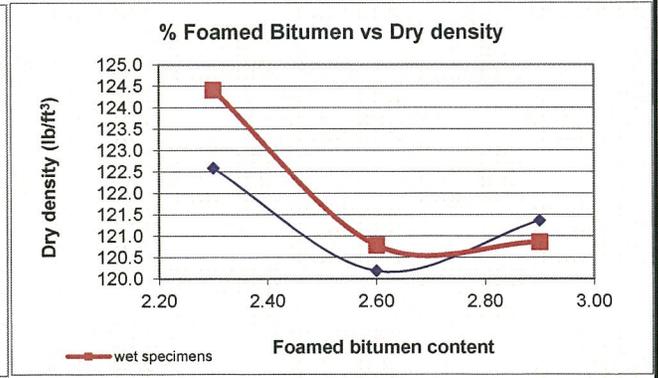
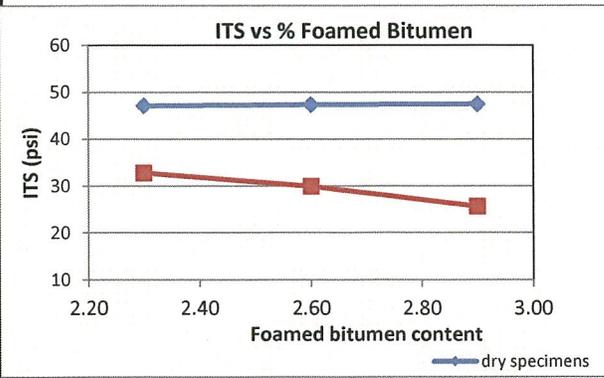
**Champaign County Highway Dept - Champaign County, IL**

Client:	<b>Champaign County Highway Dept - Champaign County, IL</b>	Date Received:	October 2017
Project:	<b>County Highway 16</b>	Date Tested:	January 2018
Design Completed By:	Stephanie Drain	Date Reported:	January 2018

## FOAMED BITUMEN MIX DESIGN REPORT

<u>MATERIAL TO BE STABILISED</u>	Aggregates	Bitumen	Filler
Location / Source:	Cores obtained from CH 16	Emulsicoat - Urbana, IL	<b>Portland Cement 1%</b>
Description	Cores were crushed to yield RAP	<b>PG 64-22</b>	
Maximum dry density : (lb/ft <sup>3</sup> )	143.5	(kg/m <sup>3</sup> ) <b>2300</b>	
		Depth:	<b>4 inches</b>
<b>BITUMEN FOAMING CONDITIONS</b>			
Foaming water added (%)	<b>2.3</b>	Bitumen temperature (°C)	<b>165</b>
		Bitumen temperature (°F)	<b>329</b>

<u>FOAMED BITUMEN STABILISED MATERIAL CHARACTERISTICS</u>				<u>Test Method</u>
Compactive effort	Marshall Compaction - 75 blows per side <b>100mm diameter</b>			<b>ASTM D6926</b>
Date moulded	1/5/2018			After compaction, specimens were placed in a 40 °C force draft oven for 72 hours for curing.
Foamed bitumen added (%)	<b>2.30</b>	2.60	2.90	
Type and percent filler added (%)	<b>1% Cement</b>	1% Cement	1% Cement	
Moulding moisture content (%)	<b>3.3</b>	3.6	3.5	
<b>TEST RESULTS</b>				<b>AASHTO T-283 (77 °F)</b>
<b>Optimum</b>				
ITS dry (45 min) (psi)	<b>47</b>	<b>47</b>	<b>47</b>	The volumetrics of the specimens were used to calculate the Dry Density values for each set.
Moisture content at break (%)	<b>0.0</b>	0.0	0.0	
Dry Density (lb/ft <sup>3</sup> )	<b>122.6</b>	120.2	121.4	
Temperature at break (°F)	<b>77</b>	77	77	
				<b>AASHTO T-283 (77 °F)</b>
ITS wet (30 min) (psi)	<b>33</b>	<b>30</b>	<b>26</b>	Cured specimens were placed in 77F water bath for 24 hrs prior to testing
Moisture content at break (%)	<b>5.6</b>	4.2	5.8	
Dry Density (lb/ft <sup>3</sup> )	<b>124.4</b>	120.8	120.9	
Temperature at break (°F)	<b>77</b>	77	77	
Retained ITS (%)	<b>70</b>	63	54	<b>70% (Min)</b>

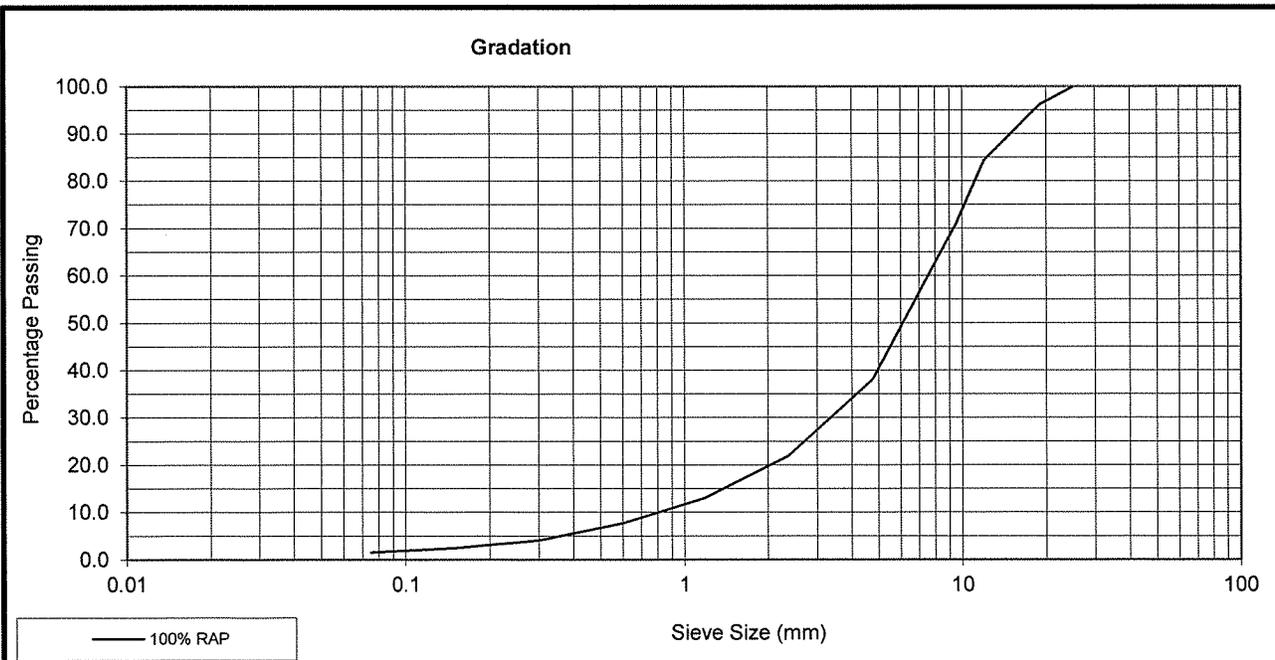


# FOAMED BITUMEN

## SIEVE ANALYSIS AASHTO T-27 (Dry Gradation)

Client	Champaign County Highway Dept - Champaign County, IL
Project	County Highway 16

		1		2		3		Total percentage in Blend
Location:		Various						
Description:		RAP crushed from cores		Base Material				
Sample No.:								
Date sampled:		03/2017		03/2017				
Percentage in Blend		75		25				
Mass of sample (g)		2726.6		3401.3				
Sieve size		Weight Retained	% Pass.	Weight Retained	% Pass.	Weight Retained	% Pass.	Combined Grading
mm	inch							
25		0	100.0	20	99.4			99.9
19.0		31.3	98.9	390.5	87.9			96.1
12		295.9	88.0	491.5	73.5			84.4
9.5		385.1	73.9	372.4	62.5			71.0
4.75		1028.2	36.2	628.4	44.1			38.1
2.36		463.2	19.2	474.2	30.1			21.9
1.18		238.6	10.4	320	20.7			13.0
0.600		133.9	5.5	221	14.2			7.7
0.300		82.9	2.5	189.1	8.6			4.0
0.150		35.9	1.2	86.8	6.1			2.4
0.075	# 200	19.1	0.5	51	4.6			1.5



# FOAMED BITUMEN MIX DESIGN - WORKSHEET

**Project :** County Highway 16

**Sheet 1**

Sample No.: \_\_\_\_\_

Date 01/09/2018

Description : \_\_\_\_\_

Bitumen Source Emulsicoat Urbana, IL

Bitumen grade PG 64-22

**MOISTURE DETERMINATION**

		Hygroscopic	Preparation		After Curing	
			Moulding		Dry	Soaked
Pan No.						
Mass wet sample + pan	m1		1340.6	3105.6	3287.7	
Mass dry sample + pan	m2		1301.6	3105.6	3114.2	
Mass pan	mp		118.5	0	0	
Mass moisture	m1-m2 = Mm		39	0	173.5	
Mass dry sample	m2-mp= Md		1183.1	3105.6	3114.2	
Moisture content	Mm/Mdx100=Mh		3.3	3.3	0.0	5.6

Percentage of water added to sample for mixing:		Amount of water added :	
Percentage water added to sample for compaction		Amount of water added :	
Total percentage water added:	3.2	Total water added:	475
Percentage foamed bitumen added :	2.3	Additive and percentage	1% Cement

**SPECIMEN DETAILS**

Sample ID	1	3	5	2	4	6
Date Moulded	1/5/2017					
Date placed in oven	1/5/2017					
Date tested						
Diameter (inch)	4	4	4	4	4	4
Individual Thickness Readings (inch)	65	64	65	64	64	63
	65	65	65	65	64	64
	65	65	66	65	66	63
Avg. Thickness (inch)	2.56	2.55	2.57	2.55	2.55	2.49
Mass after curing (lb)	1034.6	1032.3	1038.7	1045.5	1043.8	1024.9
Bulk density (lb/ft <sup>3</sup> )	122.5	122.9	122.4	124.4	124.2	124.6
Dry density (lb/ft <sup>3</sup> )	122.5	122.9	122.4	124.4	124.2	124.6

**Cure specimens for 72 hours @ 104<sup>o</sup>F thereafter cool to ± 77<sup>o</sup>F.**

**INDIRECT TENSILE STRENGTH TEST**

Condition	Dry ( ± 77°F)			Soaked ( ± 77°F)		
Maximum load (lb)	865.0	722.0	685.0	557.0	485.0	521.0
Tensile strength (psi)	53.78	45.12	42.37	34.81	30.31	33.24
Mean ten. strength (psi)	47			33		
Tensile strength ratio	70					

# FOAMED BITUMEN MIX DESIGN - WORKSHEET

**Project :** County Highway 16

**Sheet 2**

Sample No.: \_\_\_\_\_

Date 01/09/2018

Description : \_\_\_\_\_

Bitumen Source Emulsicoat Urbana, IL

Bitumen grade PG 64-22

**MOISTURE DETERMINATION**

		Hygroscopic	Preparation		After Curing	
			Moulding		Dry	Soaked
Pan No.						
Mass wet sample + pan	m1			1388.4	3206.2	3318.7
Mass dry sample + pan	m2			1344.1	3206.2	3185.5
Mass pan	mp			128.5	0	0
Mass moisture	m1-m2 = Mm			44.3	0	133.2
Mass dry sample	m2-mp= Md			1215.6	3206.2	3185.5
Moisture content	Mm/Mdx100=Mh		3.6	3.6	0.0	4.2

Percentage of water added to sample for mixing:		Amount of water added :	
Percentage water added to sample for compaction		Amount of water added :	
Total percentage water added:	3.2	Total water added:	475
Percentage foamed bitumen added :	2.60	Additive and percentage	1% Cement

**SPECIMEN DETAILS**

Sample ID	7	9	11	8	10	12
Date Moulded	1/5/2017					
Date placed in oven	1/5/2017					
Date tested						
Diameter (inch)	4	4	4	4	4	4
Individual Thickness Readings (inch)	69	68	67	68	67	68
	70	68	68	67	67	69
	70	68	68	68	67	68
Avg. Thickness (inch)	2.74	2.68	2.66	2.66	2.64	2.69
Mass after curing (lb)	1086.7	1075.3	1044.2	1061.2	1053.5	1070.8
Bulk density (lb/ft <sup>3</sup> )	120.1	121.7	118.8	120.7	121.0	120.6
Dry density (lb/ft <sup>3</sup> )	120.1	121.7	118.8	120.7	121.0	120.6

**Cure specimens for 72 hours @ 104<sup>oF</sup> thereafter cool to ± 77<sup>oF</sup>.**

**INDIRECT TENSILE STRENGTH TEST**

Condition	Dry ( ± 77 <sup>oF</sup> )			Soaked ( ± 77 <sup>oF</sup> )		
Maximum load (lb)	802.0	886.0	718.0	472.0	529.0	501.0
Tensile strength (psi)	46.52	52.65	42.88	28.19	31.91	29.63
Mean ten. strength (psi)	47			30		
Tensile strength ratio	63					

# FOAMED BITUMEN MIX DESIGN - WORKSHEET

**Project :** County Highway 16

**Sheet 3**

Sample No.: \_\_\_\_\_

Date 01/09/2018

Description : \_\_\_\_\_

Bitumen Source Emulsicoat Urbana, IL

Bitumen grade PG 64-22

**MOISTURE DETERMINATION**

		Hygroscopic	Preparation		After Curing	
			Moulding		Dry	Soaked
Pan No.						
Mass wet sample + pan	m1		1301.8	3148.3	3332.3	
Mass dry sample + pan	m2		1262.3	3148.3	3150.6	
Mass pan	mp		117.9	0	0	
Mass moisture	m1-m2 = Mm		39.5	0	181.7	
Mass dry sample	m2-mp= Md		1144.4	3148.3	3150.6	
Moisture content	Mm/Mdx100=Mh		3.5	3.5	0.0	5.8

Percentage of water added to sample for mixing:	3.2	Amount of water added :	475
Percentage water added to sample for compaction		Amount of water added :	
Total percentage water added:		Total water added:	
Percentage foamed bitumen added :	2.9	Additive and percentage	1% Cement

**SPECIMEN DETAILS**

Sample ID	13	15	17	14	16	18
Date Moulded	1/5/2017					
Date placed in oven	1/5/2017					
Date tested						
Diameter (inch)	4	4	4	4	4	4
Individual Thickness Readings (inch)	68	67	65	65	68	66
	68	67	66	66	69	67
	67	66	65	66	68	67
Avg. Thickness (inch)	2.66	2.62	2.57	2.59	2.69	2.62
Mass after curing (lb)	1061.3	1069.3	1017.7	1038.7	1068.3	1043.6
Bulk density (lb/ft <sup>3</sup> )	120.7	123.5	119.9	121.7	120.3	120.5
Dry density (lb/ft <sup>3</sup> )	120.7	123.5	119.9	121.7	120.3	120.5

**Cure specimens for 72 hours @ 104<sup>oF</sup> thereafter cool to ± 77<sup>oF</sup>.**

**INDIRECT TENSILE STRENGTH TEST**

Condition	Dry ( ± 77 <sup>oF</sup> )			Soaked ( ± 77 <sup>oF</sup> )		
Maximum load (lb)	711.0	851.0	781.0	445.0	423.0	404.0
Tensile strength (psi)	42.46	51.58	48.31	27.38	25.01	24.49
Mean ten. strength (psi)	47			26		
Tensile strength ratio	54					

State of Illinois  
Department of Transportation  
Bureau of Local Roads and Streets

SPECIAL PROVISION  
FOR  
INSURANCE

Effective: February 1, 2007  
Revised: August 1, 2007

All references to Sections or Articles in this specification shall be construed to mean specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation.

The Contractor shall name the following entities as additional insured under the Contractor's general liability insurance policy in accordance with Article 107.27:

Champaign County Highway Department

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The entities listed above and their officers, employees, and agents shall be indemnified and held harmless in accordance with Article 107.26.

State of Illinois  
Department of Transportation  
Bureau of Local Roads and Streets

SPECIAL PROVISION  
FOR  
COLD IN-PLACE RECYCLING (CIR) WITH FOAMED ASPHALT

Effective: June 1, 2012

All references to Divisions, Sections, and Articles in this Special Provision shall be construed to mean specific Divisions, Sections, and Articles in the Standard Specifications for Road and Bridge Construction adopted by the Department of Transportation.

**Description.** This work shall consist of cold milling and pulverizing the existing bituminous material to a specified depth and maximum size; mixing foamed asphalt, water, and additives with the recycled material; and spreading and compacting the mixture.

**Materials.** Materials shall be according to the following Articles of Division 1000 – Materials.

<u>Item</u>	<u>Article/Section</u>
(a) Portland Cement (Note 1) .....	1001
(b) Water.....	1002
(c) Fine Aggregate (Note 2).....	1003
(d) Coarse Aggregate (Note 2) .....	1004
(e) Fly Ash, Class C (Note 1).....	1010.02
(f) Lime (Note 1) .....	1012
(g) Reclaimed Asphalt Pavement (Note 3).....	1031
(h) Asphalt Binder (Note 4).....	1032.05
(i) Cold Pulverized Material (Note 5)	
(j) Mix Design (Note 6)	

Note 1. If necessary, the mix design may require additional additives to increase fines in the mix. The type and allowable percentage will be described in the mix design.

Note 2. The mix design will specify gradation and quality of any additional aggregate. Any additional fine aggregate shall meet Class B quality as a minimum. Any additional coarse aggregate shall meet Class C quality as a minimum.

Note 3. The Engineer may allow reclaimed asphalt pavement (RAP) from Conglomerate "D" Quality or better RAP stockpiles as specified in Article 1031.02 or from millings of the existing highway. The RAP material shall not exceed the maximum size requirement of the cold pulverized material, and when blended with the cold pulverized material shall produce a product which meets the specifications of the mix design.

Note 4. The asphalt binder performance grade shall be determined by the mixture design but shall have a penetration between 80 dmm and 110 dmm. Throughout the job, the Contractor will need to check the foaming characteristics of the asphalt binder to insure that the asphalt binder is being adequately dispersed.

The asphalt binder shall be no less than 320 °F (160 °C) and no greater than 375 °F (190 °C) at the time of foaming.

Note 5. Prior to the addition of the foamed asphalt, the gradation of the cold pulverized material shall meet the following.

COLD PULVERIZED MATERIAL GRADATIONS		
Grad No.	Sieve Size and Percent Passing	
	1 ½ in. (37.5 mm)	1 in. (25 mm)
PM 1	100	
PM 2		100

PM 2 should only be used when a finer gradation of RAP is required by the mix design.

Note 6. A mix design for each distinct section shall be submitted to the Department prior to construction using actual materials (in-situ sampled by the Contractor and new materials from the Contractor's material suppliers) proposed for the project. The job mix formula shall meet the following criteria and be approved by the Engineer.

CIR WITH FOAMED ASPHALT BINDER MIX DESIGN REQUIREMENTS	
Test Method	CIR
Gradation for Design Millings, AASHTO T 27	Report
Plasticity Index	< 10
Modified Proctor, ASTM D 1557, Method C	Report
Design Moisture Content	Report
Foamed Asphalt Expansion Ratio <sup>1</sup>	8 minimum
Foamed Asphalt Half-life, s	6 minimum
Optimum Foamant Water Content	Report
Marshall Density, AASHTO T 245 (IL Modified)	75 blows at 4 in. (100 mm)
Bulk Specific Gravity (Density), ASTM D 6752 or ASTM D 2726	Report
Rice (Maximum Theoretical) Specific Gravity, ASTM D 2041	Report
Air Voids	Report
Raveling Test, 50 °F, %	2.0
Indirect Tensile Strength, AASHTO T 283 (IL Modified), Dry, psi Wet (Conditioned), psi Tensile Strength Ratio (TSR), %	45 minimum 30 minimum 70
Additional Additive(s) <sup>2</sup> Coarse Aggregate Fine Aggregate RAP Lime Fly Ash Cement, %	Report Report Report Report Report 1.0 maximum
Asphalt Binder <sup>2</sup> PG Grade Penetration, dmm	Report Report

Notes: 1. If the ambient temperature at the time of construction is expected to be 50 to 77 °F (10 to 25 °C) the foamed expansion ratio should be increased to 10.

2. Report shall include type/gradation and producer/supplier.

**Equipment.** Equipment shall be according to the following Articles of Division 1100 – Equipment.

<u>Item</u>	<u>Article/Section</u>
(a) Self-Propelled Pneumatic-Tired Rollers (Note 1) .....	1101.01(c)
(b) Steel Wheel Tandem Rollers .....	1101.01(e)
(c) Vibratory Roller (Note 2) .....	1101.01(g)
(d) Mechanical Sweeper .....	1101.03
(e) Self-Propelled Milling Machine .....	1101.16(a)
(f) Spreading and Finishing Machine .....	1102.03
(g) Dry Material Spreader (Note 3)	
(h) Multi-unit Recycling Train (Note 4, 6)	
(i) Single-unit Recycler (Note 5, 6)	
(j) Pick Up Machine (Note 7)	

Note 1. The self-propelled pneumatic-tired roller shall have a gross weight (mass) of not less than 25 tons (23 metric tons).

Note 2. The double drum vibratory rollers shall have a gross operating weight of not less than 10 tons (9 metric tons) and a width of 78 in. (1950 mm).

Note 3. When the mix design indicates the need of Type I Portland Cement; Fly Ash, Class C; or Lime; the Contractor must use a spreader that has the following specifications: a mechanical cement or fly ash spreader of a type that has an adjustable rate of flow and will distribute the cement uniformly at the required rate in one pass. Pneumatic distribution of dry additives is prohibited. The material must be spread in one pass and systems must be in place to keep the additives within the confines of the job.

Note 4. The multi-unit recycling train shall contain the following.

- a. A self-propelled cold milling machine that is capable of pulverizing the existing bituminous material in a single pass to the depth shown on the plans and to a minimum width of not less than 12.5 ft (3.8 m). The machine shall have automatic depth controls to maintain the cutting depth to within  $\pm 0.25$  in. (6 mm) of that shown on the plans, and shall have a positive means for controlling cross slope elevations. The use of a heating device to soften the pavement will not be permitted.
- b. A material sizing unit having screening and crushing capabilities to reduce the cold pulverized material to the appropriate size. The screening and crushing unit shall have a closed circuit system capable of continuously returning oversized material to the crusher. All of the pulverized material (100 percent) shall be processed to the maximum size requirements as specified.

- c. A mixing unit equipped with a belt scale for the continuous weighing of the pulverized and sized bituminous material and a coupled/interlocked computer controlled liquid metering device. The mixing unit shall be an on-board completely self-contained pugmill. The liquid metering device shall be capable of automatically adjusting the flow of foamed asphalt to compensate for any variation in the weight of pulverized material coming into the mixer. The metering device shall deliver the amount of foamed asphalt to within  $\pm 0.2$  percent of the required amount by weight of pulverized bituminous material (for example, if the design requires 3.0 percent, the metering device shall maintain between 2.8 percent to 3.2 percent). The foamed asphalt pump should be of sufficient capacity to allow foamed asphalt contents up to 3.5 percent by weight of pulverized bituminous material. Also, automatic digital readings will be displayed for both the flow rate and total amount of pulverized bituminous material and foamed asphalt in appropriate units of weight and time.

Note 5. The single-unit recycler shall be a self-propelled cold milling machine/cold recycling machine with a down cutting cutter head capable of pulverizing and recycling the existing hot-mix asphalt pavement to a maximum depth of 5 in. (125 mm), incorporate the foamed asphalt and water, and mix the materials to produce a homogeneous material. The minimum power of this machine is 900 hp (670 kW). The machine shall be capable of pulverizing and recycling not less than 12.5 ft (3.8 m) wide in each pass. The machine shall have two systems for adding foamed asphalt and water with each system having a full-width spray bar with a positive displacement pump interlocked to the machine's ground speed to insure that the amount of foamed asphalt and water being added is automatically adjusted with changes to the machine's ground speed. Each additive system shall have its own spray bar equipped with 2 nozzles per ft (6 nozzles per m) of spray bar and be capable of incorporating up to 5 gal/sq yd (23 L/sq m) of foamed asphalt and/or water. Individual valves on the spray bar shall be capable of being turned off as necessary to minimize foamed asphalt and water overlap on subsequent passes.

Note 6. Whether the equipment being used is a multi-unit or single-unit recycler, the foaming system must meet the following requirements.

- a. The foamed asphalt shall be produced at the spray bar in individual expansion chambers into which both the hot asphalt binder and water are injected under pressure through individual and separate orifices that promote atomization. The rate of addition of water into the hot asphalt binder shall be kept at a constant rate (percentage by mass of asphalt binder) by a computerized system.
- b. An inspection (or test) nozzle shall be fitted at one end of the spray bar that produces a representative sample of foamed asphalt.
- c. An electrical heating system capable of maintaining the temperature of all foamed asphalt flow components above 340 °F (171 °C).
- d. A single asphalt binder feed line installed between the recycling machine and the supply tanker. Circulating systems that incorporate a return line to the supply tanker shall not be used.

Any additives such as water, lime slurry, etc. added by the recycling equipment at the mill head or mixing unit shall be controlled through liquid metering devices capable of automatically adjusting for the variation in the weight of the pulverized material going into the mixing unit. The metering devices shall be capable of delivering the amount of additive to within  $\pm 0.2$  percent of the required amount by weight of the pulverized bituminous material. A capability of adding up to 5 percent water by weight of the pulverized bituminous material, if necessary based on environmental and material requirements, is mandatory. It will not be required to meter the water added at the milling machine to control dust in the screens, belts, or crusher/material sizing unit.

Note 7. The pick-up machine shall be capable of removing the entire windrow down to the remaining underlying material.

### CONSTRUCTION REQUIREMENTS

**Weather Limitations.** This work shall be performed when atmospheric temperature in the shade and away from artificial heat is 50 °F (10 °C) and rising. Also, the weather shall not be foggy or rainy. The weather forecast shall not call for freezing temperature within 48 hours after placement of any portion of the project. The Engineer may restrict work when the heat index is greater than 100 °F (38 °C).

**Preparation of Existing Pavement.** Grass and other vegetation shall be removed from the edge of the existing pavement to prevent contamination of the pulverized bituminous material during the milling operation.

The existing pavement shall be milled to the required depth and width as indicated on the plans. Recycling shall be in a manner that does not disturb the underlying material in the existing roadway. The milling operation shall be conducted so that the amount of fines occurring along the vertical faces of the cut will not prevent bonding of the cold recycled materials. The pulverized bituminous material shall be processed to the required gradation specified. When a paving fabric is encountered during the CIR operation, the Contractor shall make the necessary adjustments in equipment or operations so that at least 90 percent of the shredded fabric in the recycled material is no more than 5 sq in. (3200 sq mm). Additionally, no fabric piece shall have any dimension exceeding a length of 4 in. (100 mm). These changes may include, but not be limited to, adjusting the milling rate or screens in order to obtain a recycled material meeting specification requirements. The Contractor shall be required to waste material containing oversized pieces of paving fabric as directed by the Engineer. When the Contractor is aware that paving fabric exists, such as indicated on the plans, the Contractor will not receive additional payment. However, if the Contractor is not made aware of the paving fabric, then the Contractor shall receive additional payment for any necessary adjustments in equipment and operations.

**Mixing Operation.** The pulverized material shall be processed through a mixing unit capable of combining the pulverized material, foamed asphalt and any additives to produce a homogeneous recycled mixture. The foamed asphalt shall be incorporated into the pulverized bituminous material at the initial rate determined by the mix design(s) and approved by the Engineer. Sampling and mix design may determine different levels of foamed asphalt at various portions of the project.

**Spreading and Finishing.** The recycled material shall be spread using a self-propelled paver. A pick-up machine shall be used to transfer the windrowed recycled material into the spreading and finishing machine. The pickup machine must be within 150 ft (45 m) of the mixing unit. The recycled material shall be spread by a spreading and finishing machine in one continuous pass, without segregation and to the lines and grades established by the Engineer.

**Compaction.** The compacted recycled material shall be at a thickness of 2.5 to 5.0 in. (63 to 127 mm). The recycled material shall be compacted according to the following.

- (a) **Growth Curve.** Compaction shall be accomplished by performing a growth curve within the first one-half mile of production. If an adjustment is made to the foamed asphalt application rate or recycled depth, the Engineer reserves the right to request an additional growth curve. The growth curve, consisting of a plot of lb/cu ft (kg/cu m) versus number of passes with the project breakdown roller, shall be developed. Roller speed during the growth curve testing shall be the same as the normal paving operation. This curve shall be established by use of a nuclear gauge. Tests shall be taken after each pass until the highest lb/cu ft (kg/cu m) is obtained. This value shall be the target density.

A new growth curve is required if the rollers used on the growth curve are replaced with a new roller during production. The target density shall apply only to the specific gauge used. If additional gauges are to be used to determine density specification compliance, the Contractor shall establish a unique minimum allowable target density from the growth curve location for each gauge.

- (b) **Rollers.** Immediately after processing and final shaping the recycled material shall be compacted with equipment meeting the following requirements.

<b>MINIMUM ROLLER REQUIREMENTS FOR CIR</b>			
Breakdown Roller (one of the following) <sup>1</sup>	Intermediate Roller <sup>1</sup>	Final Roller (one or more of the following) <sup>1</sup>	Density Requirement
V <sub>s</sub> , V <sub>D</sub>	P	V <sub>s</sub> , T <sub>F</sub>	95 - 102 percent of the target density obtained on the growth curve

*Note: 1. Equipment definitions in Table 1 of Article 406.07.*

- (c) **Rolling.** Breakdown rolling shall be achieved by using a vibratory roller either operating in a static or vibratory mode. Vibratory mode should only be used if it is shown to not damage the pavement. Intermediate rolling shall be completed by a self-propelled pneumatic roller(s) until no displacement is occurring or until the pneumatic roller(s) is walking out of the mixture. Final rolling to eliminate pneumatic tire marks and to achieve density shall be done by a separate double drum steel roller(s) operating in static mode.

Rolling shall start no more than 30 minutes behind the paver. Finish rolling shall be completed no more than one hour after milling is completed. When possible, rolling shall not be started or stopped on uncompacted material but with rolling patterns established so that they begin or end on previously compacted material or the existing pavement.

**Opening to Traffic.** After the completion of compaction of the recycled material, no traffic, including that of the Contractor, shall be permitted on the completed recycled material for at least two hours. After two hours, rolling traffic may be permitted on the recycled material. This time may be adjusted by the Engineer to allow establishment of sufficient cure so traffic will not initiate raveling or permanent deformation. All loose particles that may develop on the pavement surface shall be removed by power brooming.

After opening to traffic, the surface of the recycled pavement shall be maintained in a condition suitable for the safe movement of traffic.

**Maintenance.** The Contractor shall maintain the recycled pavement in a manner satisfactory to the Engineer until the wearing course has been constructed. Maintenance related to Contractor construction procedures or quality of work, shall not be paid for separately.

**Curing.** Before placing the specified wearing course, the recycled pavement shall be allowed to cure until the moisture of the material is reduced to 2.0 percent or less, or approval of the Engineer. Unless otherwise directed by the Engineer, the specified wearing course shall be placed within two weeks of the recycled pavement final cure, but no later than November 1.

**Surface Tests.** The completed recycled pavement will be tested for smoothness in the wheel paths with a 16 ft (5 m) straightedge.

For each variation in the recycled pavement that exceeds 3/8 in. (10 mm), the entire area affected shall be corrected by a self-propelled milling machine. The recycled pavement shall be swept by a mechanical broom to remove all loose material from the recycled pavement before opening to traffic.

The Contractor shall furnish a 16 ft (5 m) straightedge and shall provide for its jobsite transportation at no additional cost to the Department.

#### **Quality Assurance/ Quality Control (QC/QA).**

(a) Quality Control by the Contractor. The Contractor shall perform or have performed the inspection and tests required to assure conformance to contract requirements. Control includes the recognition of obvious defects and their immediate correction. This may require increased testing, communication of test results to the job site, modification of operations, suspension of the work, or other actions as appropriate.

The Engineer shall be immediately notified of any failing tests and subsequent remedial action. Passing tests shall be reported to the Engineer no later than the start of the next work day.

(b) Quality Assurance by the Engineer. The Engineer will conduct independent assurance tests on split samples taken by the Contractor for quality control testing. In addition, the Engineer will witness the sampling and splitting of these samples and will immediately retain witnessed split samples for quality assurance testing.

(c) Tests Methods and Frequency.

(1) Depth of Pulverization (Milling). The nominal depth at the centerline shall be required. Anytime depth changes are made or equipment is idle, a depth check shall be taken.

- (2) Pulverized Material Sizing and Gradation. A sample shall be obtained before foamed asphalt addition and screened using a 1.5 in. (37.5 mm) sieve (or smaller sieve if required) to determine if meeting the maximum particle size requirement. Gradations shall be performed each day on the moist millings using the following sieves: 1.5 in., 1.0 in., 3/4 in., 1/2 in., 3/8 in., No. 4, No. 8, No. 16, and No. 30. The resulting gradation shall be compared to the mix design gradations to determine any necessary changes to foamed asphalt content.

Sampling procedures shall generally be in accordance with ASTM D 979 or AASHTO T 168. When the Engineer determines the location for a gradation sample, the Contractor will be notified to turn off the foamed asphalt and mark the location continuing to pulverize the hot-mix asphalt pavement until the Engineer is satisfied with the length of material pulverized without the addition of the foamed asphalt. The maximum length of pulverization without the addition of the foamed asphalt shall not exceed 100 ft (30 m). After the Contractor collects the gradation sample, the machine will be backed up to the location where the foamed asphalt was turned off, then re-pulverize this material adding the required amount of foamed asphalt to the pulverized material.

- (3) Foamed Asphalt Content. The Engineer shall be notified any time foamed asphalt content is changed. The foamed asphalt content shall be checked and recorded for each segment in which the percentage is changed. Foamed asphalt content changes shall be made based upon mix design recommendations, which are based upon different mix designs for road segments of varying construction. The foamed asphalt content shall be checked from the belt scale totalizer or foamed asphalt pump totalizer.
- (4) Water Content. The Engineer shall be notified any time the water content is changed. Water content at the milling head shall be checked and recorded for each segment in which the percentage is changed. This information shall be gathered from the water metering device, which can be checked from the belt scale totalizer to verify daily quantities used. Water content changes shall be made based on mixture consistency, coating, and dispersion of the recycled materials.
- (5) Compacted Density. A wet density shall be determined using a nuclear moisture-density gauge generally following the procedures for ASTM D 2950, backscatter measurement. This measurement shall be compared to the target density obtained by the growth curve.
- (6) Frequency. The following table provides the minimum frequency for tests; however, the Engineer may increase the testing frequency if the construction process is experiencing problems or unknown conditions are encountered.

QC/QA TESTING FREQUENCY		
Test	QC Frequency <sup>1</sup>	QA Frequency <sup>1</sup>
Depth of Pulverization	1 per 500 ft (150 m)	1 per 1000 ft (300 m)
Pulverized Material Sizing and Gradation	1 per 0.5 day production	1 per day production
Foamed Asphalt Content	1 per 500 ft (150 m)	1 per 1000 ft (300 m)
Water Content	1 per 500 ft (150 m)	1 per 1000 ft (300 m)
Compacted Density	1 per 0.25 mile (0.4 km)	1 per mile (1.6 km)

*Note: 1. The Contractor shall perform all quality control tests within the first 500 ft (150 m) after startup or any change in the mix. The Department will also run the split samples at these locations.*

**Method of Measurement.**

Bituminous material; will be measured for payment as specified in Section 1032.

Coarse aggregate will be measured in square yards (square meters).

The cold in-place recycling will be measured in square yards (square meters) of the recycled pavement.

**Basis of Payment.**

The asphalt binder will be paid for at the contract unit price per ton (metric ton) for CIR-FDR FOAMED ASPHALT.

The coarse aggregate will be paid for at the contract unit price per square yard (square meter) for ADD ROCK.

The cold in-place recycling will be paid for at the contract unit price per square yard (square meter) for COLD IN-PLACE RECYCLING, of the thickness specified.

State of Illinois  
Department of Transportation  
Bureau of Local Roads and Streets

SPECIAL PROVISION  
FOR  
SURFACE PROFILE MILLING OF EXISTING, RECYCLED, OR RECLAIMED  
FLEXIBLE PAVEMENT

Effective: April 1, 2012  
Revised: June 1, 2012

All references to Divisions, Sections, and Articles in this Special Provision shall be construed to mean specific Divisions, Sections, and Articles in the Standard Specifications for Road and Bridge Construction adopted by the Department of Transportation.

**Description.** This work shall consist of surface profile milling existing, recycled, or reclaimed flexible pavement prior to application of a surface treatment less than or equal to 1.5 in. (38 mm) thick.

**Equipment.** Equipment shall be according to the following Articles of Division 1100 – Equipment.

- (a) Self-Propelled Milling Machine (Note 1)..... 1101.16

Note 1. The self-propelled milling machine shall be capable of milling an entire lane width in a single pass and have the capability of loading the millings into a truck.

The cutting drum and teeth shall be designed to produce the required surface texture. Each tooth on the cutting drum shall produce a series of discontinuous longitudinal striations. There shall be 16 to 20 striations (tooth marks) for each tooth for each 6 ft (1.8 m) in the longitudinal direction, and each striation shall be  $1.7 \pm 0.2$  in. ( $43 \pm 5$  mm) in length after the area is planed by the moldboard. The planed length between each pair of striations shall be  $2.3 \pm 0.2$  in. ( $58 \pm 5$  mm). There shall be 80 to 96 rows of discontinuous longitudinal striations for each 5 ft (1.5 m) in the transverse direction. The pattern of striations shall be such that a line connecting striations in adjacent rows shall form approximately a 70 degree skew angle with the roadway centerline. The areas between the striations in both the longitudinal and transverse directions shall be flat-topped and coplanar.

The milling machine shall be capable of accurately and automatically establishing grades by use of an automatic grade control device on one side of the machine with an automatic slope control device controlling the opposite side. It shall be equipped with a traveling grade reference (averaging ski) which shall not be less than 30 feet (9 m) in length.

**CONSTRUCTION REQUIREMENTS**

**Surface Test.** The completed recycled or reclaimed pavement will be tested for smoothness in the wheel paths with a 16 ft (5 m) straightedge.

For each variation in the recycled or reclaimed pavement that exceeds 3/16 in. (5 mm), the entire area affected shall be corrected by surface profile milling. The self-propelled milling machine shall be used for surface profile milling. At any time the surface profile milling fails to produce a flat plane interspersed with the specified uniform pattern of discontinuous longitudinal striations, the surface profile milling shall be stopped until corrections are made to the equipment. The surface profile milling speed shall be limited to 60 ft/min (18 m/min). If the Contractor demonstrates that the desired striations and ride specifications are obtained at a greater speed, the Engineer may permit the Contractor to operate at an increased speed.

After surface profile milling, the recycled or reclaimed pavement shall be swept by a mechanical broom to remove all loose material from the recycled or reclaimed pavement before opening to traffic.

The Contractor shall furnish a 16 ft (5 m) straightedge and shall provide for its jobsite transportation at no additional cost to the Department.

**Method of Measurement.**

The surface profile milling will be measured in square yards (square meters).

**Basis of Payment.**

The surface profile milling will be paid for at the contract unit price per square yard (square meter) for SURFACE PROFILE MILLING.

State of Illinois  
Department of Transportation  
Bureau of Local Roads and Streets  
SPECIAL PROVISION  
FOR  
CONSTRUCTION AND MAINTENANCE SIGNS

Effective: January 1, 2004  
Revised: June 1, 2007

All references to Sections or Articles in this specification shall be construed to mean a specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation.

701.14. Signs. Add the following paragraph to Article 701.14:

All warning signs shall have minimum dimensions of 1200 mm x 1200 mm (48" x 48") and have a black legend on a fluorescent orange reflectorized background, meeting, as a minimum, Type AP reflectivity requirements of Table 1091-2 in Article 1091.02.

State of Illinois  
Department of Transportation  
Bureau of Local Roads and Streets

SPECIAL PROVISION  
FOR  
COLD IN-PLACE RECYCLING (CIR) AND FULL-DEPTH RECLAMATION (FDR) WITH  
FOAMED ASPHALT MIX DESIGN PROCEDURES

Effective: June 1, 2012

All references to Divisions, Sections, and Articles in this Special Provision shall be construed to mean specific Divisions, Sections, and Articles in the Standard Specifications for Road and Bridge Construction adopted by the Department of Transportation.

**Laboratory Temperature and Humidity Control**

Each laboratory performing mix designs shall have heating, ventilation, and air conditioning (HVAC) equipment that maintains a room temperature of 68 to 86 °F (20 to 30 °C) and relative humidity of less than 60 percent.

**Sampling and Processing**

A minimum sample size of 350 lb (160 kg) is needed for each mix design. Bulk samples of the recycled layer thickness shall be obtained from either test pits or cores. Each layer shall be examined to confirm thickness and material.

The bituminous layers shall be crushed. A washed gradation of the crushed bituminous layer(s) shall be performed according to AASHTO T 27, reported, and meet the following requirement(s).

Sieve Size		Percent Passing	
		CIR/FDR with Foamed Asphalt	
		Ideal	Less Suitable
2 in.	50 mm	100	
1 1/2 in.	37.5 mm	87 – 100	
1 in.	25 mm	77 – 100	100
3/4 in.	19 mm	66 – 99	99 – 100
1/2 in.	12.5 mm	67 – 87	87 – 100
3/8 in.	9.5 mm	49 – 74	74 – 100
No. 4	4.75 mm	35 – 56	56 – 95
No. 8	2.36 mm	25 – 42	42 – 78
No. 16	1.18 mm	18 – 33	33 – 65
No. 50	300 µm	10 – 24	24 – 43
No. 200	75 µm	4 – 10	10 – 20

Washed gradation (AASHTO T 27) and sand equivalent (ASTM D 2419, Method B) shall be performed and reported for any granular layer. The washed gradation (AASHTO T 27) of combined layers shall be performed and reported. If combined layers include an aggregate layer, the sand equivalent (ASTM D 2419, Method B) shall be performed and reported.

All washed gradations shall be dried at no greater than 104 °F (40 °C).

**Active filler requirements**

Foamed asphalt stabilization is normally carried out in combination with a small amount of active filler (cement, fly ash, or lime) to enhance the dispersion of the foamed asphalt. The following application rates (by mass) of cement, fly ash, or lime should be used as a guide:

Plasticity Index: < 10	Plasticity Index: > 10
Add 1 percent ordinary portland cement or 1 percent lime (material dependent)	Pre-treat with minimum 2 percent lime. The initial consumption of lime (ICL) has to be satisfied.

Pre-treatment requires that the lime and water be added at least four hours prior to the addition of the foamed asphalt. The treated material must be placed in an air-tight container to retain moisture. However, due to the hydration process, the moisture content should always be checked and, if necessary, adjusted prior to adding the foamed asphalt.

Note: Additional tests without active filler should always be carried out as part of the mix design process. The results of these tests allow a decision to be made as to whether the addition of an active filler is warranted.

**Mixing and Compaction**

The Optimum Fluid Content (OFC) and the Maximum Dry Density (MDD) of the stabilized material is determined using modified compaction effort (Modified Proctor, ASTM D 1557, Method C).

**Determination of Expansion Ratio and Half-Life**

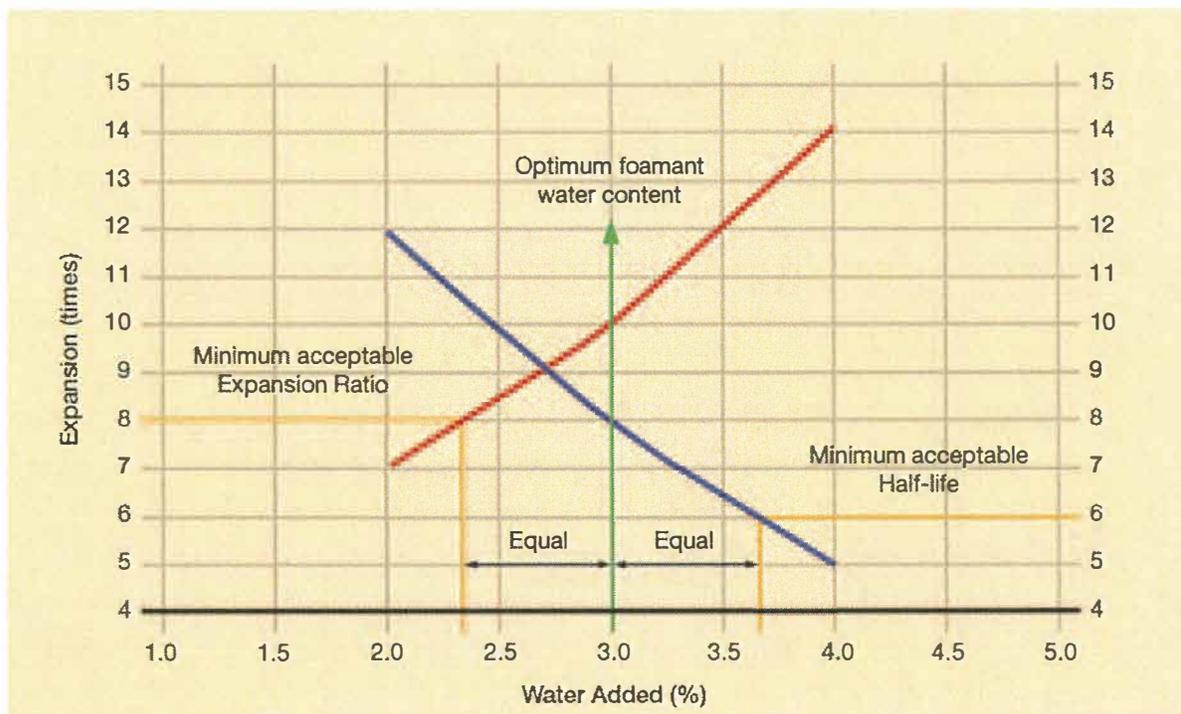
The foaming properties of asphalt are characterized by:

- Expansion Ratio. A measure of the viscosity of the foamed bitumen, calculated as the ratio of the maximum volume of the foam relative to the original volume of bitumen.
- Half-Life. A measure of the stability of the foamed bitumen, calculated as the time taken in seconds for the foam to collapse to one-half of its maximum volume.

The objective is to determine the temperature and percentage of water addition that is required to produce the best foam properties (maximum expansion ratio and half-life) for a particular source of bitumen. This is achieved at three different bitumen temperatures not exceeding 380 °F (195 °C) with the following procedure.

1. Heat the bitumen in the kettle foaming laboratory unit with the pump circulating the bitumen through the system until the required temperature is achieved normally starting with 320 °F (160 °C). Maintain the required temperature for at least five minutes prior to commencing with testing.
2. Calibrate the discharge rate of the bitumen and set the timer on the foaming laboratory unit to discharge 500 g of bitumen ( $Q_{\text{bitumen}}$ ).
3. Set the water flow-meter to achieve the required water injection rate normally starting with 2 percent by mass of the bitumen.
4. Discharge foamed bitumen into steel drum preheated to  $\pm 135$  °F ( $\pm 75$  °C) of the bitumen for a calculated spray time for 500 g of bitumen. Immediately after the foam discharge stops, start a stopwatch.
5. Using the calibrated dipstick supplied with the foaming laboratory unit measure the maximum height the foamed bitumen achieves in the drum. This is recorded as the maximum volume.

6. Use the stopwatch to measure the time in seconds that the foam takes to dissipate to one-half of its maximum volume. This is recorded as the foamed bitumen's half-life.
7. Repeat the above procedures three times or until similar readings are achieved.
8. Repeat Steps 3 through 7 for a range of at least three water injection rates. Typically, values of 2 percent, 3 percent and 4 percent by mass of bitumen are used.
9. Plot a graph of the expansion ratio versus half-life at the different water injection rates on the same set of axes (see an example in the graph below). The optimum water addition is chosen as an average of the two water contents required to meet these minimum criteria.



Repeat Steps 1 through 9 for two other bitumen temperatures normally 340 °F (170 °C) and 360 °F (180 °C). The temperature and optimum water addition that produces the best foam is then used in the mix design procedure described below.

### Sample preparation for foamed bitumen treatment

Prepare the material for foamed bitumen treatment as follows:

1. Place 20 to 25 kg of prepared sample into the pug mill mixer.
2. Determine the dry mass of the sample using the following equation:

$$m_{\text{sample}} = \frac{m_{\text{air-dry}}}{\left(1 + \left(\frac{w_{\text{air-dry}}}{100}\right)\right)}$$

Where:  $m_{\text{sample}}$  = dry mass of the sample in grams  
 $m_{\text{air-dry}}$  = air-dried mass of the sample in grams  
 $w_{\text{air-dry}}$  = moisture content of air-dried sample in percent by mass

3. Determine the required percentage of active filler (lime, cement, or fly ash) using the following equation:

$$m_{\text{cement}} = \left( \frac{W_{\text{c-add}}}{100} \right) m_{\text{sample}}$$

Where:  $m_{\text{cement}}$  = mass of lime, cement, or fly ash to be added in grams  
 $W_{\text{c-add}}$  = percentage of lime, cement, or fly ash required in percent by mass  
 $m_{\text{sample}}$  = dry mass of the sample in grams

4. Determine the percentage of water to be added for optimum mixing moisture and the amount of water to be added to the sample using the following equations:

$$W_{\text{add}} = 0.75W_{\text{OMC}} - W_{\text{air-dry}}$$

$$m_{\text{water}} = \left( \frac{W_{\text{add}}}{100} \right) (m_{\text{sample}} + m_{\text{cement}})$$

where:  $W_{\text{add}}$  = water to be added to sample in percent by mass  
 $W_{\text{OMC}}$  = optimum moisture content in percent by mass  
 $W_{\text{air-dry}}$  = moisture content of air-dried sample in percent by mass  
 $m_{\text{water}}$  = mass of water to be added in grams  
 $m_{\text{sample}}$  = dry mass of the sample in grams  
 $m_{\text{cement}}$  = mass of lime, cement or fly ash to be added in grams

5. Mix the material, active filler, and water in the mixer until uniform.

Note: Inspect the sample after mixing to ensure that the mixed material is not packed against the sides of the mixer. If this situation occurs, mix a new sample at a lower moisture content. Check to see that the material mixes easily and remains in a “fluffed” state. If any dust is observed at the end of the mixing process, add small amounts of water and remix until a “fluffed” state is achieved with no dust.

6. Determine the amount of foamed bitumen to be added using the following equation:

$$m_{\text{bitumen}} = \left( \frac{W_{\text{b-add}}}{100} \right) (m_{\text{sample}} + m_{\text{cement}})$$

where:  $m_{\text{bitumen}}$  = mass of foamed bitumen to be added in grams  
 $W_{\text{b-add}}$  = foamed bitumen content in percent by mass  
 $m_{\text{sample}}$  = dry mass of the sample in grams  
 $m_{\text{cement}}$  = mass of lime, cement or fly ash to be added in grams

7. Determine the timer setting on the foaming laboratory unit using the following equation:

$$t = \frac{m_{\text{bitumen}}}{Q_{\text{bitumen}}}$$

where:  $t$  = time to be set on the foaming laboratory unit timer  
 $m_{\text{bitumen}}$  = mass of foamed bitumen to be added in grams  
 $Q_{\text{bitumen}}$  = bitumen flow rate for the foaming laboratory unit in grams/second

8. Position the mixer adjacent to the foaming unit so that the foamed bitumen can be discharged directly into the mixing chamber.
9. Start the mixer and allow it to mix for at least 10 seconds before discharging the required mass of foamed bitumen into the mixing chamber. After the foamed bitumen has discharged into the mixer, continue mixing for an additional 30 seconds or until uniformly mixed.
10. The moisture content of the material is to be adjusted to 90 percent of optimum moisture content.
11. Add the additional water and mix until uniform.

12. Transfer the foamed bitumen treated material into a container and immediately seal the container to retain moisture. To minimize moisture loss from the prepared sample, compact the specimens as soon as possible.

Repeat the above steps for at least four different foamed asphalt contents.

### Compaction

Six specimens are manufactured for each sample at the different bitumen contents. Compact the specimens as follows:

1. Prepare the Marshall mold and hammer by cleaning the mold, collar, base-plate and face of the compaction hammer.

Note: The compaction equipment must not be heated but kept at ambient temperature.

2. Weigh sufficient material to achieve a compacted height of  $2.5 \pm 0.125$  in. ( $63.5 \pm 1.5$  mm) (usually 1150 g is adequate). Poke the mixture with a spatula 15 times around the perimeter and 10 times on the surface, leaving the surface slightly rounded.
3. Compact the mixture by applying 75 blows with the compaction hammer. Care must be taken to ensure the continuous free fall of the hammer.
4. Take  $\pm 1000$  g representative samples after compaction of the second and fifth specimen and dry to a constant mass at 220 to 230 °F (105 to 110 °C). Determine the molding moisture using the following equation:

$$w_{mold} = \left( \frac{m_{moist} - m_{dry}}{m_{dry}} \right) 100$$

where:  $w_{mold}$  = molding moisture content in percent by mass  
 $m_{moist}$  = mass of moist material in grams  
 $m_{dry}$  = mass of dry material in grams

5. Remove the mold and collar from the pedestal, invert the specimen (turn over). Replace it and press down firmly to ensure that it is secure on the base plate. Compact the other face of the specimen with an additional 75 blows.
6. After compaction, remove the mold from the base-plate and extrude the specimen by means of an extrusion jack. Measure the height of the specimen and adjust the amount material if the height is not within the required limits.

Note: With certain materials lacking cohesion, it may be necessary to leave the specimen in the mold for 24 hours, allowing sufficient strength to develop before extracting.

### Curing after Compaction

Specimens shall be cured for 72 hours at 104 °F (40 °C). The bottom of the specimens shall rest on racks with slots or holes for air circulation. After curing, specimens for moisture conditioning shall be cooled at ambient temperature a maximum of 24 hours; specimens for dry strength shall cool at ambient temperature or 77 °F (25 °C) and be tested at the same time as moisture-conditioned specimens.

Specimens for Rice (maximum theoretical) specific gravity shall be cured at the same conditions as the compacted specimens, except they can be tested after cooling a maximum of 24 hours.

### Volumetric Measurements

Determine bulk specific gravity (ASTM D 6752) of the specimens. Keep specimens in bags until testing or vacuum saturation is performed. ASTM D 2726 may be used to determine bulk specific gravity if specimens' absorption is less than or equal to 2 percent of water by volume.

Determine Rice (maximum theoretical) specific gravity (ASTM D 2041).

Determine air voids at all foamed asphalt contents used in the design.

### **Mechanical Measurements**

Perform ITS testing according to AASHTO T 283 (IL Modified). Specimens shall be conditioned at 77 °F (25 °C) for two hours before testing. Vacuum saturate one-half of the specimens at each foamed asphalt content to a minimum 55 percent of the voids filled with water. Soak for 24 hours at 77 °F (25 °C) before testing.

### **Raveling Test (CIR with Foamed Asphalt Only)**

The apparatus used for the raveling test is a modified A-120 Hobart mixer and abrasion head (including hose) used in the Wet Track Abrasion of Slurry Surfaces Test (ISSA TB-100). The rotation speed for the raveling test is not modified from ISSA TB-100. The ring weight is removed from the abrasion head for the raveling test below. The weight of the abrasion head and hose in contact with the specimen should be 600 g ± 15 g. The prepared sample must be able to be secured under the abrasion head, and centered for an accurate result, allowing for free movement vertically of the abrasion head. The device used for securing and centering the sample must allow a minimum of 0.4 in. (10 mm) of the sample to be available for abrasion. The Hobart mixer will need to be modified to allow the sample to fit properly for abrasion. The modification may be accomplished by adjusting the abrasion head height, or the height of the secured sample. The Hobart C-100 and N-50 Models are not acceptable for this test procedure due to differences in size and speed of rotation.

1. Split out two recycled asphalt samples from the medium gradation, or field sample, to a quantity of 2700 g in mass. The 2700 g is an approximate weight to give 2.8 in. ± 0.2 in. (70 mm ± 5 mm) of height after compaction.
2. The recycled asphalt sample should be placed in a container of adequate size for mixing.
3. Field or design moisture contents should be added to each of the recycled asphalt samples and mixed for 60 seconds.
4. The design emulsion content shall be added to each of the recycled asphalt samples and mixed for 60 seconds.
5. The samples shall be placed immediately into a 6 in. (150 mm) gyratory compaction mold and compacted to 20 gyrations. If the sample height is not 2.8 in. ± 0.2 in. (70 mm ± 5 mm), the recycled asphalt weight should be adjusted.
6. After compaction, the samples shall be removed from the compaction mold and placed on a flat pan to cure at the specified temperature and humidity (if required) for 240 minutes ± 5 minutes. The temperature shall be maintained at 50 °F ± 3.5 °F (10 °C ± 2 °C).
7. The specimens shall be weighed after the curing, just prior to testing.
8. The specimens shall be placed on the raveling test apparatus. Care should be taken that the specimen is centered and well supported. The area of the hose in contact with the specimen should not have been previously used. It is allowable to rotate the hose to an unworn section for testing. The abrasion head (with hose) shall be free to move vertically downward a minimum of 0.2 in. (5 mm) if abrasion allows.
9. The samples shall be abraded for 15 minutes and immediately weighed.
10. The Percent Raveling Loss shall be determined as follows:

$$PRL = 100 \times \frac{W_P - W_A}{W_P}$$

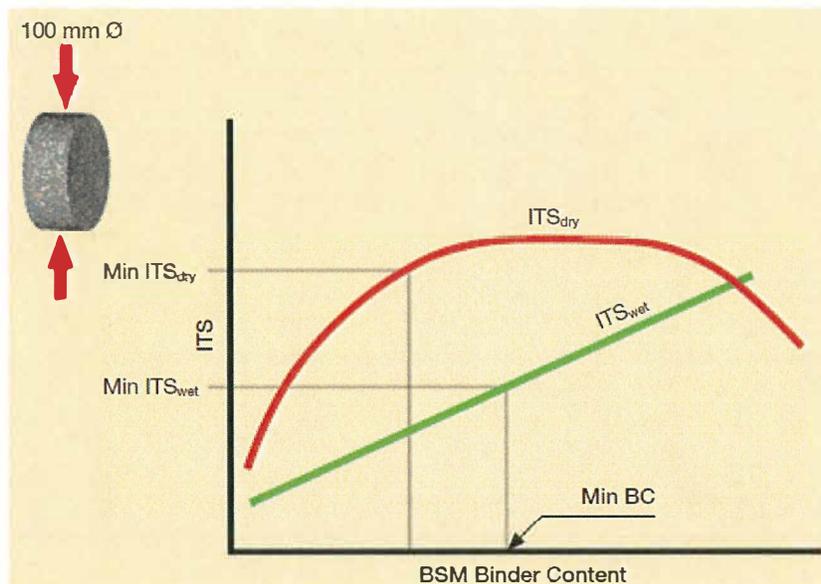
Where:  $PRL$  = Percent Raveling Loss  
 $W_P$  = Weight of Sample Prior to Testing  
 $W_A$  = Weight of Sample After Testing

11. The average of the two specimens shall be reported as the Percent Raveling Loss. If there is a difference of > 0.5 percent raveling loss between the two test specimens, the Raveling Test shall be repeated. If both of the test specimens have a Percent Raveling Loss of > 10 percent, the two test results shall be averaged and the maximum 0.5 percent difference between test specimens shall not be required.

*Note: If field mix samples are taken, steps 2, 3, and 4 shall be omitted.*

### Foamed Asphalt Content Selection

The results of the respective soaked and unsoaked ITS test results are plotted against the relevant bitumen content that was added. The added bitumen content that best meets the desired Bitumen Stabilized Material (BSM) classification is selected as the amount of bitumen to be added, as shown in the example below.



### Report

All mix design test results shall be reported to the Department. All additional additives and bituminous material shall be reported to the Department.

**CONTRACTOR ACCESS**

Eff. 09-11-1990  
Rev. 01-01-2014

At road closure locations, where Type III barricades are installed in a manner that will not allow contractor access to the project without relocation of one or more of the barricades, the arrangement of the barricades at the beginning of each work day may be relocated, when approved by the Engineer, in the manner shown on Highway Standard 701901 for Road Closed to Through Traffic. ' Road Closed ' signs (R11-2), supplemented by ' Except Authorized Vehicles ' signs (R3-1101), shall be mounted on both the near-right and the far-left barricade(s). At the end of each work day the barricades shall be returned to their in-line positions. This work will be considered to be included in the cost of the various traffic control items and no extra compensation will be allowed.

101A.doc

**PNEUMATIC-TIRED ROLLER FOR HOT-MIX ASPHALT**

Eff. 10-01-1998  
Rev. 09-01-2006

For all Hot-Mix Asphalt Mixtures placed at a rate exceeding 85 tons per hour (75 metric tons per hour), a pneumatic-tired roller will be required as the intermediate roller. This roller shall meet the requirements of Table 1 of Article 406.07 of the Standard Specifications. This provision shall hold over any other requirements included elsewhere in the contract.

This work will not be measured for payment or paid for separately, but shall be considered as included in the price per ton (metric ton) or square yard (square meter) of the various items of HOT-MIX ASPHALT, of the mixture and Ndesign (if applicable) specified.

406.doc

**UNEVEN LANES**

Eff.: 12/11/2009  
Rev.: 4/25/2015

Where construction operations result in a temporary drop-off between two traffic lanes open to traffic, excluding patching, "UNEVEN LANES" (W8-11(0)48) signs shall be used. The Contractor shall place the signs at the beginning of the drop-off area, major intersections, and at as such other locations within the drop-off area as the Engineer may direct, including as shown below.

- 1 Mile spacing on rural 2-lane highways

The signs shall be placed just prior to the work that will result in the drop-off and shall remain in place until the drop-off is eliminated. This work shall be considered as included in the contract unit prices for the construction items involved and no additional compensation will be allowed.

701D

D5 Special Provisions

**Individual Density Sites**

Effective: September 1, 2007

Revised: December 10, 2014

Description: This work shall consist of evaluating the daily average offset density value as part of the quality control/quality assurance (QC/QA) of hot-mix asphalt (HMA). Work shall be according to Section 1030 of the Standard Specifications except as follows:

Revise the Density Control Limits table in 1030.05(d)(4) of the Standard Specifications to read:

INDIVIDUAL OFFSET DENSITY CONTROL LIMITS			
Mixture Composition	Parameter	Mat	Confined & Unconfined Edge
		Daily Average Density Value	Daily Average Density Value
IL-4.75	N <sub>des</sub> =50	93.0 – 97.4% <sup>1/</sup>	90.0%
IL-9.5	N <sub>des</sub> ≥ 90	92.0 – 96.0 %	90.0%
IL-9.5, IL-9.5L	N <sub>des</sub> < 90	92.5 – 97.4 %	90.0%
IL-19.0	N <sub>des</sub> ≥ 90	93.0 – 96.0 %	90.0%
IL-19.0, IL-19.0L	N <sub>des</sub> < 90	93.0 – 97.4 %	90.0%
IL-9.5FG <1 ¼ in (32 mm)	N <sub>des</sub> 50-90	90.0 – 95.0 % <sup>1/</sup>	90.0%
IL-9.5FG ≥1 ¼ in (32 mm)	N <sub>des</sub> 50-90	92.0 – 96.0 %	90.0%
SMA	N <sub>des</sub> 50 & 80	93.5% - 97.4%	91.0%

1/ Density shall be determined by cores or by correlated, approved thin lift nuclear gauge.

2/ 92.0% when placed as first lift on an unimproved subgrade.

Insert the following after the sixth paragraph Article 1030.05(d)(7) of the Standard Specifications:

When the daily average density value for a given offset exceeds the control limits, the Engineer shall be notified immediately.

If a daily average density value failure occurs at a given offset due to low density for a given mixture, additional compactive effort or paver adjustment shall be required and approved by the Engineer prior to additional paving. If a daily average density value failure occurs at a given offset due to high density for a given mixture, production shall cease until the problem has been investigated and corrected. Reducing compactive effort for failing high densities will not be allowed.

If two daily average density value failures occur at a given offset for a given mixture, the Engineer shall cease production.

103005(a)(4)

**LONGITUDINAL JOINT DENSITY (D5-FG)**

Effective: January 1, 2010

Revised: April 1, 2016

Description. This work shall consist of testing the density of longitudinal joints as part of the quality control/quality assurance (QC/QA) of hot-mix asphalt (HMA). This specification only covers the joint requirements for the mixes covered under QC/QA and does not apply to any mixes covered by the QCP or PFP specifications. Work shall be according to Section 1030 of the Standard Specifications except as follows.

Quality Control/Quality Assurance (QC/QA). Delete the second and third sentence of the third paragraph of Article 1030.05(d)(3) of the Standard Specifications.

Add the following paragraphs to the end of Article 1030.05(d)(3) of the Standard Specifications:

“Longitudinal joint density testing shall be performed at each random density test location. Longitudinal joint testing shall be located at a distance equal to the lift thickness or a minimum of 4 in. ( 100 mm), from each pavement edge. (i.e. for a 4 in. (100 mm) lift the near edge of the density gauge or core barrel shall be within 4 in. (100 mm) from the edge of pavement.) Longitudinal joint density testing shall be performed using either a correlated nuclear gauge or cores.

- a. Confined Edge. Each confined edge density shall be represented by a one-minute nuclear density reading or a core density and shall be included in the average of density readings or core densities taken across the mat which represents the Individual Test.
- b. Unconfined Edge. Each unconfined edge joint density shall be represented by an average of three one-minute density readings or a single core density at the given density test location and shall meet the density requirements specified herein. The three one-minute readings shall be spaced ten feet apart longitudinally along the unconfined pavement edge and centered at the random density test location.”

Revise the Density Control Limits table in Article 1030.05(d)(4) of the Standard Specifications to read:

“Mixture Composition	Parameter	Individual Test (includes confined edges)	Unconfined Edge Joint Density Minimum
IL-4.75	Ndesign=50	93.0 – 97.4% <sup>1/</sup>	90.0%
IL-9.5	Ndesign ≥ 90	92.0 – 96.0%	90.0%
IL-9.5,IL-9.5L	Ndesign < 90	92.5 – 97.4%	90.0%
IL-19.0	Ndesign ≥ 90	93.0 – 96.0%	90.0%
IL-19.0, IL-19.0L	Ndesign < 90	93.0 – 97.4%	90.0%
IL-9.5FG < 1 ¼ in (32 mm)	Ndesign = 50 - 90	90.0 – 95.0%	90.0%
IL-9.5FG ≥ 1 ¼ in (32 mm)	Ndesign = 50 - 90	92.0 – 96.0%	90.0%
SMA	Ndesign = 50 & 80	93.5 – 97.4%	91.0%

1/ Density shall be determined by cores or by correlated, approved thin lift nuclear gauge.

2/ 92.0% when placed as first lift on an unimproved subgrade.

103005(d)(3)-2

**HOT-MIX ASPHALT – REQUIRED FIELD TESTS**

Effective 01/01/11

Revise the first paragraph of Article 1030.05(d)(3) to read as follows:

Required Field Tests. The Contractor shall control the compaction process by testing the mix density at random locations determined by the Engineer in accordance with the QC/QA document, “Determination of Random Density Test Site Locations”, and recording the results on forms approved by the Engineer. The density locations will be disclosed and marked by the Engineer after all compaction efforts have been completed. Locations shall be laid out using a tape measure or an approved measuring wheel. The Contractor shall follow the density testing procedures detailed in the QC/QA document, “Illinois-Modified ASTM D 2950, Standard Test Method for Determination of Density of Bituminous Concrete In-Place by Nuclear Method”.

103005-d3

**HOT-MIX ASPHALT MIXTURE IL-9.5FG**

Effective: July 1, 2005

Revised: December 10, 2014

Description. This work shall consist of constructing fine graded hot-mix asphalt (HMA) surface course or leveling binder with an IL-9.5FG mixture. Work shall be according to Sections 406, 407 and 1030 of the Standard Specifications, except as modified herein.

Equipment. Add the following to Article 406.03

- (i) Non-Vertical Impact Roller.....1101.01

Materials. Revise Article 1003.03(c) of the Standard Specifications to read:

“(c) Gradation. The fine aggregate gradation for all HMA shall be FA 1, FA 2, FA 20, FA 21, or FA 22. For mixture IL-9.5FG, the fine aggregate fraction shall consist of at least 67 percent manufactured sand meeting FA 20, FA 21 or FA 22 gradation. The manufactured sand shall be stone sand, slag sand, steel slag sand, or combinations thereof.”

Mixture Design. Add the following to the table in Article 1030.04(a)(1):

“High ESAL, MIXTURE COMPOSITION (% PASSING) <sup>1/</sup>		
Sieve Size	IL-9.5FG	
	min	max
1 1/2 in (37.5 mm)		
1 in. (25 mm)		
3/4 in. (19 mm)		
1/2 in. (12.5 mm)		100
3/8 in. (9.5 mm)	90	100
#4 (4.75 mm)	65	80
#8 (2.36 mm)	50	65
#16 (1.18 mm)	25	40
#30 (600 μm)	15	30
#50 (300 μm)	8	15
#100 (150 μm)	6	10
#200 (75 μm)	4	6.5
Ratio: Dust/Asphalt Binder		1.0

D5 Special Provisions

Revise the table in Article 1030.04(b)(1) of the Standard Specifications to read:

"VOLUMETRIC REQUIREMENTS: High ESAL			
	Voids in the Mineral Aggregate (VMA),% minimum		Voids Filled with Asphalt Binder (VFA),%
N <sub>design</sub>	IL-19.0	IL-9.5, IL 9.5FG	
50	13.5	15.0	65 - 78
70			
90			65 - 75 <sup>1/</sup>

1/ The VFA range for IL-9.5FG shall be 65 - 78 percent."

Quality Control/Quality Assurance (QC/QA). Revise the second table in Article 1030.05(d)(4) to read:

DENSITY CONTROL LIMITS			
Mixture Composition		Parameter	Individual Test
IL-4.75		N <sub>design</sub> = 50	93.0 – 97.4% <sup>1/</sup>
IL-9.5FG	Lifts < 1.25 in. (32 mm)	N <sub>design</sub> 50 - 90	90.0 – 95.0% <sup>1/</sup>
	Lifts ≥ 1.25 in. (32 mm)	N <sub>design</sub> 50 - 90	92.0 – 96.0%
IL-9.5		N <sub>design</sub> ≥ 90	92.0 – 96.0 %
IL-9.5, IL-9.5L		N <sub>design</sub> < 90	92.5 – 97.4 %
IL-19.0		N <sub>design</sub> ≥ 90	93.0 – 96.0 %
IL-19.0, IL-19.0L		N <sub>design</sub> < 90	93.0 – 97.4 %

- 1/ Density shall be determined by cores or by correlated, approved thin lift nuclear gauge
- 2/ 92.0 % when placed as first lift on an unimproved subgrade.

CONSTRUCTION REQUIREMENTS

Leveling Binder. Revise the table and second paragraph of Article 406.05(c) of the Standard Specifications to read:

"Leveling Binder	
Nominal, Compacted, Leveling Binder Thickness, in. (mm)	Mixture Composition
≤ 1 1/4 (32)	IL 4.75, IL-9.5, IL-9.5 FG, or IL-9.5L
> 1 1/4 to 2 (32 to 50)	IL-9.5, IL-9.5FG, IL-9.5L

The density requirements of Article 406.07 (c) shall apply for leveling binder, machine method, when the nominal, compacted thickness is: 3/4 in. (19 mm) or greater for IL-9.5FG and IL 4.75 mixtures and 1 1/4 in. (32 mm) or greater for IL-9.5 and IL-9.5L mixtures."

D5 Special Provisions

Compaction. Revise Table 1 in Article 406.07(a) of the Standard Specifications to read:

"TABLE 1 - MINIMUM ROLLER REQUIREMENTS FOR HMA <sup>4/</sup>				
	Breakdown Roller (one of the following)	Intermediate Roller	Final Roller (one or more of the following)	Density Requirement
Level Binder: (When the density requirements of Article 406.05(c) do not apply.)	P <sup>3/</sup>	--	V <sub>S</sub> , P <sup>3/</sup> , T <sub>B</sub> , T <sub>F</sub> , 3W	To the satisfaction of the Engineer.
Level Binder: (When placed at ≤ 1 ¼ (32 mm) and density requirements of Article 406.05 (c) apply.)	V <sub>N</sub> , T <sub>B</sub> , 3W	P <sup>3/</sup>	V <sub>S</sub> , T <sub>B</sub> , T <sub>F</sub>	As specified in Articles: 1030.05(d)(3), (d)(4), and (d)(7).
Level Binder <sup>1/</sup> >1 ¼ in. (32 mm) Binder and Surface <sup>1/</sup>	V <sub>D</sub> , P <sup>3/</sup> , T <sub>B</sub> , 3W	P <sup>3/</sup>	V <sub>S</sub> , T <sub>B</sub> , T <sub>F</sub>	As specified in Articles: 1030.05(d)(3), (d)(4), and (d)(7).
Bridge Decks <sup>2/</sup>	T <sub>B</sub>	--	T <sub>F</sub>	As specified in Articles: 582.05 and 582.06.

- 1/ If the average delivery at the job site is 85 ton/hr (75 metric ton/hr) or less, any roller combination may be used provided it includes a steel wheeled roller and the required density and smoothness is obtained.
- 2/ One T<sub>B</sub> may be used for both breakdown and final rolling on bridge decks 300 ft (90 m) or less in length, except when the air temperature is less than 60 °F (15 °C).
- 3/ A vibratory roller (V<sub>D</sub>) may be used in lieu of the pneumatic-tired roller on mixtures containing polymer modified asphalt binder.
- 4/ For mixture IL-4.75 a minimum of two T<sub>B</sub> and one T<sub>F</sub> roller shall be provided. Both the T<sub>B</sub> and T<sub>F</sub> rollers shall be a minimum of 280 lb/in. (49 N/mm). P and V rollers will not be permitted.

Add the following to EQUIPMENT DEFINITION

V<sub>N</sub> - Non-Vertical Impact roller operated in a mode that will provide non-vertical impacts and operate at a speed to produce not less than 10 impacts/ft (30 impacts/m).

## D5 Special Provisions

Rollers. Add the following to Article 1101.01 of the Standard Specifications:

- h) The non-vertical impact roller shall be self-propelled and provide a smooth operation when starting, stopping or reversing directions. Non-vertical impact drum(s) amplitude and frequency shall be approximately the same in each direction and meet the following minimum requirements: drum diameter 48 in. (1200 mm), length of drum 66 in. (1650 mm), unit static force on drum(s) 125 lb/in. (22 N/m), adjustable eccentrics, and reversible eccentrics on non-driven drum(s). The total applied force and the direction it is applied for various combinations of VPM and eccentric positions shall be shown on decals on the roller or on a chart maintained with the roller. The roller shall be equipped with water tanks and sprinkling devices, or other approved methods, which shall be used to wet the drums to prevent material pickup.

Basis of Payment. Add the following two paragraphs after the third paragraph of Article 406.14 of the Standard Specifications:

"Mixture IL-9.5FG will be paid for at the contract unit price per ton (metric ton) for LEVELING BINDER (HAND METHOD), IL-9.5FG, of the Ndesign specified; LEVELING BINDER (MACHINE METHOD), IL-9.5FG, of the Ndesign specified; or HOT-MIX ASPHALT SURFACE COURSE, IL-9.5FG, of the Ndesign specified.

Mixture IL-9.5FG in which polymer modified asphalt binders are required will be paid for at the contract unit price per ton (metric ton) for POLYMERIZED LEVELING BINDER (HAND METHOD), IL-9.5FG, of the Ndesign specified; POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-9.5FG, of the Ndesign specified; or POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, IL-9.5FG, of the Ndesign specified."

HMA IL-9 5 FG

### **NON-VERTICAL IMPACT ROLLER FOR HOT-MIX ASPHALT**

Eff. October 13, 2011

For all Hot-Mix Asphalt Mixtures placed at a rate exceeding 85 tons per hour (75 metric tons per hour), a Non-Vertical Impact roller may be used as the finish roller. The roller shall meet the requirements outlined below.

The roller shall be capable of operating in a mode that will provide non-vertical impacts and operate at a speed to produce not less than 10 impacts/ft (30 impacts/m). The roller shall be self-propelled and provide a smooth operation when starting, stopping or reversing directions. The non-vertical impact drum(s) amplitude and frequency shall be approximately the same in each direction and meet the following minimum requirements: drum diameter 48 in. (1200 mm), length of drum 66 in. (1650 mm), unit static force on drum(s) 125 lb/in. (22 N/m), adjustable eccentrics, and reversible eccentrics on non-driven drum(s). The total applied force and the direction it is applied for various combinations of VPM and eccentric positions shall be shown on decals on the vibrating roller or on a chart maintained with the roller. The roller shall be equipped with water tanks and sprinkling devices, or other approved methods, which shall be used to wet the drums to prevent material pickup.

This work will not be measured for payment or paid for separately, but shall be considered as included in the price per ton (metric ton) or square yard (square meter) of the various items of HOT-MIX ASPHALT, of the mixture and Ndesign (if applicable) specified.

Non-vertical roller

## **AUTOMATED FLAGGER ASSISTANCE DEVICES (BDE)**

Effective: January 1, 2008

Description. This work shall consist of furnishing and operating automated flagger assistance devices (AFADs) as part of the work zone traffic control and protection for two-lane highways where two-way traffic is maintained over one lane of pavement. Use of these devices shall be at the option of the Contractor.

Equipment. AFADs shall be according to the FHWA memorandum, "MUTCD - Revised Interim Approval for the use of Automated Flagger Assistance Devices in Temporary Traffic Control Zones (IA-4R)", dated January 28, 2005. The devices shall be mounted on a trailer or a moveable cart and shall meet the requirements of NCHRP 350, Category 4.

The AFAD shall be the Stop/Slow type. This device uses remotely controlled "STOP" and "SLOW" signs to alternately control right-of-way.

Signs for the AFAD shall be according to Article 701.03 of the Standard Specifications and the MUTCD. The signs shall be 24 x 24 in. (600 x 600 mm) having an octagon shaped "STOP" sign on one side and a diamond shaped "SLOW" sign on the opposite side. The letters on the signs shall be 8 in. (200 mm) high. If the "STOP" sign has louvers, the full sign face shall be visible at a distance of 50 ft (15 m) and greater.

The signs shall be supplemented with one of the following types of lights.

- (a) Flashing Lights. When flashing lights are used, white or red flashing lights shall be mounted within the "STOP" sign face and white or yellow flashing lights within the "SLOW" sign face.
- (b) Stop and Warning Beacons. When beacons are used, a stop beacon shall be mounted 24 in. (600 mm) or less above the "STOP" sign face and a warning beacon mounted 24 in. (600 mm) or less above, below, or to the side of the "SLOW" sign face. As an option, a Type B warning light may be used in lieu of the warning beacon.

A "WAIT ON STOP" sign shall be placed on the right hand side of the roadway at a point where drivers are expected to stop. The sign shall be 24 x 30 in. (600 x 750 mm) with a black legend and border on a white background. The letters shall be at least 6 in. (150 mm) high.

This device may include a gate arm or mast arm that descends to a horizontal position when the "STOP" sign is displayed and rises to a vertical position when the "SLOW" sign is displayed. When included, the end of the arm shall reach at least to the center of the lane being controlled. The arm shall have alternating red and white retroreflective stripes, on both sides, sloping downward at 45 degrees toward the side on which traffic will pass. The stripes shall be 6 in. (150 mm) in width and at least 2 in. (50 mm) in height.

Flagging Requirements. Flaggers and flagging requirements shall be according to Article 701.13 of the Standard Specifications and the following.

AFADs shall be placed at each end of the traffic control, where a flagger is shown on the plans. The flaggers shall be able to view the face of the AFAD and approaching traffic during operation.

To stop traffic, the "STOP" sign shall be displayed, the corresponding lights/beacon shall flash, and when included, the gate arm shall descend to a horizontal position. To permit traffic to move, the "SLOW" sign shall be displayed, the corresponding lights/beacon shall flash, and when included, the gate arm shall rise to a vertical position.

If used at night, the AFAD location shall be illuminated according to Section 701 of the Standard Specifications.

When not in use, AFADs will be considered nonoperating equipment and shall be stored according to Article 701.11 of the Standard Specifications.

Basis of Payment. This work will not be paid for separately but shall be considered as included in the cost of the various traffic control items included in the contract.

80192

## BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE)

Effective: November 2, 2006

Revised: August 1, 2017

Description. Bituminous material cost adjustments will be made to provide additional compensation to the Contractor, or credit to the Department, for fluctuations in the cost of bituminous materials when optioned by the Contractor. The bidder shall indicate with their bid whether or not this special provision will be part of the contract.

The adjustments shall apply to permanent and temporary hot-mix asphalt (HMA) mixtures, bituminous surface treatments (cover and seal coats), and preventative maintenance type surface treatments that are part of the original proposed construction, or added as extra work and paid for by agreed unit prices. The adjustments shall not apply to bituminous prime coats, tack coats, crack filling/sealing, joint filling/sealing, or extra work paid for at a lump sum price or by force account.

Method of Adjustment. Bituminous materials cost adjustments will be computed as follows.

$$CA = (BPI_P - BPI_L) \times (\%AC_V / 100) \times Q$$

Where: CA = Cost Adjustment, \$.

BPI<sub>P</sub> = Bituminous Price Index, as published by the Department for the month the work is performed, \$/ton (\$/metric ton).

BPI<sub>L</sub> = Bituminous Price Index, as published by the Department for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price, \$/ton (\$/metric ton).

%AC<sub>V</sub> = Percent of virgin Asphalt Cement in the Quantity being adjusted. For HMA mixtures, the % AC<sub>V</sub> will be determined from the adjusted job mix formula. For bituminous materials applied, a performance graded or cutback asphalt will be considered to be 100% AC<sub>V</sub> and undiluted emulsified asphalt will be considered to be 65% AC<sub>V</sub>.

Q = Authorized construction Quantity, tons (metric tons) (see below).

For HMA mixtures measured in square yards:  $Q, \text{ tons} = A \times D \times (G_{mb} \times 46.8) / 2000$ . For HMA mixtures measured in square meters:  $Q, \text{ metric tons} = A \times D \times (G_{mb} \times 1) / 1000$ . When computing adjustments for full-depth HMA pavement, separate calculations will be made for the binder and surface courses to account for their different  $G_{mb}$  and % AC<sub>V</sub>.

For bituminous materials measured in gallons:  $Q, \text{ tons} = V \times 8.33 \text{ lb/gal} \times SG / 2000$

For bituminous materials measured in liters:  $Q, \text{ metric tons} = V \times 1.0 \text{ kg/L} \times SG / 1000$

Where: A = Area of the HMA mixture, sq yd (sq m).

D = Depth of the HMA mixture, in. (mm).

$G_{mb}$  = Average bulk specific gravity of the mixture, from the approved mix design.

V = Volume of the bituminous material, gal (L).  
SG = Specific Gravity of bituminous material as shown on the bill of lading.

Basis of Payment. Bituminous materials cost adjustments may be positive or negative but will only be made when there is a difference between the BPI<sub>L</sub> and BPI<sub>P</sub> in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(BPI_L - BPI_P) \div BPI_L\} \times 100$$

Bituminous materials cost adjustments will be calculated for each calendar month in which applicable bituminous material is placed; and will be paid or deducted when all other contract requirements for the work placed during the month are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

80173

## BUTT JOINTS (BDE)

Effective: July 1, 2016

Add the following to Article 406.08 of the Standard Specifications.

“(c) Temporary Plastic Ramps. Temporary plastic ramps shall be made of high density polyethylene meeting the properties listed below. Temporary plastic ramps shall only be used on roadways with permanent posted speeds of 55 mph or less. The ramps shall have a minimum taper rate of 1:30 (V:H). The leading edge of the plastic ramp shall have a maximum thickness of 1/4 in. (6 mm) and the trailing edge shall match the height of the adjacent pavement  $\pm$  1/4 in. ( $\pm$  6 mm).

The ramp will be accepted by certification. The Contractor shall furnish a certification from the manufacturer stating the temporary plastic ramp meets the following requirements.

Physical Property	Test Method	Requirement
Melt Index	ASTM D 1238	8.2 g/10 minutes
Density	ASTM D 1505	0.965 g/cc
Tensile Strength @ Break	ASTM D 638	2223 psi (15 MPa)
Tensile Strength @ Yield	ASTM D 638	4110 psi (28 MPa)
Elongation @ Yield <sup>1/</sup> , percent	ASTM D 638	7.3 min.
Durometer Hardness, Shore D	ASTM D 2240	65
Heat Deflection Temperature, 66 psi	ASTM D 648	176 °F (80 °C)
Low Temperature Brittleness, F <sub>50</sub>	ASTM D 746	<-105 °F (<-76 °C)

1/ Crosshead speed -2 in./minute

The temporary plastic ramps shall be installed according to the manufacturer's specifications and fastened with anchors meeting the manufacturer's recommendations. Temporary plastic ramps that fail to stay in place or create a traffic hazard shall be replaced immediately with temporary HMA ramps at the Contractor's expense.”

80366

## **COMPENSABLE DELAY COSTS (BDE)**

Effective: June 2, 2017

Revise Article 107.40(b) of the Standard Specifications to read:

“(b) Compensation. Compensation will not be allowed for delays, inconveniences, or damages sustained by the Contractor from conflicts with facilities not meeting the above definition; or if a conflict with a utility in an unanticipated location does not cause a shutdown of the work or a documentable reduction in the rate of progress exceeding the limits set herein. The provisions of Article 104.03 notwithstanding, compensation for delays caused by a utility in an unanticipated location will be paid according to the provisions of this Article governing minor and major delays or reduced rate of production which are defined as follows.

- (1) Minor Delay. A minor delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two hours, but not to exceed two weeks.
- (2) Major Delay. A major delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two weeks.
- (3) Reduced Rate of Production Delay. A reduced rate of production delay occurs when the rate of production on the work in conflict with the utility in an unanticipated location decreases by more than 25 percent and lasts longer than seven calendar days.”

Revise Article 107.40(c) of the Standard Specifications to read:

“(c) Payment. Payment for Minor, Major, and Reduced Rate of Production Delays will be made as follows.

- (1) Minor Delay. Labor idled which cannot be used on other work will be paid for according to Article 109.04(b)(1) and (2) for the time between start of the delay and the minimum remaining hours in the work shift required by the prevailing practice in the area.

Equipment idled which cannot be used on other work, and which is authorized to standby on the project site by the Engineer, will be paid for according to Article 109.04(b)(4).

- (2) Major Delay. Labor will be the same as for a minor delay.

Equipment will be the same as for a minor delay, except Contractor-owned equipment will be limited to two weeks plus the cost of move-out to either the Contractor’s yard or another job and the cost to re-mobilize, whichever is less.

Rental equipment may be paid for longer than two weeks provided the Contractor presents adequate support to the Department (including lease agreement) to show retaining equipment on the job is the most economical course to follow and in the public interest.

- (3) Reduced Rate of Production Delay. The Contractor will be compensated for the reduced productivity for labor and equipment time in excess of the 25 percent threshold for that portion of the delay in excess of seven calendar days. Determination of compensation will be in accordance with Article 104.02, except labor and material additives will not be permitted.

Payment for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be determined according to Article 109.13.”

Revise Article 108.04(b) of the Standard Specifications to read:

“(b) No working day will be charged under the following conditions.

- (1) When adverse weather prevents work on the controlling item.
- (2) When job conditions due to recent weather prevent work on the controlling item.
- (3) When conduct or lack of conduct by the Department or its consultants, representatives, officers, agents, or employees; delay by the Department in making the site available; or delay in furnishing any items required to be furnished to the Contractor by the Department prevents work on the controlling item.
- (4) When delays caused by utility or railroad adjustments prevent work on the controlling item.
- (5) When strikes, lock-outs, extraordinary delays in transportation, or inability to procure critical materials prevent work on the controlling item, as long as these delays are not due to any fault of the Contractor.
- (6) When any condition over which the Contractor has no control prevents work on the controlling item.”

Revise Article 109.09(f) of the Standard Specifications to read:

- “(f) Basis of Payment. After resolution of a claim in favor of the Contractor, any adjustment in time required for the work will be made according to Section 108. Any adjustment in the costs to be paid will be made for direct labor, direct materials, direct equipment, direct jobsite overhead, direct offsite overhead, and other direct costs allowed by the resolution. Adjustments in costs will not be made for interest charges, loss of anticipated profit, undocumented loss of efficiency, home office overhead and unabsorbed overhead

other than as allowed by Article 109.13, lost opportunity, preparation of claim expenses and other consequential indirect costs regardless of method of calculation.

The above Basis of Payment is an essential element of the contract and the claim cost recovery of the Contractor shall be so limited.”

Add the following to Section 109 of the Standard Specifications.

**“109.13 Payment for Contract Delay.** Compensation for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be allowed when such costs result from a delay meeting the criteria in the following table.

Contract Type	Cause of Delay	Length of Delay
Working Days	Article 108.04(b)(3) or Article 108.04(b)(4)	No working days have been charged for two consecutive weeks.
Completion Date	Article 108.08(b)(1) or Article 108.08(b)(7)	The Contractor has been granted a minimum two week extension of contract time, according to Article 108.08.

Payment for each of the various costs will be according to the following.

- (a) Escalated Material and/or Labor Costs. When the delay causes work, which would have otherwise been completed, to be done after material and/or labor costs have increased, such increases will be paid. Payment for escalated material costs will be limited to the increased costs substantiated by documentation furnished by the Contractor. Payment for escalated labor costs will be limited to those items in Article 109.04(b)(1) and (2), except the 35 percent and 10 percent additives will not be permitted.
- (b) Extended Project Overhead. For the duration of the delay, payment for extended project overhead will be paid as follows.
  - (1) Direct Jobsite and Offsite Overhead. Payment for documented direct jobsite overhead and documented direct offsite overhead, including onsite supervisory and administrative personnel, will be allowed according to the following table.

Original Contract Amount	Supervisory and Administrative Personnel
Up to \$5,000,000	One Project Superintendent
Over \$ 5,000,000 - up to \$25,000,000	One Project Manager, One Project Superintendent or Engineer, and One Clerk
Over \$25,000,000 - up to \$50,000,000	One Project Manager, One Project Superintendent, One Engineer, and

	One Clerk
Over \$50,000,000	One Project Manager, Two Project Superintendents, One Engineer, and One Clerk

(2) Home Office and Unabsorbed Overhead. Payment for home office and unabsorbed overhead will be calculated as 8 percent of the total delay cost.

(c) Extended Traffic Control. Traffic control required for an extended period of time due to the delay will be paid. For working day contracts the payment will be made according to Article 109.04. For completion date contracts, an adjustment will be determined as follows.

Extended Traffic Control occurs between April 1 and November 30:

$$\text{ETCP Adjustment (\$)} = \text{TE} \times (\% / 100 \times \text{CUP} / \text{OCT})$$

Extended Traffic Control occurs between December 1 and March 31:

$$\text{ETCP Adjustment (\$)} = \text{TE} \times 1.5 (\% / 100 \times \text{CUP} / \text{OCT})$$

Where: TE = Duration of approved time extension in calendar days.

% = Percent maintenance for the traffic control, % (see table below).

CUP = Contract unit price for the traffic control pay item in place during the delay.

OCT = Original contract time in calendar days.

Original Contract Amount	Percent Maintenance
Up to \$2,000,000	65%
\$2,000,000 to \$10,000,000	75%
\$10,000,000 to \$20,000,000	85%
Over \$20,000,000	90%

When an ETCP adjustment is paid under this provision, an adjusted unit price as provided for in Article 701.20(a) for increase or decrease in the value of work by more than ten percent will not be paid.

Upon payment for a contract delay under this provision, the Contractor shall assign subrogation rights to the Department for the Department's efforts of recovery from any other party for monies paid by the Department as a result of any claim under this provision. The Contractor shall fully cooperate with the Department in its efforts to recover from another party any money paid to the Contractor for delay damages under this provision."

**CONCRETE MIX DESIGN – DEPARTMENT PROVIDED (BDE)**

Effective: January 1, 2012

| Revised: April 1, 2016

| For the concrete mix design requirements in Article 1020.05(a) of the Standard Specifications, the Contractor has the option to request the Engineer determine mix design material proportions for Class PV, PP, RR, BS, DS, SC, and SI concrete. A single mix design for each class of concrete will be provided. Acceptance by the Contractor to use the mix design developed by the Engineer shall not relieve the Contractor from meeting specification requirements.

80277

## **DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)**

Effective: September 1, 2000

Revised: April 2, 2018

**FEDERAL OBLIGATION.** The Department of Transportation, as a recipient of federal financial assistance, is required to take all necessary and reasonable steps to ensure nondiscrimination in the award and administration of contracts. Consequently, the federal regulatory provisions of 49 CFR Part 26 apply to this contract concerning the utilization of disadvantaged business enterprises. For the purposes of this Special Provision, a disadvantaged business enterprise (DBE) means a business certified by the Department in accordance with the requirements of 49 CFR Part 26 and listed in the Illinois Unified Certification Program (IL UCP) DBE Directory.

**STATE OBLIGATION.** This Special Provision will also be used by the Department to satisfy the requirements of the Business Enterprise for Minorities, Females, and Persons with Disabilities Act, 30 ILCS 575. When this Special Provision is used to satisfy state law requirements on 100 percent state-funded contracts, the federal government has no involvement in such contracts (not a federal-aid contract) and no responsibility to oversee the implementation of this Special Provision by the Department on those contracts. DBE participation on 100 percent state-funded contracts will not be credited toward fulfilling the Department's annual overall DBE goal required by the US Department of Transportation to comply with the federal DBE program requirements.

**CONTRACTOR ASSURANCE.** The Contractor makes the following assurance and agrees to include the assurance in each subcontract that the Contractor signs with a subcontractor.

The Contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of contracts funded in whole or in part with federal or state funds. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (a) Withholding progress payments;
- (b) Assessing sanctions;
- (c) Liquidated damages; and/or
- (d) Disqualifying the Contractor from future bidding as non-responsible.

**OVERALL GOAL SET FOR THE DEPARTMENT.** As a requirement of compliance with 49 CFR Part 26, the Department has set an overall goal for DBE participation in its federally assisted contracts. That goal applies to all federal-aid funds the Department will expend in its federally assisted contracts for the subject reporting fiscal year. The Department is required to make a

good faith effort to achieve the overall goal. The dollar amount paid to all approved DBE companies performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined that the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. The determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates that, in the absence of unlawful discrimination, and in an arena of fair and open competition, DBE companies can be expected to perform 2.00 % of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will only award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set for in this Special Provision:

- (a) The bidder documents that enough DBE participation has been obtained to meet the goal or,
- (b) The bidder documents that a good faith effort has been made to meet the goal, even though the effort did not succeed in obtaining enough DBE participation to meet the goal.

DBE LOCATOR REFERENCES. Bidders shall consult the IL UCP DBE Directory as a reference source for DBE-certified companies. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting. Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217) 785-4611, or by visiting the Department's website at:

<http://www.idot.illinois.gov/doing-business/certifications/disadvantaged-business-enterprise-certification/il-ucp-directory/index>.

BIDDING PROCEDURES. Compliance with this Special Provision is required prior to the award of the contract and the failure of the low bidder to comply will render the bid not responsive.

In order to assure the timely award of the contract, the low bidder shall submit:

- (a) The bidder shall submit a DBE Utilization Plan on completed Department forms SBE 2025 and 2026.
  - (1) The final Utilization Plan must be submitted within five calendar days after the date of the letting in accordance with subsection (a)(2) of Bidding Procedures herein.

- (2) To meet the five day requirement, the bidder may send the Utilization Plan electronically by scanning and sending to [DOT.DBE.UP@illinois.gov](mailto:DOT.DBE.UP@illinois.gov) or faxing to (217) 785-1524. The subject line must include the bid Item Number and the Letting date. The Utilization Plan should be sent as one .pdf file, rather than multiple files and emails for the same Item Number. It is the responsibility of the bidder to obtain confirmation of email or fax delivery.

Alternatively, the Utilization Plan may be sent by certified mail or delivery service within the five calendar day period. If a question arises concerning the mailing date of a Utilization Plan, the mailing date will be established by the U.S. Postal Service postmark on the certified mail receipt from the U.S. Postal Service or the receipt issued by a delivery service when the Utilization Plan is received by the Department. It is the responsibility of the bidder to ensure the postmark or receipt date is affixed within the five days if the bidder intends to rely upon mailing or delivery to satisfy the submission day requirement. The Utilization Plan is to be submitted to:

Illinois Department of Transportation  
Bureau of Small Business Enterprises  
Contract Compliance Section  
2300 South Dirksen Parkway, Room 319  
Springfield, Illinois 62764

The Department will not accept a Utilization Plan if it does not meet the five day submittal requirement and the bid will be declared not responsive. In the event the bid is declared not responsive due to a failure to submit a Utilization Plan or failure to comply with the bidding procedures set forth herein, the Department may elect to cause the forfeiture of the penal sum of the bidder's proposal guaranty, and may deny authorization to bid the project if re-advertised for bids. The Department reserves the right to invite any other bidder to submit a Utilization Plan at any time for award consideration.

- (b) The Utilization Plan shall indicate that the bidder either has obtained sufficient DBE participation commitments to meet the contract goal or has not obtained enough DBE participation commitments in spite of a good faith effort to meet the goal. The Utilization Plan shall further provide the name, telephone number, and telefax number of a responsible official of the bidder designated for purposes of notification of Utilization Plan approval or disapproval under the procedures of this Special Provision.
- (c) The Utilization Plan shall include a DBE Participation Commitment Statement, Department form SBE 2025, for each DBE proposed for the performance of work to achieve the contract goal. For bidding purposes, submission of the completed SBE 2025 forms, signed by the DBEs and scanned or faxed to the bidder will be acceptable as long as the original is available and provided upon request. All elements of information indicated on the said form shall be provided, including but not limited to the following:

- (1) The names and addresses of DBE firms that will participate in the contract;
- (2) A description, including pay item numbers, of the work each DBE will perform;
- (3) The dollar amount of the participation of each DBE firm participating. The dollar amount of participation for identified work shall specifically state the quantity, unit price, and total subcontract price for the work to be completed by the DBE. If partial pay items are to be performed by the DBE, indicate the portion of each item, a unit price where appropriate and the subcontract price amount;
- (4) DBE Participation Commitment Statements, form SBE 2025, signed by the bidder and each participating DBE firm documenting the commitment to use the DBE subcontractors whose participation is submitted to meet the contract goal;
- (5) If the bidder is a joint venture comprised of DBE companies and non-DBE companies, the Utilization Plan must also include a clear identification of the portion of the work to be performed by the DBE partner(s); and,
- (6) If the contract goal is not met, evidence of good faith efforts; the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor is selected over a DBE for work on the contract.

GOOD FAITH EFFORT PROCEDURES. The contract will not be awarded until the Utilization Plan submitted by the apparent successful bidder is approved. All information submitted by the bidder must be complete, accurate and adequately document that enough DBE participation has been obtained or document that good faith efforts of the bidder, in the event enough DBE participation has not been obtained, before the Department will commit to the performance of the contract by the bidder. The Utilization Plan will be approved by the Department if the Utilization Plan documents sufficient commercially useful DBE work to meet the contract goal or the bidder submits sufficient documentation of a good faith effort to meet the contract goal pursuant to 49 CFR Part 26, Appendix A. The Utilization Plan will not be approved by the Department if the Utilization Plan does not document sufficient DBE participation to meet the contract goal unless the apparent successful bidder documented in the Utilization Plan that it made a good faith effort to meet the goal. This means that the bidder must show that all necessary and reasonable steps were taken to achieve the contract goal. Necessary and reasonable steps are those which, by their scope, intensity and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not successful. The Department will consider the quality, quantity, and intensity of the kinds of efforts that the bidder has made. Mere *pro forma* efforts, in other words, efforts done as a matter of form, are not good faith efforts; rather, the bidder is expected to have taken genuine efforts that would be reasonably expected of a bidder actively and aggressively trying to obtain DBE participation sufficient to meet the contract goal.

- (a) The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors

are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases, and will be considered by the Department.

- (1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.
- (2) Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime Contractor might otherwise prefer to perform these work items with its own forces.
- (3) Providing interested DBE companies with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
- (4) a. Negotiating in good faith with interested DBE companies. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBE companies that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBE companies to perform the work.
  - b. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidders are not, however, required to accept higher quotes from DBE companies if the price difference is excessive or unreasonable. In accordance with subsection (c)(6) of the above Bidding Procedures, the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.

- (5) Not rejecting DBE companies as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
  - (6) Making efforts to assist interested DBE companies in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.
  - (7) Making efforts to assist interested DBE companies in obtaining necessary equipment, supplies, materials, or related assistance or services.
  - (8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE companies.
- (b) If the Department determines that the apparent successful bidder has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided that it is otherwise eligible for award. If the Department determines that the bidder has failed to meet the requirements of this Special Provision or that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification shall include a statement of reasons for the determination. If the Utilization Plan is not approved because it is deficient as a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no more than a five calendar day period in order to cure the deficiency.
- (c) The bidder may request administrative reconsideration of a determination adverse to the bidder within the five working days after the receipt of the notification date of the determination by delivering the request to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764 (Telefax: (217) 785-1524). Deposit of the request in the United States mail on or before the fifth business day shall not be deemed delivery. The determination shall become final if a request is not made and delivered. A request may provide additional written documentation or argument concerning the issues raised in the determination statement of reasons, provided the documentation and arguments address efforts made prior to submitting the bid. The request will be forwarded to the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person in order to consider all issues of documentation and whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten working days after receipt of the request for reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the

Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

CALCULATING DBE PARTICIPATION. The Utilization Plan values represent work anticipated to be performed and paid for upon satisfactory completion. The Department is only able to count toward the achievement of the overall goal and the contract goal the value of payments made for the work actually performed by DBE companies. In addition, a DBE must perform a commercially useful function on the contract to be counted. A commercially useful function is generally performed when the DBE is responsible for the work and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. The Department and Contractor are governed by the provisions of 49 CFR Part 26.55(c) on questions of commercially useful functions as it affects the work. Specific counting guidelines are provided in 49 CFR Part 26.55, the provisions of which govern over the summary contained herein.

- (a) DBE as the Contractor: 100 percent goal credit for that portion of the work performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontracts to a non-DBE does not count toward the DBE goals.
- (b) DBE as a joint venture Contractor: 100 percent goal credit for that portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work performed by the DBE's own forces.
- (c) DBE as a subcontractor: 100 percent goal credit for the work of the subcontract performed by the DBE's own forces, including the cost of materials and supplies, excluding the purchase of materials and supplies or the lease of equipment by the DBE subcontractor from the prime Contractor or its affiliates. Work that a DBE subcontractor in turn subcontracts to a non-DBE does not count toward the DBE goal.
- (d) DBE as a trucker: 100 percent goal credit for trucking participation provided the DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible. At least one truck owned, operated, licensed, and insured by the DBE must be used on the contract. Credit will be given for the following:
  - (1) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.
  - (2) The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission is receives as a result of the lease arrangement.
- (e) DBE as a material supplier:

- (1) 60 percent goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.
- (2) 100 percent goal credit for the cost of materials of supplies obtained from a DBE manufacturer.
- (3) 100 percent credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a DBE regular dealer or DBE manufacturer.

CONTRACT COMPLIANCE. Compliance with this Special Provision is an essential part of the contract. The Department is prohibited by federal regulations from crediting the participation of a DBE included in the Utilization Plan toward either the contract goal or the Department's overall goal until the amount to be applied toward the goals has been paid to the DBE. The following administrative procedures and remedies govern the compliance by the Contractor with the contractual obligations established by the Utilization Plan. After approval of the Utilization Plan and award of the contract, the Utilization Plan and individual DBE Participation Statements become part of the contract. If the Contractor did not succeed in obtaining enough DBE participation to achieve the advertised contract goal, and the Utilization Plan was approved and contract awarded based upon a determination of good faith, the total dollar value of DBE work calculated in the approved Utilization Plan as a percentage of the awarded contract value shall become the amended contract goal. All work indicated for performance by an approved DBE shall be performed, managed, and supervised by the DBE executing the DBE Participation Commitment Statement.

- (a) NO AMENDMENT. No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be submitted to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764. Telephone number (217) 785-4611. Telefax number (217) 785-1524.
- (b) CHANGES TO WORK. Any deviation from the DBE condition-of-award or contract plans, specifications, or special provisions must be approved, in writing, by the Department as provided elsewhere in the Contract. The Contractor shall notify affected DBEs in writing of any changes in the scope of work which result in a reduction in the dollar amount condition-of-award to the contract. Where the revision includes work committed to a new DBE subcontractor, not previously involved in the project, then a Request for Approval of Subcontractor, Department form BC 260A or AER 260A, must be signed and submitted. If the commitment of work is in the form of additional tasks assigned to an existing subcontract, then a new Request for Approval of Subcontractor shall not be required. However, the Contractor must document efforts to assure that the existing DBE subcontractor is capable of performing the additional work and has agreed in writing to the change.

- (c) SUBCONTRACT. The Contractor must provide DBE subcontracts to IDOT upon request. Subcontractors shall ensure that all lower tier subcontracts or agreements with DBEs to supply labor or materials be performed in accordance with this Special Provision.
- (d) ALTERNATIVE WORK METHODS. In addition to the above requirements for reductions in the condition of award, additional requirements apply to the two cases of Contractor-initiated work substitution proposals. Where the contract allows alternate work methods which serve to delete or create underruns in condition of award DBE work, and the Contractor selects that alternate method or, where the Contractor proposes a substitute work method or material that serves to diminish or delete work committed to a DBE and replace it with other work, then the Contractor must demonstrate one of the following:
- (1) That the replacement work will be performed by the same DBE (as long as the DBE is certified in the respective item of work) in a modification of the condition of award; or
  - (2) That the DBE is aware that its work will be deleted or will experience underruns and has agreed in writing to the change. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so; or
  - (3) That the DBE is not capable of performing the replacement work or has declined to perform the work at a reasonable competitive price. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so.
- (e) TERMINATION AND REPLACEMENT PROCEDURES. The Contractor shall not terminate or replace a DBE listed on the approved Utilization Plan, or perform with other forces work designated for a listed DBE except as provided in this Special Provision. The Contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the Contractor obtains the Department's written consent as provided in subsection (a) of this part. Unless Department consent is provided for termination of a DBE subcontractor, the Contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the DBE in the Utilization Plan.

As stated above, the Contractor shall not terminate or replace a DBE subcontractor listed in the approved Utilization Plan without prior written consent. This includes, but is not limited to, instances in which the Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm. Written consent will be granted only if the Bureau of Small Business Enterprises agrees, for reasons stated in its concurrence document, that the Contractor has good cause to terminate or replace the DBE firm. Before transmitting to the Bureau of Small Business Enterprises any request to terminate and/or substitute a DBE subcontractor, the Contractor shall give notice in writing to the DBE subcontractor,

with a copy to the Bureau, of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor shall give the DBE five days to respond to the Contractor's notice. The DBE so notified shall advise the Bureau and the Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Bureau should not approve the Contractor's action. If required in a particular case as a matter of public necessity, the Bureau may provide a response period shorter than five days.

For purposes of this paragraph, good cause includes the following circumstances:

- (1) The listed DBE subcontractor fails or refuses to execute a written contract;
- (2) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the prime contractor;
- (3) The listed DBE subcontractor fails or refuses to meet the prime Contractor's reasonable, nondiscriminatory bond requirements;
- (4) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
- (5) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1200 or applicable state law.
- (6) You have determined that the listed DBE subcontractor is not a responsible contractor;
- (7) The listed DBE subcontractor voluntarily withdraws from the projects and provides to you written notice of its withdrawal;
- (8) The listed DBE is ineligible to receive DBE credit for the type of work required;
- (9) A DBE owner dies or becomes disabled with the result that the listed DBE subcontractor is unable to complete its work on the contract;
- (10) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the prime Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the prime Contractor can self-perform the work for which the DBE contractor was engaged or so that the prime Contractor can substitute another DBE or non-DBE contractor after contract award.

When a DBE is terminated, or fails to complete its work on the Contract for any reason the Contractor shall make a good faith effort to find another DBE to substitute for the original DBE to perform at least the same amount of work under the contract as the terminated DBE to the extent needed to meet the established Contract goal. The good faith efforts shall be documented by the Contractor. If the Department requests documentation under this provision, the Contractor shall submit the documentation within seven days, which may be extended for an additional seven days if necessary at the request of the Contractor. The Department shall provide a written determination to the Contractor stating whether or not good faith efforts have been demonstrated.

- (f) FINAL PAYMENT. After the performance of the final item of work or delivery of material by a DBE and final payment therefore to the DBE by the Contractor, but not later than thirty calendar days after payment has been made by the Department to the Contractor for such work or material, the Contractor shall submit a DBE Payment Agreement on Department form SBE 2115 to the Resident Engineer. If full and final payment has not been made to the DBE, the DBE Payment Agreement shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes that the work has not been satisfactorily completed. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the DBE companies indicated in the Utilization Plan and after good faith efforts are reviewed, the Department may deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages. The Contractor may request an administrative reconsideration of any amount deducted as damages pursuant to subsection (h) of this part.
- (g) ENFORCEMENT. The Department reserves the right to withhold payment to the Contractor to enforce the provisions of this Special Provision. Final payment shall not be made on the contract until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.
- (h) RECONSIDERATION. Notwithstanding any other provision of the contract, including but not limited to Article 109.09 of the Standard Specifications, the Contractor may request administrative reconsideration of a decision to deduct the amount of the goal not achieved as liquidated damages. A request to reconsider shall be delivered to the Contract Compliance Section and shall be handled and considered in the same manner as set forth in paragraph (c) of "Good Faith Effort Procedures" of this Special Provision, except a final decision that a good faith effort was not made during contract performance to achieve the goal agreed to in the Utilization Plan shall be the final administrative decision of the Department. The result of the reconsideration process is not administratively appealable to the U.S. Department of Transportation.

## **EQUIPMENT PARKING AND STORAGE (BDE)**

Effective: November 1, 2017

Replace the first paragraph of Article 701.11 of the Standard Specifications with the following.

**“701.11 Equipment Parking and Storage.** During working hours, all vehicles and/or nonoperating equipment which are parked, two hours or less, shall be parked at least 8 ft (2.5 m) from the open traffic lane. For other periods of time during working and for all nonworking hours, all vehicles, materials, and equipment shall be parked or stored as follows.

- (a) When the project has adequate right-of-way, vehicles, materials, and equipment shall be located a minimum of 30 ft (9 m) from the pavement.
- (b) When adequate right-of-way does not exist, vehicles, materials, and equipment shall be located a minimum of 15 ft (4.5 m) from the edge of any pavement open to traffic.
- (c) Behind temporary concrete barrier, vehicles, materials, and equipment shall be located a minimum of 24 in. (600 mm) behind free standing barrier or a minimum of 6 in. (150 mm) behind barrier that is either pinned or restrained according to Article 704.04. The 24 in. or 6 in. measurement shall be from the base of the non-traffic side of the barrier.
- (d) Behind other man-made or natural barriers meeting the approval of the Engineer.”

80388

## **FUEL COST ADJUSTMENT (BDE)**

Effective: April 1, 2009

Revised: August 1, 2017

Description. Fuel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in fuel prices when optioned by the Contractor. The bidder shall indicate with their bid whether or not this special provision will be part of the contract. Failure to indicate "Yes" for any category of work will make that category of work exempt from fuel cost adjustment.

General. The fuel cost adjustment shall apply to contract pay items as grouped by category. The adjustment shall only apply to those categories of work checked "Yes", and only when the cumulative plan quantities for a category exceed the required threshold. Adjustments to work items in a category, either up or down, and extra work paid for by agreed unit price will be subject to fuel cost adjustment only when the category representing the added work was subject to the fuel cost adjustment. Extra work paid for at a lump sum price or by force account will not be subject to fuel cost adjustment. Category descriptions and thresholds for application and the fuel usage factors which are applicable to each are as follows:

### (a) Categories of Work.

- (1) Category A: Earthwork. Contract pay items performed under Sections 202, 204, and 206 including any modified standard or nonstandard items where the character of the work to be performed is considered earthwork. The cumulative total of all applicable item plan quantities shall exceed 25,000 cu yd (20,000 cu m). Included in the fuel usage factor is a weighted average 0.10 gal/cu yd (0.50 liters/cu m) factor for trucking.
- (2) Category B: Subbases and Aggregate Base Courses. Contract pay items constructed under Sections 311, 312 and 351 including any modified standard or nonstandard items where the character of the work to be performed is considered construction of a subbase or aggregate, stabilized or modified base course. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is a 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.
- (3) Category C: Hot-Mix Asphalt (HMA) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 355, 406, 407 and 482 including any modified standard or nonstandard items where the character of the work to be performed is considered HMA bases, pavements and shoulders. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.
- (4) Category D: Portland Cement Concrete (PCC) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 353, 420, 421 and 483 including any

modified standard or nonstandard items where the character of the work to be performed is considered PCC base, pavement or shoulder. The cumulative total of all applicable item plan quantities shall exceed 7500 sq yd (6000 sq m). Included in the fuel usage factor is 1.20 gal/cu yd (5.94 liters/cu m) factor for trucking.

- (5) Category E: Structures. Structure items having a cumulative bid price that exceeds \$250,000 for pay items constructed under Sections 502, 503, 504, 505, 512, 516 and 540 including any modified standard or nonstandard items where the character of the work to be performed is considered structure work when similar to that performed under these sections and not included in categories A through D.

(b) Fuel Usage Factors.

English Units		
Category	Factor	Units
A - Earthwork	0.34	gal / cu yd
B - Subbase and Aggregate Base courses	0.62	gal / ton
C - HMA Bases, Pavements and Shoulders	1.05	gal / ton
D - PCC Bases, Pavements and Shoulders	2.53	gal / cu yd
E - Structures	8.00	gal / \$1000

Metric Units		
Category	Factor	Units
A - Earthwork	1.68	liters / cu m
B - Subbase and Aggregate Base courses	2.58	liters / metric ton
C - HMA Bases, Pavements and Shoulders	4.37	liters / metric ton
D - PCC Bases, Pavements and Shoulders	12.52	liters / cu m
E - Structures	30.28	liters / \$1000

(c) Quantity Conversion Factors.

Category	Conversion	Factor
B	sq yd to ton	0.057 ton / sq yd / in depth
	sq m to metric ton	0.00243 metric ton / sq m / mm depth
C	sq yd to ton	0.056 ton / sq yd / in depth
	sq m to metric ton	0.00239 m ton / sq m / mm depth
D	sq yd to cu yd	0.028 cu yd / sq yd / in depth
	sq m to cu m	0.001 cu m / sq m / mm depth

Method of Adjustment. Fuel cost adjustments will be computed as follows.

$$CA = (FPI_P - FPI_L) \times FUF \times Q$$

Where: CA = Cost Adjustment, \$  
FPI<sub>P</sub> = Fuel Price Index, as published by the Department for the month the work is performed, \$/gal (\$/liter)  
FPI<sub>L</sub> = Fuel Price Index, as published by the Department for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price, \$/gal (\$/liter)  
FUF = Fuel Usage Factor in the pay item(s) being adjusted  
Q = Authorized construction Quantity, tons (metric tons) or cu yd (cu m)

The entire FUF indicated in paragraph (b) will be used regardless of use of trucking to perform the work.

Basis of Payment. Fuel cost adjustments may be positive or negative but will only be made when there is a difference between the FPI<sub>L</sub> and FPI<sub>P</sub> in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(FPI_L - FPI_P) \div FPI_L\} \times 100$$

Fuel cost adjustments will be calculated for each calendar month in which applicable work is performed; and will be paid or deducted when all other contract requirements for the items of work are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

80229

## **HOT-MIX ASPHALT – TACK COAT (BDE)**

Effective: November 1, 2016

Revise Article 1032.06(a) of the Standard Specifications to read:

“(a) Anionic Emulsified Asphalt. Anionic emulsified asphalts shall be according to AASHTO M 140. SS-1h emulsions used as a tack coat shall have the cement mixing test waived.”

80376

## LIGHTS ON BARRICADES (BDE)

Effective: January 1, 2018

Revise Article 701.16 of the Standard Specifications to read:

**“701.16 Lights.** Lights shall be used on devices as required in the plans, the traffic control plan, and the following table.

Circumstance	Lights Required
Daylight operations	None
First two warning signs on each approach to the work involving a nighttime lane closure and “ROUGH GROOVED SURFACE” (W8-I107) signs	Flashing mono-directional lights
Devices delineating isolated obstacles, excavations, or hazards at night (Does not apply to patching)	Flashing bi-directional lights
Devices delineating obstacles, excavations, or hazards exceeding 100 ft (30 m) in length at night (Does not apply to widening)	Steady burn bi-directional lights
Channelizing devices for nighttime lane closures on two-lane roads	None
Channelizing devices for nighttime lane closures on multi-lane roads	None
Channelizing devices for nighttime lane closures on multi-lane roads separating opposing directions of traffic	None
Channelizing devices for nighttime along lane shifts on multilane roads	Steady burn mono-directional lights
Channelizing devices for night time along lane shifts on two lane roads	Steady burn bi-directional lights
Devices in nighttime lane closure tapers on Standards 701316 and 701321	Steady burn bi-directional lights
Devices in nighttime lane closure tapers	Steady burn mono-directional lights
Devices delineating a widening trench	None
Devices delineating patches at night on roadways with an ADT less than 25,000	None
Devices delineating patches at night on roadways with an ADT of 25,000 or more	None

Batteries for the lights shall be replaced on a group basis at such times as may be specified by the Engineer.”

Delete the fourth sentence of the first paragraph of Article 701.17(c)(2) of the Standard Specifications.

Revise the first paragraph of Article 603.07 of the Standard Specifications to read:

**“603.07 Protection Under Traffic.** After the casting has been adjusted and Class SI concrete has been placed, the work shall be protected by a barricade for at least 72 hours.”

80392

## **MATERIAL TRANSFER DEVICE (BDE)**

Effective: June 15, 1999

Revised: August 1, 2014

Description. This work shall consist of placing hma surface , except that these materials shall be placed using a material transfer device (MTD).

Materials and Equipment. The MTD shall have a minimum surge capacity of 15 tons (13.5 metric tons), shall be self-propelled and capable of moving independent of the paver, and shall be equipped with the following:

- (a) Front-Dump Hopper and Conveyor. The conveyor shall provide a positive restraint along the sides of the conveyor to prevent material spillage. MTDs having paver style hoppers shall have a horizontal bar restraint placed across the foldable wings which prevents the wings from being folded.
- (b) Paver Hopper Insert. The paver hopper insert shall have a minimum capacity of 14 tons (12.7 metric tons).
- (c) Mixer/Agitator Mechanism. This re-mixing mechanism shall consist of a segmented, anti-segregation, re-mixing auger or two full-length longitudinal paddle mixers designed for the purpose of re-mixing the hot-mix asphalt (HMA). The longitudinal paddle mixers shall be located in the paver hopper insert.

## **CONSTRUCTION REQUIREMENTS**

General. The MTD shall be used for the placement of hma surface . The MTD speed shall be adjusted to the speed of the paver to maintain a continuous, non-stop paving operation. Use of a MTD with a roadway contact pressure exceeding 25 psi (172 kPa) will be limited to partially completed segments of full-depth HMA pavement where the thickness of binder in place is 10 in. (250 mm) or greater.

Structures. The MTD may be allowed to travel over structures under the following conditions:

- (a) Approval will be given by the Engineer.
- (b) The vehicle shall be emptied of HMA material prior to crossing the structure and shall travel at crawl speed across the structure.
- (c) The tires of the vehicle shall travel on or in close proximity and parallel to the beam and/or girder lines of the structure.

Method of Measurement. This work will be measured for payment in tons (metric tons) for \_\_\_\_\_  
\_\_\_\_\_ HMA surface materials placed with a material transfer device.

Basis of Payment. This work will be paid for at the contract unit price per ton (metric ton)  
for MATERIAL TRANSFER DEVICE.

The various HMA mixtures placed with the MTD will be paid for as specified in their respective specifications. The Contractor may choose to use the MTD for other applications on this project; however, no additional compensation will be allowed.

80045

## **PAYMENTS TO SUBCONTRACTORS (BDE)**

Effective: November 2, 2017

Add the following to the end of the fourth paragraph of Article 109.11 of the Standard Specifications:

“If reasonable cause is asserted, written notice shall be provided to the applicable subcontractor and/or material supplier and the Engineer within five days of the Contractor receiving payment. The written notice shall identify the contract number, the subcontract or material purchase agreement, a detailed reason for refusal, the value of payment being withheld, and the specific remedial actions required of the subcontractor and/or material supplier so that payment can be made.”

80390

**PORTLAND CEMENT CONCRETE (BDE)**

Effective: November 1, 2017

Revise the Air Content % of Class PP Concrete in Table 1 Classes of Concrete and Mix Design Criteria in Article 1020.04 of the Standard Specifications to read:

"TABLE 1. CLASSES OF CONCRETE AND MIX DESIGN CRITERIA		
Class of Conc.	Use	Air Content %
PP	Pavement Patching Bridge Deck Patching (10)	
	PP-1	4.0 - 8.0"
	PP-2	
	PP-3	
	PP-4	
	PP-5	

Revise Note (4) at the end of Table 1 Classes of Concrete and Mix Design Criteria in Article 1020.04 of the Standard Specifications to read:

“(4) For all classes of concrete, the maximum slump may be increased to 7 in (175 mm) when a high range water-reducing admixture is used. For Class SC, the maximum slump may be increased to 8 in. (200 mm). For Class PS, the maximum slump may be increased to 8 1/2 in. (215 mm) if the high range water-reducing admixture is the polycarboxylate type.”

80389

## **PROGRESS PAYMENTS (BDE)**

Effective: November 2, 2013

Revise Article 109.07(a) of the Standard Specifications to read:

“(a) Progress Payments. At least once each month, the Engineer will make a written estimate of the quantity of work performed in accordance with the contract, and the value thereof at the contract unit prices. The amount of the estimate approved as due for payment will be vouchered by the Department and presented to the State Comptroller for payment. No amount less than \$1000.00 will be approved for payment other than the final payment.

Progress payments may be reduced by liens filed pursuant to Section 23(c) of the Mechanics' Lien Act, 770 ILCS 60/23(c).

If a Contractor or subcontractor has defaulted on a loan issued under the Department's Disadvantaged Business Revolving Loan Program (20 ILCS 2705/2705-610), progress payments may be reduced pursuant to the terms of that loan agreement. In such cases, the amount of the estimate related to the work performed by the Contractor or subcontractor, in default of the loan agreement, will be offset, in whole or in part, and vouchered by the Department to the Working Capital Revolving Fund or designated escrow account. Payment for the work shall be considered as issued and received by the Contractor or subcontractor on the date of the offset voucher. Further, the amount of the offset voucher shall be a credit against the Department's obligation to pay the Contractor, the Contractor's obligation to pay the subcontractor, and the Contractor's or subcontractor's total loan indebtedness to the Department. The offset shall continue until such time as the entire loan indebtedness is satisfied. The Department will notify the Contractor and Fund Control Agent in a timely manner of such offset. The Contractor or subcontractor shall not be entitled to additional payment in consideration of the offset.

The failure to perform any requirement, obligation, or term of the contract by the Contractor shall be reason for withholding any progress payments until the Department determines that compliance has been achieved.”

80328

**RAILROAD PROTECTIVE LIABILITY INSURANCE (5 and 10) (BDE)**

Effective: January 1, 2006

Description. Railroad Protective Liability and Property Damage Liability Insurance shall be carried in accordance with Article 107.11 of the Standard Specifications, except the limits shall be a minimum of \$5,000,000 combined single limit per occurrence for bodily injury liability and property damage liability with an aggregate limit of \$10,000,000 over the life of the policy. A separate policy is required for each railroad indicated below unless otherwise noted.

Special CN/IC Requirements as follows:

1. Exclusion Asbestos (CG T4 78 02 90) must be removed.
2. War Liability Exclusion (CG 00 64 12 02) must be removed.
3. Cap on Losses from Certified Acts of Terrorism (CG 21 70 11 02) must be removed.

NAMED INSURED & ADDRESS	NUMBER & SPEED OF PASSENGER TRAINS	NUMBER & SPEED OF FREIGHT TRAINS
"Illinois Central Railroad Company" and Its Parents 17641 South Ashland Avenue Homewood, Illinois 60430-1345	6 @ 79 mph	18 @ 40 mph
DOT/AAR No.: 289 1044 RR Division: GULF	RR Mile Post: 142.36 RR Sub-Division: CHAMPAIGN	
For Freight/Passenger Information Contact: Illinois Central Railroad Company and Its Parents Mr. Paul Chojenski, Manager of Public Works, CN		
		Phone: 708-332-3557
For Insurance Information Contact: Illinois Central Railroad Company and Its Parents Mr. Paul Chojenski, Manager of Public Works, CN		
		Phone: 708-332-3557

Approval of Insurance. The ORIGINAL and one CERTIFIED copy of each required policy shall be submitted to the following address for approval:

Illinois Department of Transportation  
 Bureau of Design and Environment  
 2300 South Dirksen Parkway, Room 326  
 Springfield, Illinois 62764

The Contractor will be advised when the Department has received approval of the insurance from the railroad(s). Before any work begins on railroad right-of-way, the Contractor shall submit to the Engineer evidence that the required insurance has been approved by the railroad(s). The Contractor shall also provide the Engineer with the expiration date of each required policy. Some railroads require contractors to obtain a Right Of Entry Permit before entering upon railroad right of way. It is the responsibility of the Contractor to obtain a Railroad Right of Entry permit from the railroad if required by the railroad(s).

Basis of Payment. Providing Railroad Protective Liability and Property Damage Liability Insurance will be paid for at the contract unit price per Lump Sum for RAILROAD PROTECTIVE LIABILITY INSURANCE.

## RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES (BDE)

Effective: November 1, 2012

Revise: January 1, 2018

Revise Section 1031 of the Standard Specifications to read:

### **SECTION 1031. RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES**

**1031.01 Description.** Reclaimed asphalt pavement and reclaimed asphalt shingles shall be according to the following.

- (a) Reclaimed Asphalt Pavement (RAP). RAP is the material produced by cold milling or crushing an existing hot-mix asphalt (HMA) pavement. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction.
- (b) Reclaimed Asphalt Shingles (RAS). Reclaimed asphalt shingles (RAS). RAS is from the processing and grinding of preconsumer or post-consumer shingles. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable material, as defined in Central Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Sources", by weight of RAS. All RAS used shall come from a Central Bureau of Materials approved processing facility where it shall be ground and processed to 100 percent passing the 3/8 in. (9.5 mm) sieve and 93 percent passing the #4 (4.75 mm) sieve based on a dry shake gradation. RAS shall be uniform in gradation and asphalt binder content and shall meet the testing requirements specified herein. In addition, RAS shall meet the following Type 1 or Type 2 requirements.
  - (1) Type 1. Type 1 RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.
  - (2) Type 2. Type 2 RAS shall be processed post-consumer shingles only, salvaged from residential, or four unit or less dwellings not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP).

**1031.02 Stockpiles.** RAP and RAS stockpiles shall be according to the following.

- (a) RAP Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. No additional RAP shall be added to the pile after the pile has been sealed. Stockpiles shall be sufficiently separated to prevent intermingling at the base. Stockpiles shall be identified by signs indicating the type as listed below (i.e. "Homogeneous Surface").

Prior to milling, the Contractor shall request the District provide documentation on the quality of the RAP to clarify the appropriate stockpile.

- (1) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, HMA (High and Low ESAL) mixtures. The coarse aggregate in FRAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. All FRAP shall be fractionated prior to testing by screening into a minimum of two size fractions with the separation occurring on or between the #4 (4.75 mm) and 1/2 in. (12.5 mm) sieves. Agglomerations shall be minimized such that 100 percent of the RAP shall pass the sieve size specified below for the mix into which the FRAP will be incorporated.

Mixture FRAP will be used in:	Sieve Size that 100 % of FRAP Shall Pass
IL-19.0	1 1/2 in. (40 mm)
IL-9.5	3/4 in. (20 mm)
IL-4.75	1/2 in. (13 mm)

- (2) Homogeneous. Homogeneous RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) mixtures and represent: 1) the same aggregate quality, but shall be at least C quality; 2) the same type of crushed aggregate (either crushed natural aggregate, ACBF slag, or steel slag); 3) similar gradation; and 4) similar asphalt binder content. If approved by the Engineer, combined single pass surface/binder millings may be considered "homogeneous" with a quality rating dictated by the lowest coarse aggregate quality present in the mixture.
- (3) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate RAP shall be processed prior to testing by crushing to where all RAP shall pass the 5/8 in. (16 mm) or smaller screen. Conglomerate RAP stockpiles shall not contain steel slag.
- (4) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Non-Quality".

RAP/FRAP containing contaminants, such as earth, brick, sand, concrete, sheet asphalt, bituminous surface treatment (i.e. chip seal), pavement fabric, joint sealants, etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.

- (b) RAS Stockpiles. Type 1 and Type 2 RAS shall be stockpiled separately and shall not be intermingled. Each stockpile shall be signed indicating what type of RAS is present.

Unless otherwise specified by the Engineer, mechanically blending manufactured sand (FM 20 or FM 22) up to an equal weight of RAS with the processed RAS will be permitted to improve workability. The sand shall be "B Quality" or better from an

approved Aggregate Gradation Control System source. The sand shall be accounted for in the mix design and during HMA production.

Records identifying the shingle processing facility supplying the RAS, RAS type, and lot number shall be maintained by project contract number and kept for a minimum of three years.

**1031.03 Testing.** RAP/FRAP and RAS testing shall be according to the following.

(a) RAP/FRAP Testing. When used in HMA, the RAP/FRAP shall be sampled and tested either during or after stockpiling.

(1) During Stockpiling. For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 500 tons (450 metric tons) for the first 2000 tons (1800 metric tons) and one sample per 2000 tons (1800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4000 tons (3600 metric tons).

(2) After Stockpiling. For testing after stockpiling, the Contractor shall submit a plan for approval to the District proposing a satisfactory method of sampling and testing the RAP/FRAP pile either in-situ or by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to obtain representative samples throughout the pile for testing.

Each sample shall be split to obtain two equal samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedure. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

(b) RAS Testing. RAS or RAS blended with manufactured sand shall be sampled and tested during stockpiling according to Central Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Source".

Samples shall be collected during stockpiling at the minimum frequency of one sample per 200 tons (180 metric tons) for the first 1000 tons (900 metric tons) and one sample per 250 tons (225 metric tons) thereafter. A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). Once a  $\leq 1000$  ton (900 metric ton), five-sample/test stockpile has been established it shall be sealed. Additional incoming RAS or RAS blended with manufactured sand shall be stockpiled in a separate working pile as designated in the Quality Control plan and only added to the sealed stockpile when the test results of the working pile are complete and are found to meet the tolerances specified herein for the original sealed RAS stockpile.

Before testing, each sample shall be split to obtain two test samples. One of the two test samples from the final split shall be labeled and stored for Department use. The

Contractor shall perform a washed extraction and test for unacceptable materials on the other test sample according to Department procedures. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

If the sampling and testing was performed at the shingle processing facility in accordance with the QC Plan, the Contractor shall obtain and make available all of the test results from start of the initial stockpile.

**1031.04 Evaluation of Tests.** Evaluation of test results shall be according to the following.

- (a) Evaluation of RAP/FRAP Test Results. All of the extraction results shall be compiled and averaged for asphalt binder content and gradation, and when applicable  $G_{mm}$ . Individual extraction test results, when compared to the averages, will be accepted if within the tolerances listed below.

Parameter	FRAP/Homogeneous/ Conglomerate
1 in. (25 mm)	
1/2 in. (12.5 mm)	± 8 %
No. 4 (4.75 mm)	± 6 %
No. 8 (2.36 mm)	± 5 %
No. 16 (1.18 mm)	
No. 30 (600 μm)	± 5 %
No. 200 (75 μm)	± 2.0 %
Asphalt Binder	± 0.4 % <sup>1/</sup>
$G_{mm}$	± 0.03

1/ The tolerance for FRAP shall be ± 0.3 %.

If more than 20 percent of the individual sieves and/or asphalt binder content tests are out of the above tolerances, the RAP/FRAP shall not be used in HMA unless the RAP/FRAP representing the failing tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

With the approval of the Engineer, the ignition oven may be substituted for extractions according to the ITP, "Calibration of the Ignition Oven for the Purpose of Characterizing Reclaimed Asphalt Pavement (RAP)".

- (b) Evaluation of RAS and RAS Blended with Manufactured Sand Test Results. All of the test results, with the exception of percent unacceptable materials, shall be compiled and averaged for asphalt binder content and gradation. Individual test results, when compared to the averages, will be accepted if within the tolerances listed below.

Parameter	RAS
No. 8 (2.36 mm)	± 5 %

No. 16 (1.18 mm)	± 5 %
No. 30 (600 µm)	± 4 %
No. 200 (75 µm)	± 2.0 %
Asphalt Binder Content	± 1.5 %

If more than 20 percent of the individual sieves and/or asphalt binder content tests are out of the above tolerances, or if the percent unacceptable material exceeds 0.5 percent by weight of material retained on the # 4 (4.75 mm) sieve, the RAS or RAS blend shall not be used in Department projects. All test data and acceptance ranges shall be sent to the District for evaluation.

**1031.05 Quality Designation of Aggregate in RAP/FRAP.**

(a) RAP. The aggregate quality of the RAP for homogeneous and conglomerate stockpiles shall be set by the lowest quality of coarse aggregate in the RAP stockpile and are designated as follows.

(1) RAP from Class I, Superpave/HMA (High ESAL), or (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.

(2) RAP from Class I binder, Superpave/HMA (High ESAL) binder, or (Low ESAL) IL-19.0L binder mixtures are designated as containing Class C quality coarse aggregate.

(b) FRAP. If the Engineer has documentation of the quality of the FRAP aggregate, the Contractor shall use the assigned quality provided by the Engineer.

If the quality is not known, the quality shall be determined as follows. Coarse and fine FRAP stockpiles containing plus #4 (4.75 mm) sieve coarse aggregate shall have a maximum tonnage of 5000 tons (4500 metric tons). The Contractor shall obtain a representative sample witnessed by the Engineer. The sample shall be a minimum of 50 lb (25 kg). The sample shall be extracted according to Illinois Modified AASHTO T 164 by a consultant laboratory prequalified by the Department for the specified testing. The consultant laboratory shall submit the test results along with the recovered aggregate to the District Office. The cost for this testing shall be paid by the Contractor. The District will forward the sample to the Central Bureau of Materials Aggregate Lab for MicroDeval Testing, according to ITP 327. A maximum loss of 15.0 percent will be applied for all HMA applications.

**1031.06 Use of RAP/FRAP and/or RAS in HMA.** The use of RAP/FRAP and/or RAS shall be the Contractor’s option when constructing HMA in all contracts.

(a) RAP/FRAP. The use of RAP/FRAP in HMA shall be as follows.

(1) Coarse Aggregate Size. The coarse aggregate in all RAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.

- (2) Steel Slag Stockpiles. Homogeneous RAP stockpiles containing steel slag will be approved for use in all HMA (High ESAL and Low ESAL) Surface and Binder Mixture applications.
  - (3) Use in HMA Surface Mixtures (High and Low ESAL). RAP/FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall be FRAP or homogeneous in which the coarse aggregate is Class B quality or better. FRAP from Conglomerate stockpiles shall be considered equivalent to limestone for frictional considerations. Known frictional contributions from plus #4 (4.75 mm) homogeneous FRAP stockpiles will be accounted for in meeting frictional requirements in the specified mixture.
  - (4) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. RAP/FRAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be FRAP, homogeneous, or conglomerate, in which the coarse aggregate is Class C quality or better.
  - (5) Use in Shoulders and Subbase. RAP/FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, homogeneous, or conglomerate.
  - (6) When the Contractor chooses the RAP option, the percentage of RAP shall not exceed the amounts indicated in Article 1031.06(c)(1) below for a given Ndesign.
- (b) RAS. RAS meeting Type 1 or Type 2 requirements will be permitted in all HMA applications as specified herein.
  - (c) RAP/FRAP and/or RAS Usage Limits. Type 1 or Type 2 RAS may be used alone or in conjunction with RAP or FRAP in HMA mixtures up to a maximum of 5.0 percent by weight of the total mix.
    - (1) RAP/RAS. When RAP is used alone or RAP is used in conjunction with RAS, the percentage of virgin asphalt binder replacement shall not exceed the amounts listed in the Max RAP/RAS ABR table listed below for the given Ndesign.

**RAP/RAS Maximum Asphalt Binder Replacement (ABR) Percentage**

HMA Mixtures <i>1/, 2/</i>	RAP/RAS Maximum ABR %		
	Ndesign	Binder/Leveling Binder	Surface
30	30	30	10
50	25	15	10
70	15	10	10
90	10	10	10

- 1/ For Low ESAL HMA shoulder and stabilized subbase, the RAP/RAS ABR shall not exceed 50 percent of the mixture.
  - 2/ When RAP/RAS ABR exceeds 20 percent, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28). If warm mix asphalt (WMA) technology is utilized and production temperatures do not exceed 275 °F (135 °C), the high and low virgin asphalt binder grades shall each be reduced by one grade when RAP/RAS ABR exceeds 25 percent (i.e. 26 percent RAP/RAS ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).
- (2) FRAP/RAS. When FRAP is used alone or FRAP is used in conjunction with RAS, the percentage of virgin asphalt binder replacement shall not exceed the amounts listed in the FRAP/RAS table listed below for the given Ndesign.

**FRAP/RAS Maximum Asphalt Binder Replacement (ABR) Percentage**

HMA Mixtures <i>1/, 2/</i>	FRAP/RAS Maximum ABR %		
Ndesign	Binder/Leveling Binder	Surface	Polymer Modified <sup>3/, 4/</sup>
30	50	40	10
50	40	35	10
70	40	30	10
90	40	30	10

- 1/ For Low ESAL HMA shoulder and stabilized subbase, the FRAP/RAS ABR shall not exceed 50 percent of the mixture.
- 2/ When FRAP/RAS ABR exceeds 20 percent for all mixes, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28). If warm mix asphalt (WMA) technology is utilized and production temperatures do not exceed 275 °F (135 °C), the high and low virgin asphalt binder grades shall each be reduced by one grade when FRAP/RAS ABR exceeds 25 percent (i.e. 26 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).
- 3/ For SMA the FRAP/RAS ABR shall not exceed 20 percent.
- 4/ For IL-4.75 mix the FRAP/RAS ABR shall not exceed 30 percent.

**1031.07 HMA Mix Designs.** At the Contractor's option, HMA mixtures may be constructed utilizing RAP/FRAP and/or RAS material meeting the detailed requirements specified herein.

(a) RAP/FRAP and/or RAS. RAP/FRAP and/or RAS mix designs shall be submitted for verification. If additional RAP/FRAP and/or RAS stockpiles are tested and found that no more than 20 percent of the results, as defined under "Testing" herein, are outside of the control tolerances set for the original RAP/FRAP and/or RAS stockpile and HMA mix design, and meets all of the requirements herein, the additional RAP/FRAP and/or RAS stockpiles may be used in the original mix design at the percent previously verified.

(b) RAS. Type 1 and Type 2 RAS are not interchangeable in a mix design.

The RAP, FRAP, and RAS stone bulk specific gravities ( $G_{sb}$ ) shall be according to the "Determination of Aggregate Bulk (Dry) Specific Gravity ( $G_{sb}$ ) of Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)" procedure in the Department's Manual of Test Procedures for Materials.

**1031.08 HMA Production.** HMA production utilizing RAP/FRAP and/or RAS shall be as follows.

(a) RAP/FRAP. The coarse aggregate in all RAP/FRAP used shall be equal to or less than the nominal maximum size requirement for the HMA mixture being produced.

To remove or reduce agglomerated material, a scalping screen, gator, crushing unit, or comparable sizing device approved by the Engineer shall be used in the RAP feed system to remove or reduce oversized material.

If the RAP/FRAP control tolerances or QC/QA test results require corrective action, the Contractor shall cease production of the mixture containing RAP/FRAP and either switch to the virgin aggregate design or submit a new RAP/FRAP design.

(b) RAS. RAS shall be incorporated into the HMA mixture either by a separate weight depletion system or by using the RAP weigh belt. Either feed system shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes. The portion of RAS shall be controlled accurately to within  $\pm 0.5$  percent of the amount of RAS utilized. When using the weight depletion system, flow indicators or sensing devices shall be provided and interlocked with the plant controls such that the mixture production is halted when RAS flow is interrupted.

(c) RAP/FRAP and/or RAS. HMA plants utilizing RAP/FRAP and/or RAS shall be capable of automatically recording and printing the following information.

(1) Dryer Drum Plants.

a. Date, month, year, and time to the nearest minute for each print.

b. HMA mix number assigned by the Department.

- c. Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- d. Accumulated dry weight of RAP/FRAP/RAS in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- e. Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.
- f. Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.
- g. Residual asphalt binder in the RAP/FRAP material as a percent of the total mix to the nearest 0.1 percent.
- h. Aggregate and RAP/FRAP moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAP/FRAP are printed in wet condition.)

(2) Batch Plants.

- a. Date, month, year, and time to the nearest minute for each print.
- b. HMA mix number assigned by the Department.
- c. Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).
- d. Mineral filler weight to the nearest pound (kilogram).
- e. RAP/FRAP/RAS weight to the nearest pound (kilogram).
- f. Virgin asphalt binder weight to the nearest pound (kilogram).
- g. Residual asphalt binder in the RAP/FRAP/RAS material as a percent of the total mix to the nearest 0.1 percent.

The printouts shall be maintained in a file at the plant for a minimum of one year or as directed by the Engineer and shall be made available upon request. The printing system will be inspected by the Engineer prior to production and verified at the beginning of each construction season thereafter.

**1031.09 RAP in Aggregate Surface Course and Aggregate Wedge Shoulders, Type B.**

The use of RAP in aggregate surface course (temporary access entrances only) and aggregate wedge shoulders, Type B shall be as follows.

- (a) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except “Non-Quality” and “FRAP”. The testing requirements of Article 1031.03 shall not apply. RAP used shall be according to the current Central Bureau of Materials Policy Memorandum, “Reclaimed Asphalt Pavement (RAP) for Aggregate Applications”.
- (b) Gradation. One hundred percent of the RAP material shall pass the 1 1/2 in. (37.5 mm) sieve. The RAP material shall be reasonably well graded from coarse to fine. RAP material that is gap-graded or single sized will not be accepted.”

80306

## **SUBCONTRACTOR AND DBE PAYMENT REPORTING (BDE)**

Effective: April 2, 2018

Add the following to Section 109 of the Standard Specifications.

**“109.14 Subcontractor and Disadvantaged Business Enterprise Payment Reporting.**  
The Contractor shall report all payments made to the following parties:

- (a) first tier subcontractors;
- (b) lower tier subcontractors affecting disadvantaged business enterprise (DBE) goal credit;
- (c) material suppliers or trucking firms that are part of the Contractor’s submitted DBE utilization plan.

The report shall be made through the Department’s on-line subcontractor payment reporting system within 21 days of making the payment.”

80397

## **SUBCONTRACTOR MOBILILATION PAYMENTS (BDE)**

Effective: November 2, 2017

Replace the second paragraph of Article 109.12 of the Standard Specifications with the following:

“This mobilization payment shall be made at least 14 days prior to the subcontractor starting work. The amount paid shall be at the following percentage of the amount of the subcontract reported on form BC 260A submitted for the approval of the subcontractor’s work.

Value of Subcontract Reported on Form BC 260A	Mobilization Percentage
Less than \$10,000	25%
\$10,000 to less than \$20,000	20%
\$20,000 to less than \$40,000	18%
\$40,000 to less than \$60,000	16%
\$60,000 to less than \$80,000	14%
\$80,000 to less than \$100,000	12%
\$100,000 to less than \$250,000	10%
\$250,000 to less than \$500,000	9%
\$500,000 to \$750,000	8%
Over \$750,000	7%

80391

## **WARM MIX ASPHALT (BDE)**

Effective: January 1, 2012

Revised: April 1, 2016

Description. This work shall consist of designing, producing and constructing Warm Mix Asphalt (WMA) in lieu of Hot Mix Asphalt (HMA) at the Contractor's option. Work shall be according to Sections 406, 407, 408, 1030, and 1102 of the Standard Specifications, except as modified herein. In addition, any references to HMA in the Standard Specifications, or the special provisions shall be construed to include WMA.

WMA is an asphalt mixture which can be produced at temperatures lower than allowed for HMA utilizing approved WMA technologies. WMA technologies are defined as the use of additives or processes which allow a reduction in the temperatures at which HMA mixes are produced and placed. WMA is produced by the use of additives, a water foaming process, or combination of both. Additives include minerals, chemicals or organics incorporated into the asphalt binder stream in a dedicated delivery system. The process of foaming injects water into the asphalt binder stream, just prior to incorporation of the asphalt binder with the aggregate.

Approved WMA technologies may also be used in HMA provided all the requirements specified herein, with the exception of temperature, are met. However, asphalt mixtures produced at temperatures in excess of 275 °F (135 °C) will not be considered WMA when determining the grade reduction of the virgin asphalt binder grade.

### Equipment.

Revise the first paragraph of Article 1102.01 of the Standard Specifications to read:

**"1102.01 Hot-Mix Asphalt Plant.** The hot-mix asphalt (HMA) plant shall be the batch-type, continuous-type, or dryer drum plant. The plants shall be evaluated for prequalification rating and approval to produce HMA according to the current Bureau of Materials and Physical Research Policy Memorandum, "Approval of Hot-Mix Asphalt Plants and Equipment". Once approved, the Contractor shall notify the Bureau of Materials and Physical Research to obtain approval of all plant modifications. The plants shall not be used to produce mixtures concurrently for more than one project or for private work unless permission is granted in writing by the Engineer. The plant units shall be so designed, coordinated and operated that they will function properly and produce HMA having uniform temperatures and compositions within the tolerances specified. The plant units shall meet the following requirements."

Add the following to Article 1102.01(a) of the Standard Specifications.

"(11) Equipment for Warm Mix Technologies.

- a. Foaming. Metering equipment for foamed asphalt shall have an accuracy of  $\pm 2$  percent of the actual water metered. The foaming control system shall be electronically interfaced with the asphalt binder meter.

- b. Additives. Additives shall be introduced into the plant according to the supplier's recommendations and shall be approved by the Engineer. The system for introducing the WMA additive shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes."

#### Mix Design Verification.

Add the following to Article 1030.04 of the Standard Specifications.

"(e) Warm Mix Technologies.

- (1) Foaming. WMA mix design verification will not be required when foaming technology is used alone (without WMA additives). However, the foaming technology shall only be used on HMA designs previously approved by the Department.
- (2) Additives. WMA mix designs utilizing additives shall be submitted to the Engineer for mix design verification."

#### Construction Requirements.

Revise the second paragraph of Article 406.06(b)(1) of the Standard Specifications to read:

"The HMA shall be delivered at a temperature of 250 to 350 °F (120 to 175 °C).  
WMA shall be delivered at a minimum temperature of 215 °F (102 °C)."

#### Basis of Payment.

This work will be paid at the contract unit price bid for the HMA pay items involved. Anti-strip will not be paid for separately, but shall be considered as included in the cost of the work.

80288

## **WEEKLY DBE TRUCKING REPORTS (BDE)**

Effective: June 2, 2012

| Revised: April 2, 2015

| The Contractor shall submit a weekly report of Disadvantaged Business Enterprise (DBE) trucks hired by the Contractor or subcontractors (i.e. not owned by the Contractor or subcontractors) that are used for DBE goal credit.

| The report shall be submitted to the Engineer on Department form "SBE 723" within ten business days following the reporting period. The reporting period shall be Monday through Sunday for each week reportable trucking activities occur.

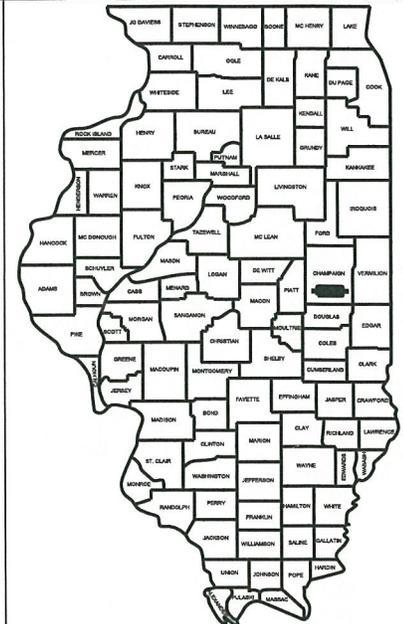
Any costs associated with providing weekly DBE trucking reports shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

80302

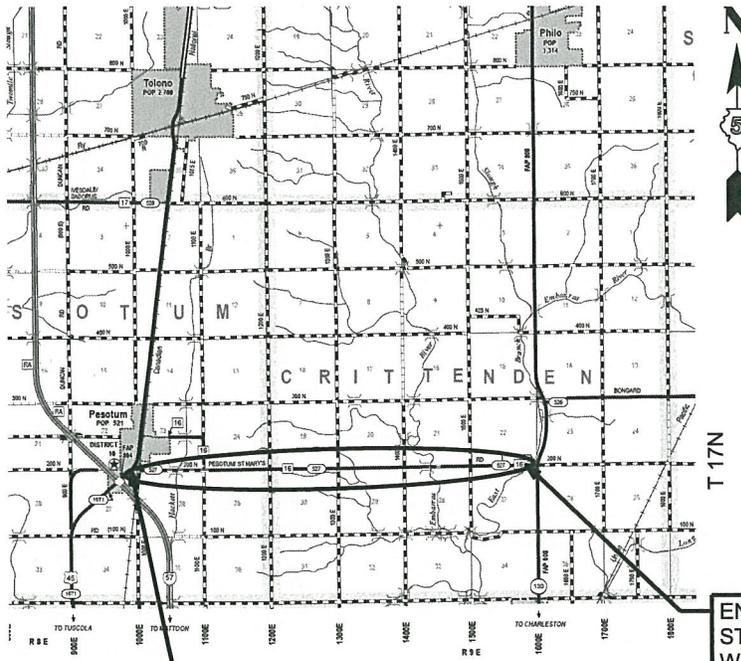
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROPOSED  
HIGHWAY PLANS

CHAMPAIGN COUNTY  
FAS 527 (CH 16)  
SECTION 16-00443-00-RS  
JOB NO. C-95-311-17  
FEDERAL PROJECT NO. 0V0M(151)  
FUNDING - STR, TARP, LOCAL



LOCATION OF SECTION INDICATED THUS: [Black box symbol]

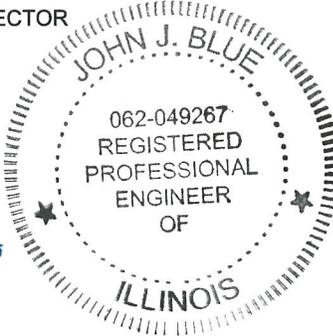


BEGIN CONSTRUCTION  
STA. 10+00  
CONCRETE JOINT

END CONSTRUCTION  
STA. 326+86  
WEST OF STRUCTURE 010-0251

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

FOR INDEX SHEETS/STANDARDS, SEE SHEET NO. 2  
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3  
TOWNSHIP: PESOTUM, CRITTENDEN  
GROSS LENGTH = 31,686 FT = 6.00 MILE  
NET LENGTH = 31,241 FT = 5.92 MILE  
FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR  
2016 ADT: 850



*J. Blue* 1/18/18  
DATE

JOHN J. BLUE, P.E.  
REGISTERED PROFESSIONAL ENGINEER  
ILLINOIS NO. 062-049267, EXPIRES NOVEMBER 30, 2019

APPROVED 1/18 20 18  
*J. Blue*  
CHAMPAIGN COUNTY ENGINEER

PASSED FEBRUARY 15 20 18  
*B. K. [Signature]*  
DISTRICT FIVE ENGINEER OF LOCAL ROADS & STREETS

Releasing For Bid Based on Limited Review February 15 20 18  
*[Signature]*  
REGION THREE ENGINEER

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CHAMPAIGN COUNTY  
HIGHWAY DEPARTMENT

CH 16  
COVER SHEET

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
527	16-00443-00-RS	CHAMPAIGN	49	1
ILLINOIS			FED. AID PROJECT	

## INDEX OF SHEETS

- 1 COVER SHEET
- 2 SUMMARY OF QUANTITIES, STANDARDS, INDEX OF SHEETS
- 3 GENERAL NOTES
- 4-6 EXISTING TYPICAL SECTIONS
- 7-9 PROPOSED TYPICAL SECTIONS
- 10-14 SCHEDULES
- 15 LOCATION MAP
- 16-21 AERIAL PLAN
- 22-27 DETAILS
- 28-49 HIGHWAY STANDARDS

## STANDARD DRAWINGS

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
- 701011-04 OFF ROAD MOVING OPERATIONS, 2L, 2W DAY ONLY
- 701306-04 LANE CLOSURE, 2L, 2W, SLOW MOV. OP. DAY ONLY, FOR SPEEDS >= 45 MPH
- 701311-03 LANE CLOSURE 2L, 2W MOVING OPERATIONS DAY ONLY
- 701336-06 LANE CLOSURE 2L, 2W, WORK AREAS IN SERIES, FOR SPEEDS >= 45 MPH
- 701901-07 TRAFFIC CONTROL DEVICES
- 780001-05 TYPICAL PAVEMENT MARKINGS
- BLR 21-9 TYP. APP. OF TRAFF. CTRL. DEV. FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
- BLR 24-2 MAILBOX TURNOUT FOR LOCAL ROADS

## SUMMARY OF QUANTITIES

Item No.	Items	Unit	Quantity
30201700	PORTLAND CEMENT	TON	144
35101400	AGGREGATE BASE COURSE TYPE B	TON	10
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	79
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	33,969
* 40600627	LEVELING BINDER (MACHINE METHOD), IL-9.5FG, N50	TON	6,266
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	2,313
* 40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	6,417
40800029	BITUMINOUS MATERIALS (TACK COAT)	POUND	1,780
* 40800050	INCIDENTAL HOT-MIX ASPHALT SURFACING	TON	665
* 42300200	PCC DRIVEWAY PAVEMENT, 6"	SQ YD	40
44000153	HOT-MIX ASPHALT SURFACE REMOVAL, 1"	SQ YD	971
* 44000200	DRIVEWAY PAVEMENT REMOVAL	SQ YD	40
* 48102100	AGGREGATE WEDGE SHOULDERS, TYPE B	TON	2,933
67100100	MOBILIZATION	L SUM	1
* 70300100	SHORT TERM PAVEMENT MARKING	FOOT	6,162
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	685
78001100	PAINT PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ FT	123
78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	71,122
78001180	PAINT PAVEMENT MARKING - LINE 24"	FOOT	69
* LR400010	CIR-FDR FOAMED ASPHALT	TON	330
* LR403300	SURFACE PROFILE MILLING	SQ YD	74,536
* X4200002	COLD IN PLACE RECYCLING, 4"	SQ YD	74,536
* X4401198	HOT-MIX ASPHALT SURFACE REMOVAL, VAR. DEPTH	SQ YD	600
* X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
* Z0013798	CONSTRUCTION LAYOUT	L SUM	1
* Z0034105	MATERIAL TRANSFER DEVICE	TON	6,417
* Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1
* Z0064505	SECTION CORNER MARKERS	EACH	13

\* INDICATES SEE SPECIAL PROVISIONS

**CHAMPAIGN COUNTY  
HIGHWAY DEPARTMENT**

**CH 16: SUMMARY OF QUANTITIES  
AND INDEX OF SHEETS**

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
527	16-00443-00-RS	CHAMPAIGN	49	2
			CONTRACT NO. 91552	
ILLINOIS			FED. AID PROJECT	

## GENERAL NOTES

1. WHEREVER IN THE PLANS OR SPECIFICATIONS THE TERM STANDARD SPECIFICATIONS IS USED IT SHALL BE UNDERSTOOD BY THE CONTRACTOR TO MEAN THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS PREPARED BY THE DEPARTMENT OF TRANSPORTATION OF THE STATE OF ILLINOIS AND ADOPTED APRIL 1, 2016. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, THESE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.
2. THE QUANTITIES INCLUDED IN THE PLANS FOR HOT-MIX ASPHALT SURFACING ARE INTENDED TO GIVE THE COVERAGE SHOWN ON THE TYPICAL CROSS SECTIONS. IT IS NOT INTENDED TO INCREASE THE THICKNESS OF THE HOT-MIX ASPHALT MIXTURE IN ORDER TO USE ALL OF THE QUANTITIES INCLUDED IN THE CONTRACT. (G.N.-406)
3. THE INCIDENTAL HOT-MIX ASPHALT SURFACING SHALL BE COMPACTED AS REQUIRED BY THE SPECIFICATIONS FOR DESIGN NUMBER OF GYRATIONS BEING USED, AT THE FOLLOWING LOCATIONS:
  - 1) SIDE STREET RADII
  - 2) FIELD, PRIVATE AND COMMERCIAL ENTRANCES
  - 3) MAILBOX TURNOUTS  
(G.N.-408B)
4. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES 48 HOUR PRIOR TO EXCAVATION OPERATIONS.
5. CALL J.U.L.I.E. 1-800-892-0123 FOR UNDERGROUND UTILITY LOCATION MARKING PRIOR TO START OF CONSTRUCTION.
6. SEEDING SHALL BE DONE AT LOCATIONS SHOWN ON THE PLANS WHERE EXISTING EARTH HAS BEEN DISTURBED, AND AT LOCATIONS DIRECTED BY THE ENGINEER. ANY EXISTING AREAS DAMAGED BY THE CONTRACTOR SHALL BE SEEDED AT HIS OWN EXPENSE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
7. SPECIAL ATTENTION IS CALLED TO ARTICLE 250.07 REGARDING SEEDING DATES.
8. WHERE SECTION OR SUB-SECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL MARKERS AND MONUMENTS UNTIL THEIR LOCATION IS REFERENCED BY AN AUTHORIZED SURVEYOR.
9. THE BRIDGE AT THE EAST END OF THE PROJECT WILL BE UNDER CONSTRUCTION IN 2018 AND IL 130 WILL NOT BE ACCESSIBLE FROM CH 16. THE CONTRACTOR MUST MAKE ALTERNATE PLANS FOR ACCESS.
10. THE CONTRACTOR IS EXPECTED TO COORDINATE CONSTRUCTION ACTIVITIES APPROPRIATELY WITH THE BRIDGE CONTRACTOR.
11. APPLICATION RATES USED FOR THIS PROJECT:
  - 1) BITUMINOUS TACK COAT FOR LEVEL BINDER AND SURFACE PLACEMENT: 0.025 LBS/SF
  - 2) BITUMINOUS TACK COAT FOR INCIDENTAL HMA: 0.05 LB / SF
  - 3) HMA LEVELING BINDER, SURFACE AND INCIDENTAL HMA: 112 LB / SY / INCH
  - 4) PAVEMENT MARKINGS: 10' STRIP EVERY 40' OF CENTERLINE
  - 5) SHORT-TERM PAVEMENT MARKINGS: 1' STRIP EVERY 40' OF CENTERLINE
  - 6) AGGREGATE WEDGE SHOULDERS: 2.05 TON / CY

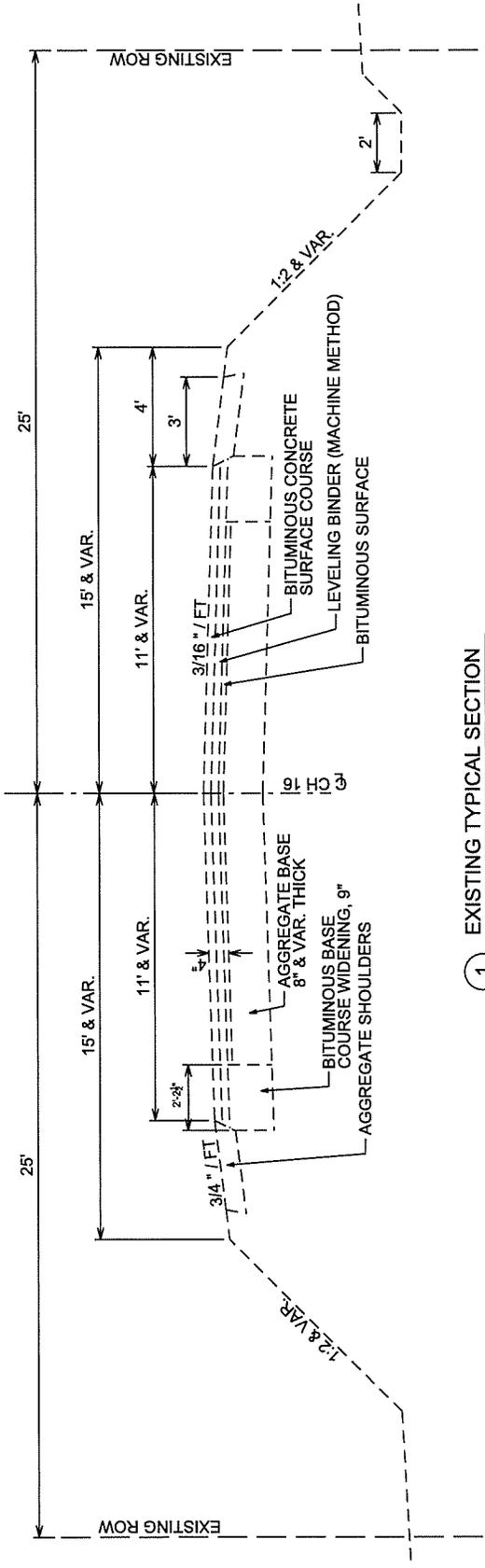
## HMA MIXTURE REQUIREMENTS

LOCATION	CH 16	CH 16
MIXTURE USE	LEVEL BINDER	SURFACE & INCIDENTAL
AC/PG	PG 64-22	PG 64-22
DESIGN AIR VOIDS	4.0% @ Ndes=50	4.0% @ Ndes=50
MIX COMP (GRADATION)	IL 9.5 FG	IL 9.5
FRICTION AGGREGATE	N.A.	MIX C
MIXTURE WEIGHT	112	112
QUALITY MANAGEMENT PROGRAM	QC/QA	QC/QA
SUBLOT SIZE	N.A.	N.A.

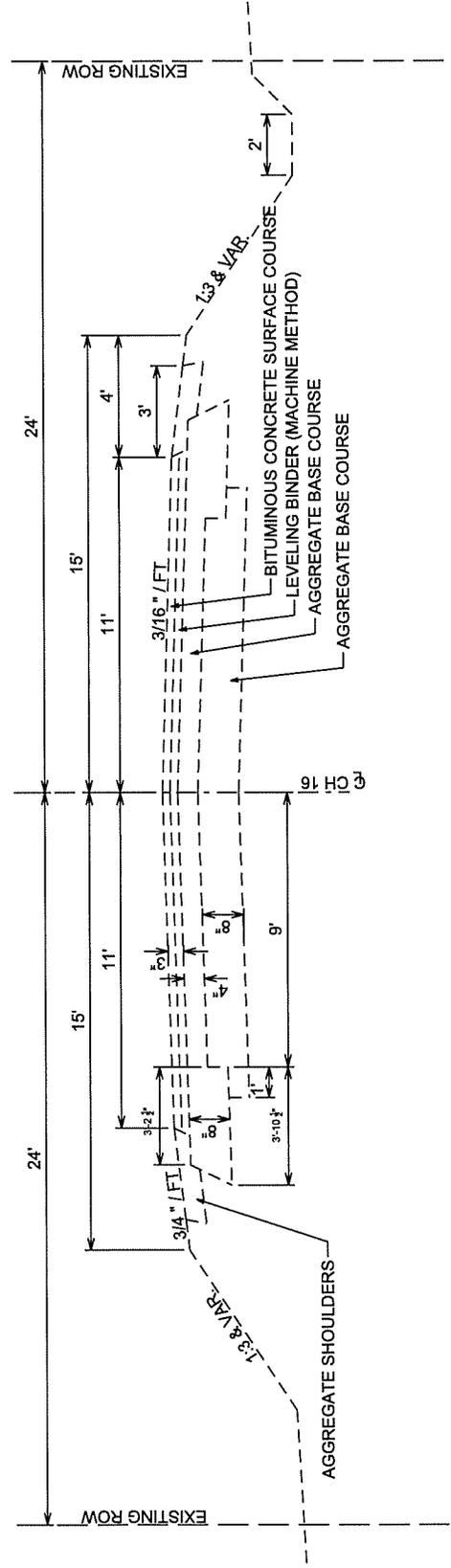
**CHAMPAIGN COUNTY  
HIGHWAY DEPARTMENT**

**CH 16  
GENERAL NOTES**

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
527	16-00443-00-RS	CHAMPAIGN	49	3
CONTRACT NO. 91552				
ILLINOIS FED. AID PROJECT				

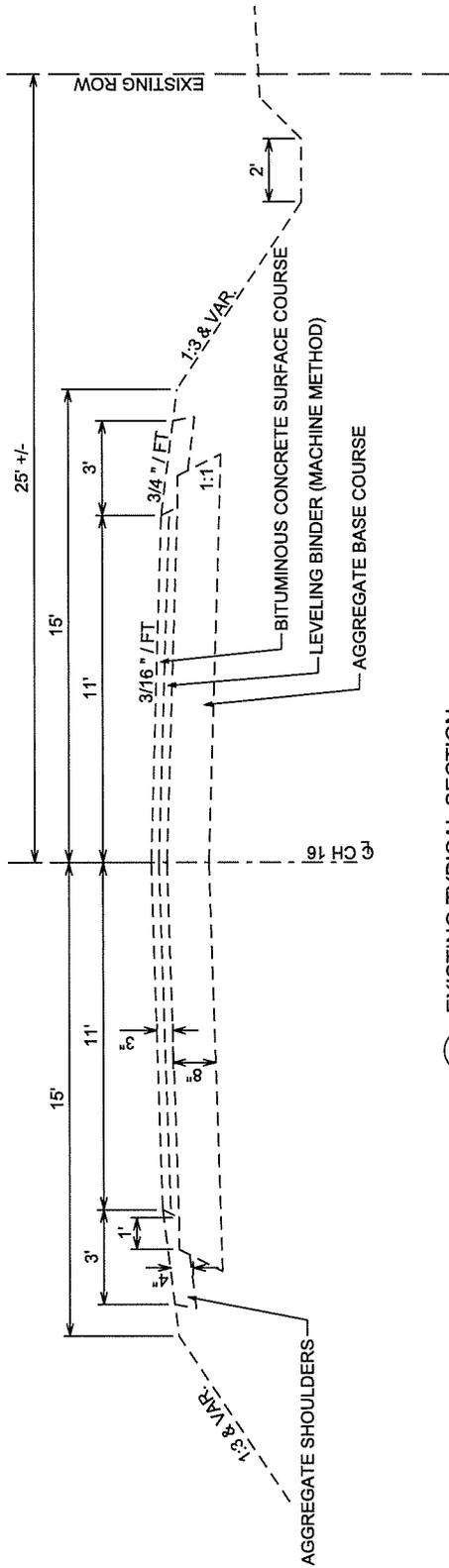


1 EXISTING TYPICAL SECTION  
 STA. 10+00 TO STA. 16+19  
 OMIT RR ROW STA. 13+64 TO STA. 14+19

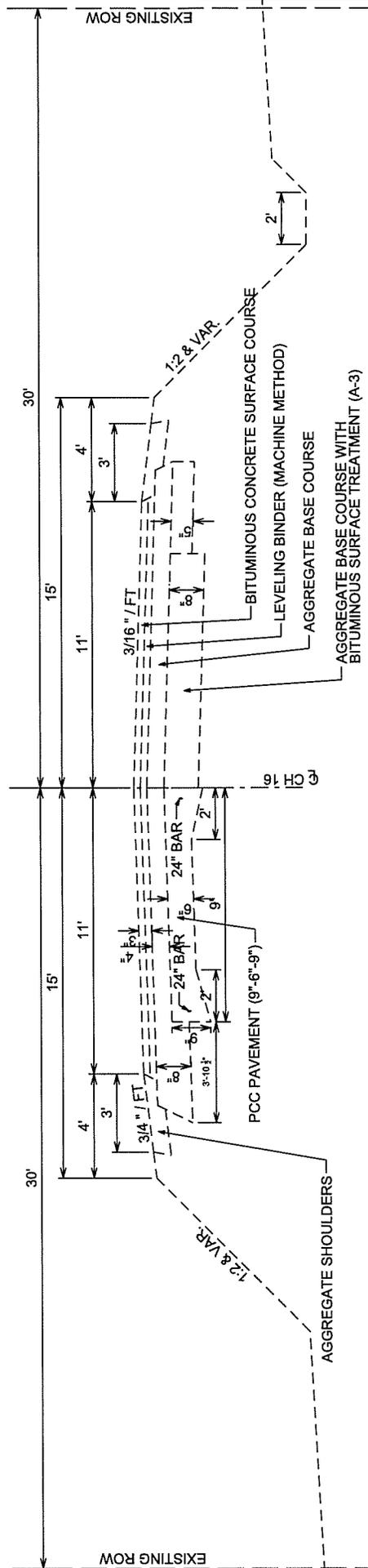


2 EXISTING TYPICAL SECTION  
 STA. 16+19 TO STA. 66+47  
 OMIT STR. 010-3339 STA. 44+24 TO STA. 44+64

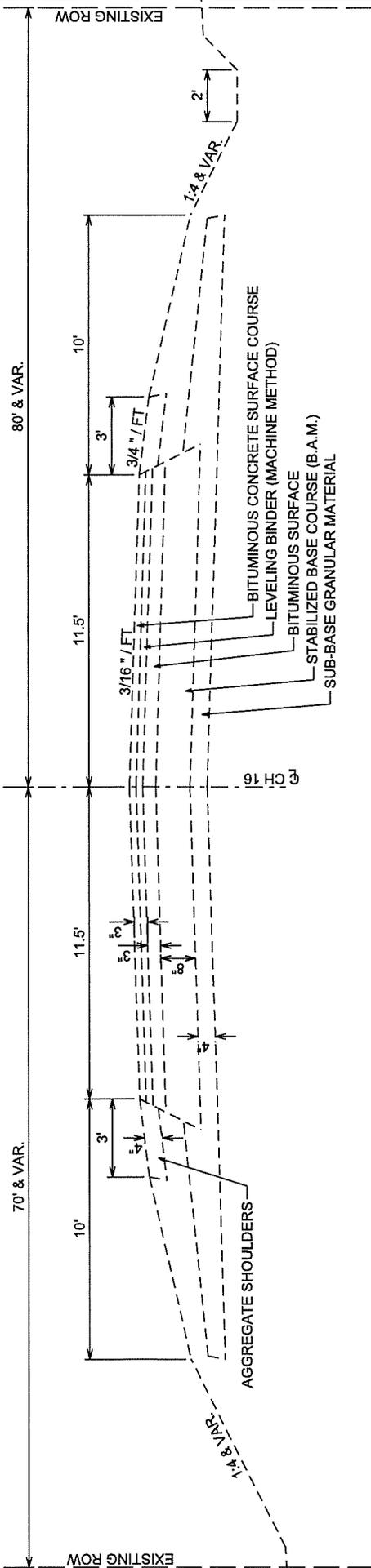
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
527	16-00443-00-RS	CHAMPAIGN	49	4
ILLINOIS			FED. AID PROJECT	



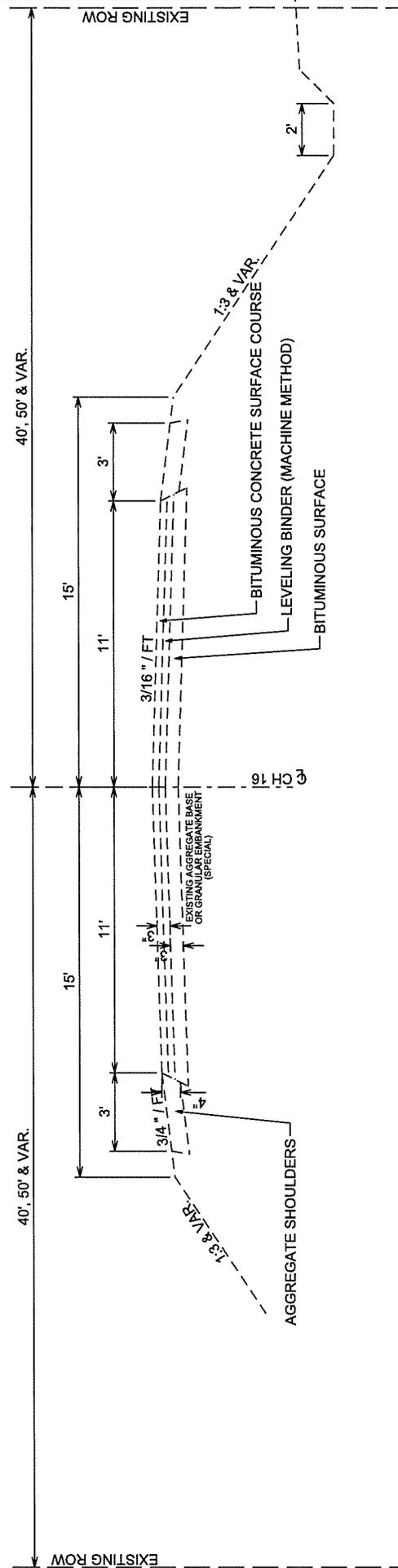
3 EXISTING TYPICAL SECTION  
STA. 66+47 TO STA. 69+72



4 EXISTING TYPICAL SECTION  
STA. 69+72 TO STA. 240+24  
STA. 256+77 TO STA. 316+24



5 EXISTING TYPICAL SECTION  
 STA. 240+24 TO STA. 256+77  
 OMIT STR. 010-4548 STA. 244+08 TO 247+83

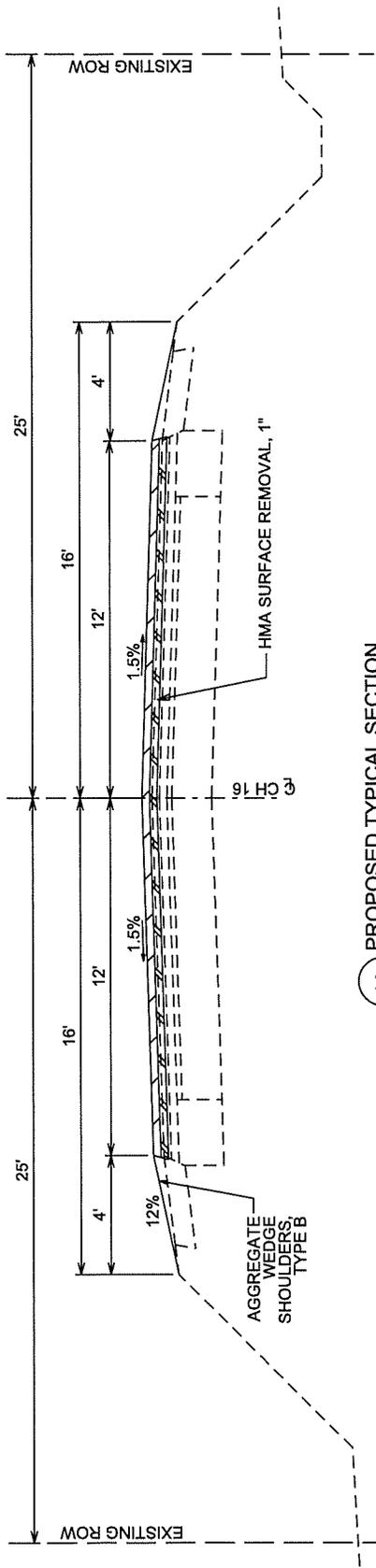


6 EXISTING TYPICAL SECTION  
 STA. 318+24 TO STA. 331+13

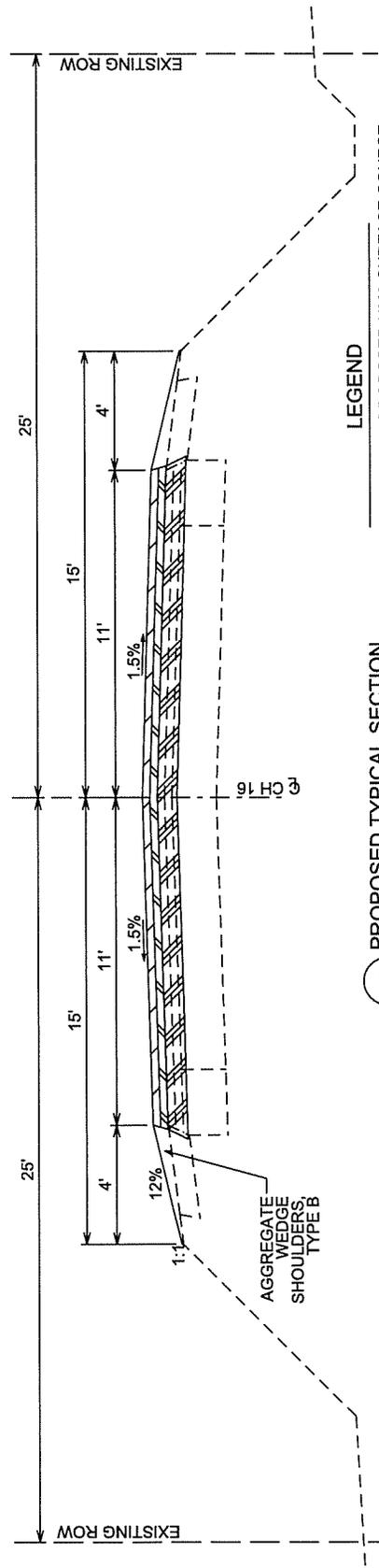
CHAMPAIGN COUNTY  
 HIGHWAY DEPARTMENT

CH 16  
 EXISTING TYPICAL SECTIONS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
527	16-00443-00-RS	CHAMPAIGN	49	6
ILLINOIS FED. AID PROJECT				

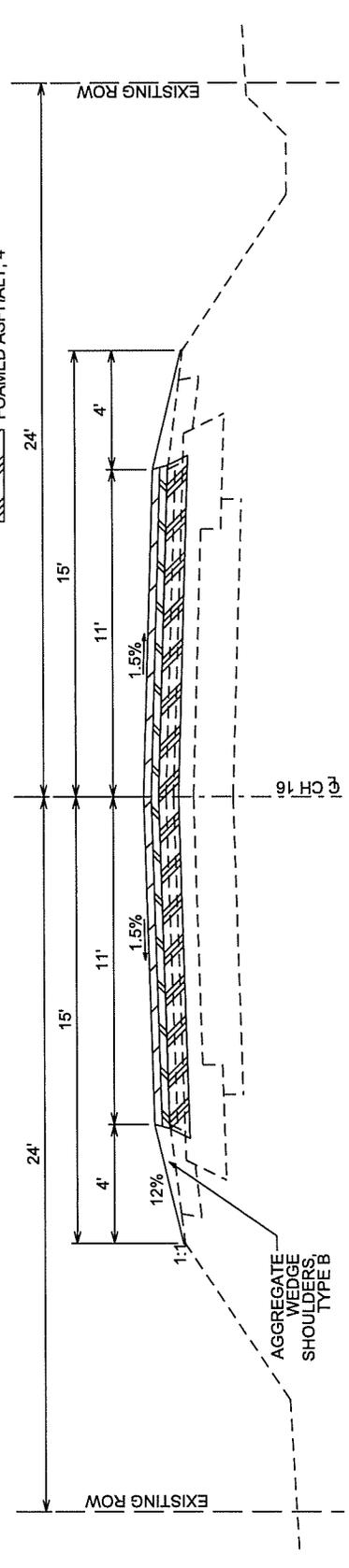


**1A** PROPOSED TYPICAL SECTION  
 STA. 10+00 TO STA. 14+19  
 OMIT RR ROW STA. 13+64 TO STA. 14+19



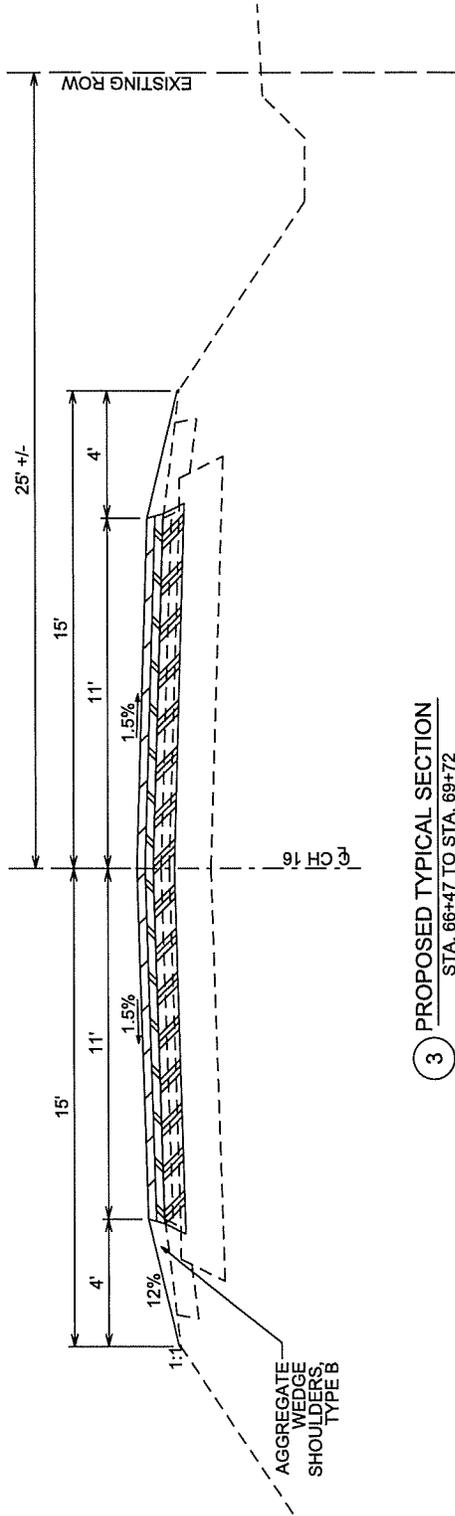
**1B** PROPOSED TYPICAL SECTION  
 STA. 14+19 TO STA. 16+19

- LEGEND**
- PROPOSED HMA SURFACE COURSE, MIX C, N50, 168 LB/SY
  - PROPOSED HMA LEVEL BINDER COURSE, IL-9.5FG, 168 LB/SY
  - PROPOSED CIR WITH FOAMED ASPHALT, 4"



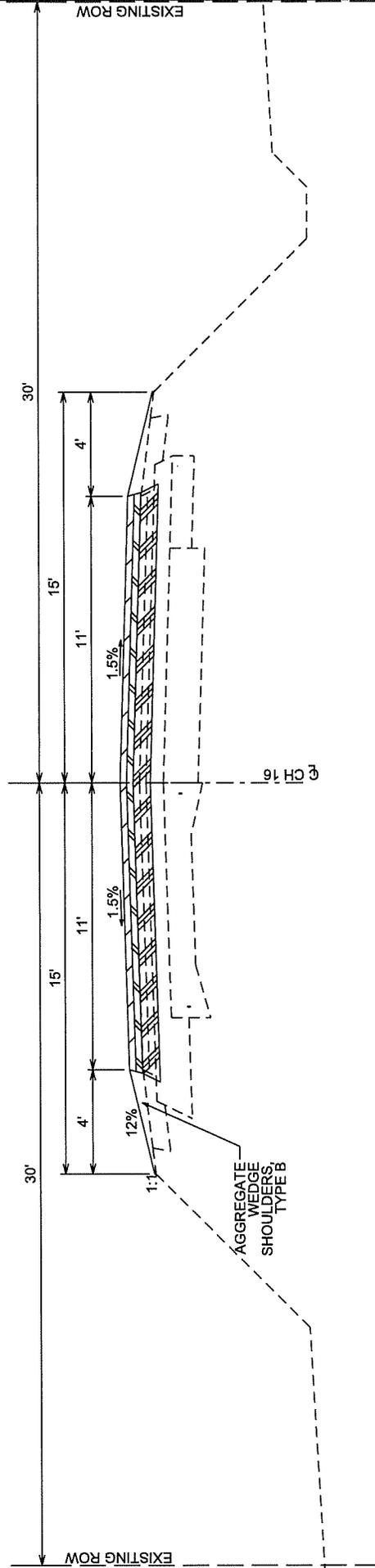
**2** PROPOSED TYPICAL SECTION  
 STA. 16+19 TO STA. 66+47  
 OMIT STR. 010-3339 STA. 44+24 TO STA. 44+64

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
527	16-00443-00-RS	CHAMPAIGN	49	7
			CONTRACT NO. 91552	
			ILLINOIS FED. AID PROJECT	

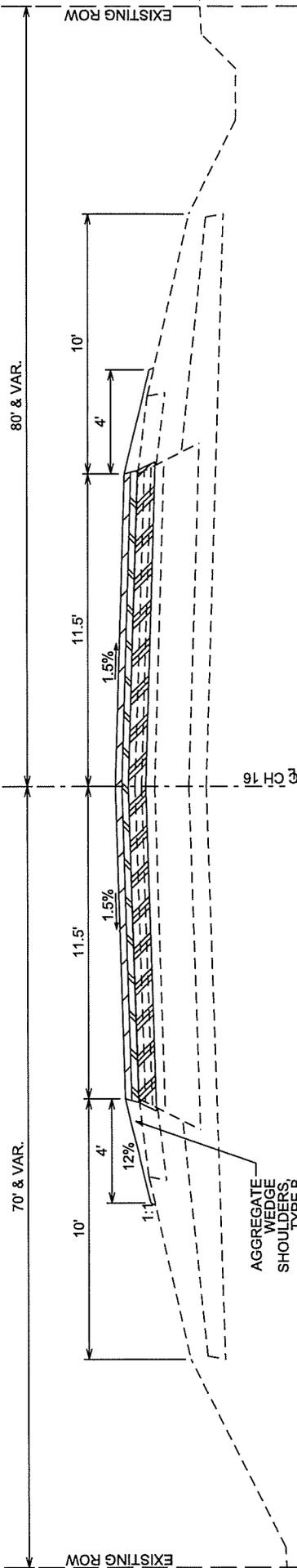


3 PROPOSED TYPICAL SECTION  
STA. 66+47 TO STA. 69+72

- LEGEND
-  PROPOSED HMA SURFACE COURSE, MIX C, N50, 168 LB/SY
  -  PROPOSED HMA LEVEL BINDER COURSE, IL-9.5FG, 168 LB/SY
  -  PROPOSED C/P WITH FOAMED ASPHALT, 4"

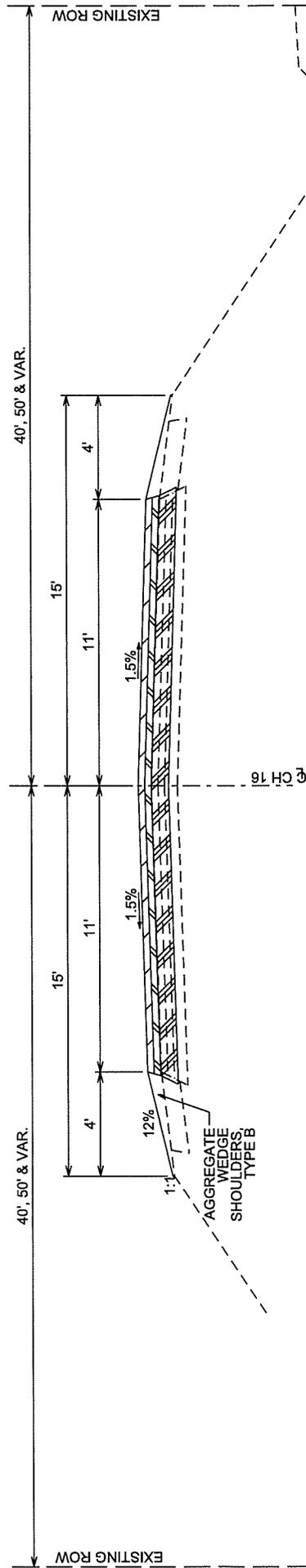


4 PROPOSED TYPICAL SECTION  
STA. 69+72 TO STA. 240+24  
STA. 256+77 TO STA. 316+24



**5** PROPOSED TYPICAL SECTION  
 STA. 240+24 TO STA. 256+77  
 OMIT STR. 010-4548 STA. 244+08 TO 247+83

- LEGEND**
-  PROPOSED HMA SURFACE COURSE, MIX C, N60, 168 LB/SY
  -  PROPOSED HMA LEVEL BINDER COURSE, IL-9.5FG, 168 LB/SY
  -  PROPOSED CIR WITH FOAMED ASPHALT, 4"



**6** PROPOSED TYPICAL SECTION  
 STA. 316+24 TO STA. 326+86

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
527	16-00443-00-RS	CHAMPAIGN	49	9
ILLINOIS FED. AID PROJECT				

LOCATION			LENGTH	WIDTH	*40600627	40603310	40600290	48102100
					HMA LEVEL BINDER, MACHINE METHOD, IL-9.5FG, N50	HMA SURFACE COURSE, MIX C, N50	BITUMINOUS MATERIALS, TACK COAT	AGGREGATE WEDGE SHOULDERS (4' WIDE)
LOCATION			FT	FT	TON	TON	POUND	TON
US 45	TO	RR	364	24	41.2	81.5	328.8	20.0
OMIT 55' AT RR			55					
RR	TO	#3339	3005	22	580.1	617.0	3206.5	291.4
OMIT 40' AT STR. 333			40					
#3339	TO	1100E	2153	22	423.6	442.1	2318.8	203.0
1100E	TO	1200E	5242	22	1,076.4	1,076.4	5766.2	503.7
1200E	TO	1300E	5409	22	1,110.6	1,110.6	5949.9	487.1
1300E	TO	1400E	5300	22	1,088.3	1,088.3	5830.0	510.4
1400E	TO	240+24	1456	22	299.0	299.0	1601.6	141.5
240+24	TO	244+08	384	22	60.4	78.8	372.9	30.1
OMIT 375' AT STR. 45			375					
240+24	TO	256+77	894	22	165.1	183.6	933.9	76.7
256+77	TO	1500E	2159	22	443.3	443.3	2374.9	209.2
1500E	TO	#0251	4850	22	977.4	995.9	5285.5	459.3
OMIT 402' STR. 0251			402					
TOTAL:					6,265.3	6,416.5	33,969.0	2,932.4
USE:					6,266	6,417	33,969	2,933

NOTE: LEVEL BINDER STARTS 90' FROM JOINT.

NOTE: BIT. MTLs. APPLICATION RATE IS 0.025 LBS/SF FOR THE LEVEL BINDER AND SURFACE PLACEMENT.

NOTE: AGG. WEDGE SHDR AT 2" THICK, 2.05 TON/CY & AREA REMOVED FOR SIDE ROADS, PE'S, MBTO'S AND FE'S.

LOCATION			LENGTH	WIDTH	44000153	X4401198
					HOT-MIX ASPHALT SURFACE REMOVAL, 1"	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH
LOCATION			FT	FT	SY	SY
US 45	TO	RR	364	24	970.7	-
ST. MARY'S PARKING			540	10	-	600.0
TOTAL:					970.7	600.0
USE:					971	600

LOCATION			LENGTH FT	WIDTH FT	*X4200002	*LR403300	FYI: VOLUME OF CIR AT 4" DEPTH CU FT	30201700	*LR400010
					COLD IN PLACE RECYCLING, 4" SY	SURFACE PROFILE MILLING SY		PORTLAND CEMENT [1.0% CEMENT] TON	CIR-FDR FOAMED ASPHALT [2.3% ASPHALT] TON
US 45	TO	RR	364	24					
OMIT 55' AT RR									
RR	TO	#3339	3005	22	7,052.2	7,052.2	21,156.7	13.5	31.1
OMIT 40' AT STR. 3339									
#3339	TO	1100E	2153	22	5,116.2	5,116.2	15,348.7	9.8	22.6
1100E	TO	1200E	5242	22	12,813.8	12,813.8	38,441.3	24.6	56.6
1200E	TO	1300E	5409	22	13,222.0	13,222.0	39,666.0	25.4	58.4
1300E	TO	1400E	5300	22	12,955.6	12,955.6	38,866.7	24.9	57.2
1400E	TO	240+24	1456	22	3,559.1	3,559.1	10,677.3	6.8	15.7
240+24	TO	244+08	384	22	792.0	792.0	2,376.0	1.5	3.5
OMIT 375' AT STR. 4548									
240+24	TO	256+77	894	22	2,038.7	2,038.7	6,116.0	3.9	9.0
256+77	TO	1500E	2159	22	5,277.6	5,277.6	15,832.7	10.1	23.3
1500E	TO	#0251	4850	22	11,708.9	11,708.9	35,126.7	22.5	51.7
OMIT 402' STR. 0251			402						
TOTAL:					74,536.0	74,536.0	223,608.0	143.1	329.2
USE:					74,536	74,536		144	330
NOTE: CIR STARTS AT END OF BUTT JOINT (60' FROM JOINT). FOR WEIGHT CONVERSION USE 128 LBS / CF.									

MAILBOX TURNOUT AREAS					
MBTO		LENGTH	WIDTH		MBTO AREA
		FT	FT		SY
Mile 2:	N:	50	6		23.3
	N:	55	9		37.5
Mile 3:	S:	44	4		14.2
	S:	65	6		28.3
Mile 4:	N:	40	6		20.0
Mile 5:	N:	65	10		47.2
Mile 6:	N:	90	9		55.0
	N:	40	4		13.3
	N:	70	4		20.0
	N:	40	4		13.3
	N:	45	8		28.9
MAILBOX TURNOUT SUBTOTAL					301.2
NOTE: ((20*WIDTH)+(1/2*(LENGTH-20)*WIDTH))/9					

LOCATION	LENGTH	WIDTH		40600982	40800050	40800029
				HMA SURFACE REMOVAL, BUTT JOINT	INCIDENTAL HMA SURFACING	BITUMINOUS MATERIALS, TACK COAT
				SY	TON	POUND
FT	FT	FT	FT	SY	TON	POUND
US 45 (PCC JNT)	60	24		160.0		
PE NORTH	12	49	32	54.0	9.1	24.3
RR (WEST SIDE)	60	23		153.3		
RR (EAST SIDE)	60	22		146.7		
1000E SOUTH	24	94	26	160.0	26.9	72.0
STR. 3339 WEST	60	22		146.7		
STR. 3339 EAST	60	22		146.7		
1100E NORTH	21	93	32	145.8	24.5	65.6
1100E SOUTH	22	63	21	102.7	17.2	46.2
1200E NORTH	20	64	25	98.9	16.6	44.5
1200E SOUTH	20	52	24	84.4	14.2	38.0
ST. MARY'S PARKING	566	10			105.7	283.0
1300E NORTH	18	47	20	67.0	11.3	30.2
1300E SOUTH	20	58	21	87.8	14.7	39.5
1400E NORTH	17	51	24	70.8	11.9	31.9
1400E SOUTH	17	51	18	65.2	10.9	29.3
STR. 4548 WEST	60	22		146.7		
STR. 4548 EAST	60	22		146.7		
1500E NORTH	20	51	20	78.9	13.3	35.5
1500E SOUTH	18	47	20	67.0	11.3	30.2
ADDRESS 1562	PCC DRIVEWAY					
ADDRESS 1580	18	24	13	37.0	6.2	16.7
STR. 0251 WEST	60	22		146.7		
PE, MBTO, FE					370.8	993.2
<b>TOTALS:</b>				<b>2,312.8</b>	<b>664.5</b>	<b>1,779.9</b>
<b>USE:</b>				<b>2,313</b>	<b>665</b>	<b>1,780</b>

NOTE: IF TWO WIDTHS ARE GIVEN, THIS IS TO CALCULATE A TRAPEZOIDAL SHAPE FOR QUANTITY CALCS.

FOR INCIDENTAL CALCS: APPLICATION RATE IS 112 POUNDS/SY/INCH FIGURED AT 3".

FOR BITUMINOUS MATERIALS ON MILLED SURFACE APPLICATION RATE IS 0.05 POUNDS / SQUARE FOOT.

LOCATION	LENGTH	WIDTH		44000200	42300200	35101400
				DRIVEWAY PAVEMENT REMOVAL	PCC DRIVEWAY PAVEMENT, 6"	AGGREGATE BASE COURSE, TYPE B
				SY	SY	TON
FT	FT	FT	FT	SY	SY	TON
ADDRESS 1562	18	24	16	40.0	40.0	9.1
<b>TOTALS:</b>				<b>40.0</b>	<b>40.0</b>	<b>9.1</b>
<b>USE:</b>				<b>40</b>	<b>40</b>	<b>10</b>

NOTE: SAWCUTS AND EARTH EXCAVATION ARE INCLUDED IN PAY ITEMS.

NOTE: APPLICATION RATE FOR AGGREGATE: 4" THICK AND 2.05 TON/CY

**CHAMPAIGN COUNTY  
HIGHWAY DEPARTMENT**

**CH 16  
SCHEDULE OF QUANTITIES - 3**

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
527	16-00443-00-RS	CHAMPAIGN	49	12
ILLINOIS			FED. AID PROJECT	

PRIVATE ENTRANCE AREAS (PE'S)					40200800	
PE'S		LENGTH FT	WIDTH FT		PE AREA SY	AGGREGATE SURFACE COURSE, TYPE B TON
W OF RR:	N:	17	90	70	151.1	3.5
	S:	23	110	50	204.4	2.5
	S:	29	83	30	182.1	1.5
Mile 2:	N:	10	52	33	47.2	1.7
	N:	10	60	23	46.1	1.2
	N:	20	68	13	90.0	0.7
	S:	10	34	16	27.8	0.8
	S:	18	37	16	53.0	0.8
Mile 3:	N:	9	48	29	38.5	1.5
	N:	11	46	22	41.6	1.1
	N:	17	44	14	54.8	0.7
	N:	9	45	17	31.0	0.9
	S:	10	40	21	33.9	1.1
	S:	9	70	14	42.0	0.7
Mile 4:	N:	10	90	46	75.6	2.3
	N:	10	73	22	52.8	1.1
	S:	10	34	13	26.1	0.7
Mile 5:	N:	10	88	28	64.4	1.4
	S:	14	52	29	63.0	1.5
Mile 6:	N:	14	84	16	77.8	0.8
	S:	9	45	24	34.5	1.2
	S:	4	32	26	12.9	1.3
	S:	6	24	18	14.0	0.9
	S:	10	34	14	26.7	0.7
PE SUB-TOTAL					1,491.2	30.6
					<b>USE:</b>	<b>31.0</b>

NOTE: AGGREGATE APPLICATION RATE OF 2.05 TON / CY AND ASSUME 2" THICK.

FIELD ENTRANCES (FE'S)		SY	TON
Mile 1:	(30+20+30+30+30+20+24+30+30+28+28)	133.3	15.2
Mile 2:	(30+30)	26.7	3.0
Mile 3:	(30+26+35+30)	53.8	6.1
Mile 4:	(30+30+30+30+30+34+24)	92.4	10.5
Mile 5:	(30+36+24+26)	51.6	5.9
Mile 6:	(30+36+30+32)	56.9	6.5
FIELD ENTRANCE SUBTOTAL		414.7	47.2
		<b>USE:</b>	<b>48</b>

NOTE: ALL FIELD ENTRANCES ARE CALCULATED AT 4' WIDE.  
NOTE: AGGREGATE APPLICATION RATE OF 2.05 TON / CY AND ASSUME 2" THICK.

40200800
AGGREGATE SURFACE COURSE, TYPE B

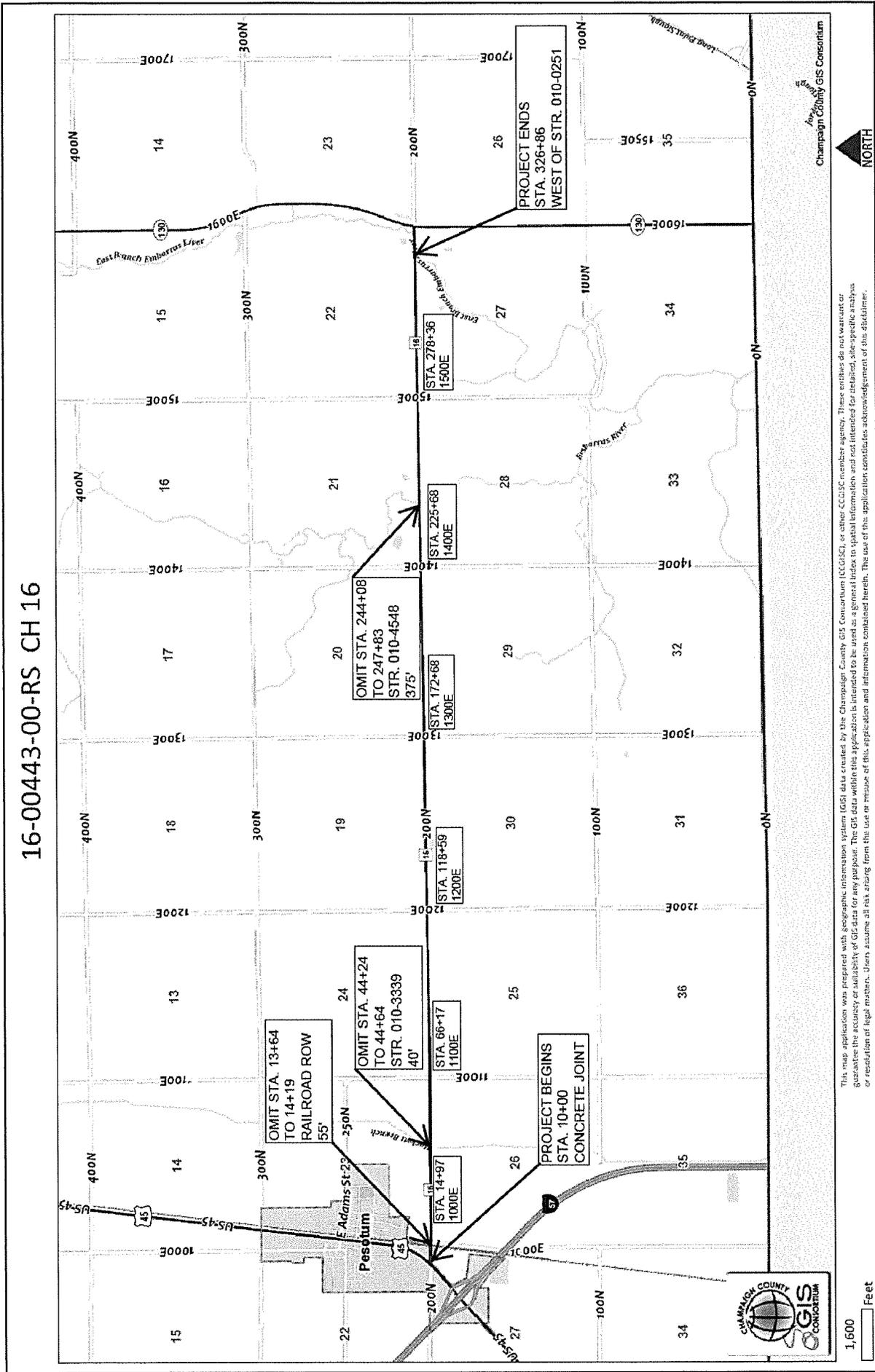
LOCATION	COLOR	78001100	78001110	78001180	70300100
		PAINT PAVEMENT MARKING - LETTERS AND SYMBOLS	PAINT PAVEMENT MARKING LINE, 4"	PAINT PAVEMENT MARKING LINE - 24"	SHORT-TERM PAVEMENT MARKING
		SF	FT	FT	FT
<b>US 45 CONC TO RR</b>					
N. EDGE	WHITE		364		-
S. EDGE	WHITE		364		-
N. CL SOLID	YELLOW		364		364.0
S. CL SOLID	YELLOW		364		364.0
2 RR "R"	WHITE	7.2			-
"X"	WHITE	54.0			-
3 STOP FOR RR	WHITE			36.0	-
<b>RR TO #3339</b>					
N. EDGE	WHITE		3,005		-
S. EDGE (OMIT 1000E)	WHITE		2,911		-
N. CL SOLID	YELLOW		550		550.0
S. CL 10-30 SKIP-DASH	YELLOW		760		76.0
2 RR "R"	WHITE	7.2			-
"X"	WHITE	54.0			-
3 STOP FOR RR	WHITE			33.0	-
<b>#3339 TO 1100E</b>					
N. EDGE (OMIT 1100E)	WHITE		2,060		-
S. EDGE (OMIT 1100E)	WHITE		2,090		-
CL 10-30 SKIP-DASH	YELLOW		540		54.0
<b>1100E TO 1200E</b>					
N. EDGE (OMIT 1200E)	WHITE		5,242		-
S. EDGE (OMIT 1200E)	WHITE		5,242		-
CL 10-30 SKIP-DASH	YELLOW		1,320		132.0
<b>1200E TO 1300E</b>					
N. EDGE (OMIT 1300E)	WHITE		5,409		-
S. EDGE (OMIT 1300E)	WHITE		5,409		-
CL 10-30 SKIP-DASH	YELLOW		1,360		136.0
<b>1300E TO 1400E</b>					
N. EDGE (OMIT 1400E)	WHITE		5,300		-
S. EDGE (OMIT 1400E)	WHITE		5,300		-
CL 10-30 SKIP-DASH	YELLOW		1,330		133.0
<b>1400E TO #4548</b>					
N. EDGE	WHITE		1,840		-
S. EDGE	WHITE		1,840		-
CL 10-30 SKIP-DASH	YELLOW		460		46.0
<b>#4548 TO 1500E</b>					
N. EDGE (OMIT 1500E)	WHITE		3,002		-
S. EDGE (OMIT 1500E)	WHITE		3,006		-
CL 10-30 SKIP-DASH	YELLOW		770		77.0
<b>1500E TO #0251</b>					
N. EDGE	WHITE		4,850		-
S. EDGE	WHITE		4,850		-
CL 10-30 SKIP-DASH	YELLOW		1,220		122.0
TOTALS:		122.4	71,122	69.0	2,054.0
APPLICATIONS:		1.0	1	1.0	3.0
USE:		123	71,122	69	6,162
NOTE: SHORT-TERM PAVEMENT MARKING APPLICATION RATE OF 1' EVERY 40'. FOR 3 APPLICATIONS (CIR, LB, SURF)					
NOTE: SHORT-TERM PAVEMENT MARKING REMOVAL ONLY FROM SURFACE.					

**CHAMPAIGN COUNTY  
HIGHWAY DEPARTMENT**

**CH 16  
SCHEDULE OF QUANTITIES - 5**

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
527	16-00443-00-RS	CHAMPAIGN	49	14
CONTRACT NO. 91552				
ILLINOIS FED. AID PROJECT				

16-00443-00-RS CH 16



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Date: Friday, September 22, 2017

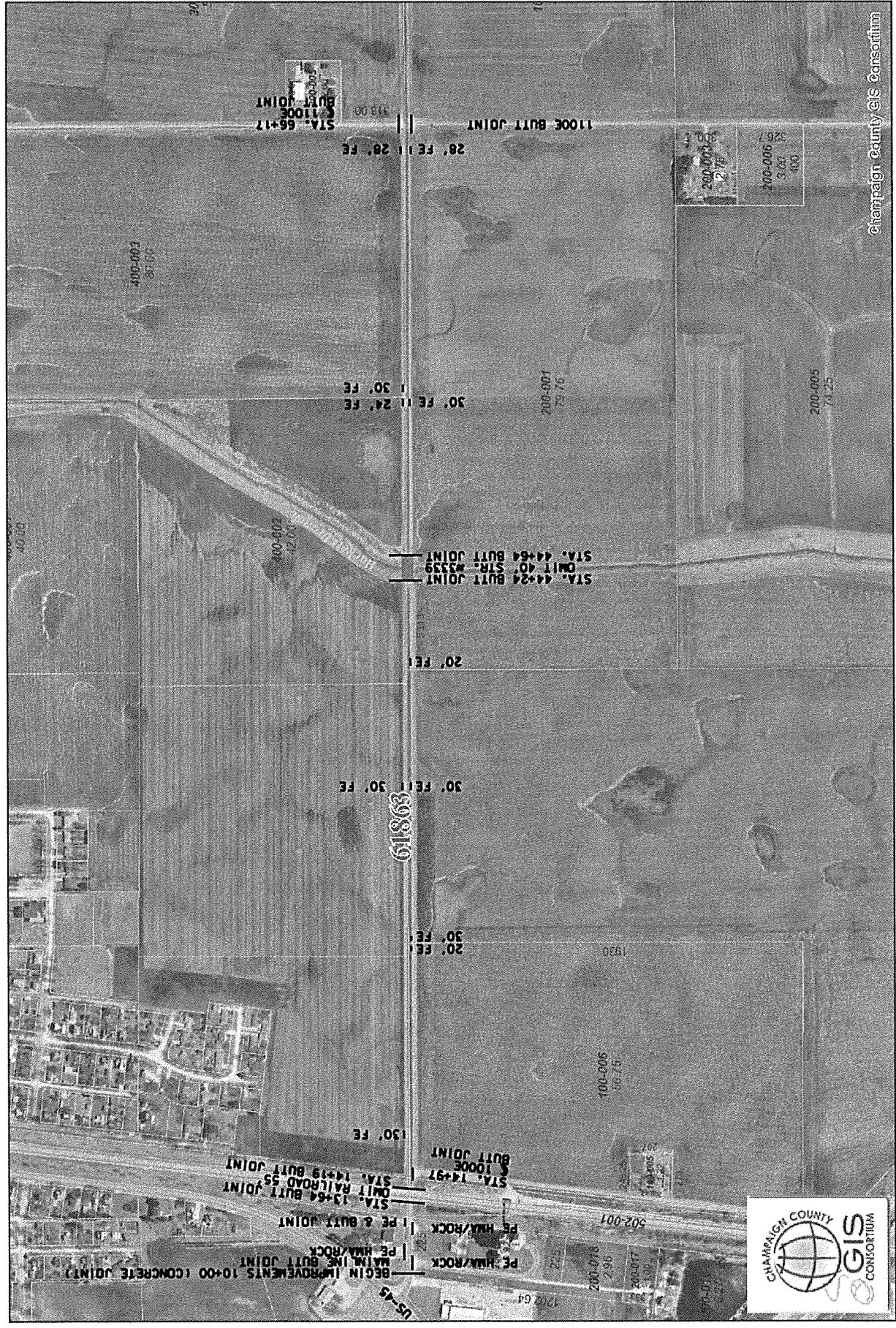
CHAMPAIGN COUNTY  
HIGHWAY DEPARTMENT

CH 16  
LOCATION MAP

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
527	16-00443-00-RS	CHAMPAIGN	49	15
ILLINOIS FED. AID PROJECT				

16-00443-00-RS

CR 16 CIR 1



Champaign County GIS Consortium

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440 Feet



Date: Thursday, September 7, 2017

CHAMPAIGN COUNTY  
HIGHWAY DEPARTMENT

CH 16  
AERIAL PLAN VIEW - 1

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
527	16-00443-00-RS	CHAMPAIGN	49	16
			CONTRACT NO. 91552	
		ILLINOIS	FED. AID PROJECT	



# CR 16 CIR 3

16-00443-00-RS



Champaign County GIS Consortium



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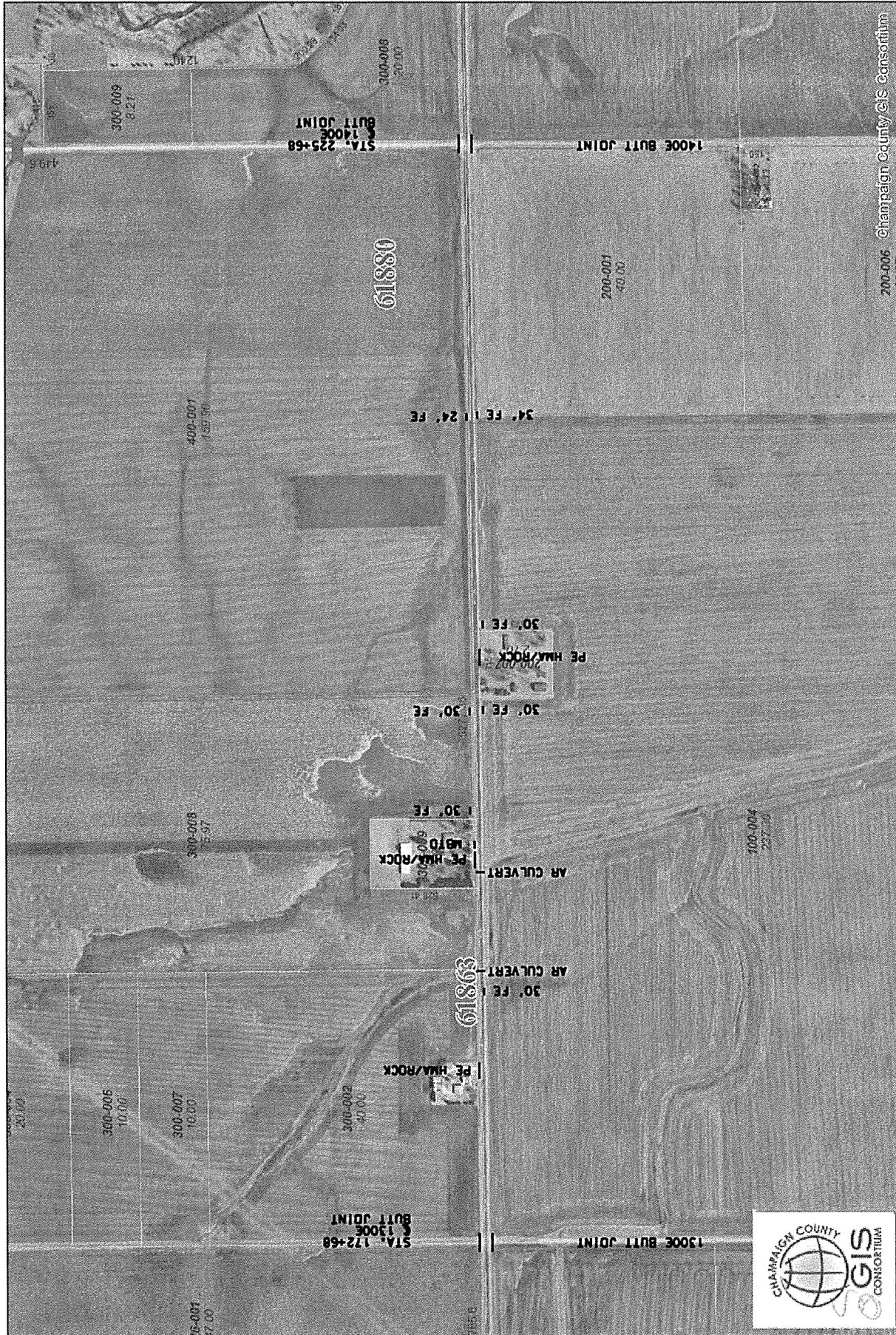
440 Feet

Date: Thursday, September 7, 2017

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
527	16-00443-00-RS	CHAMPAIGN	49	18
CONTRACT NO. 91552				
[ILLINOIS] FED. AID PROJECT				

# CR 16 CIR 4

16-00443-00-RS



200-006 Champaign County Cils Consortium

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440 Feet

Date: Thursday, September 7, 2017



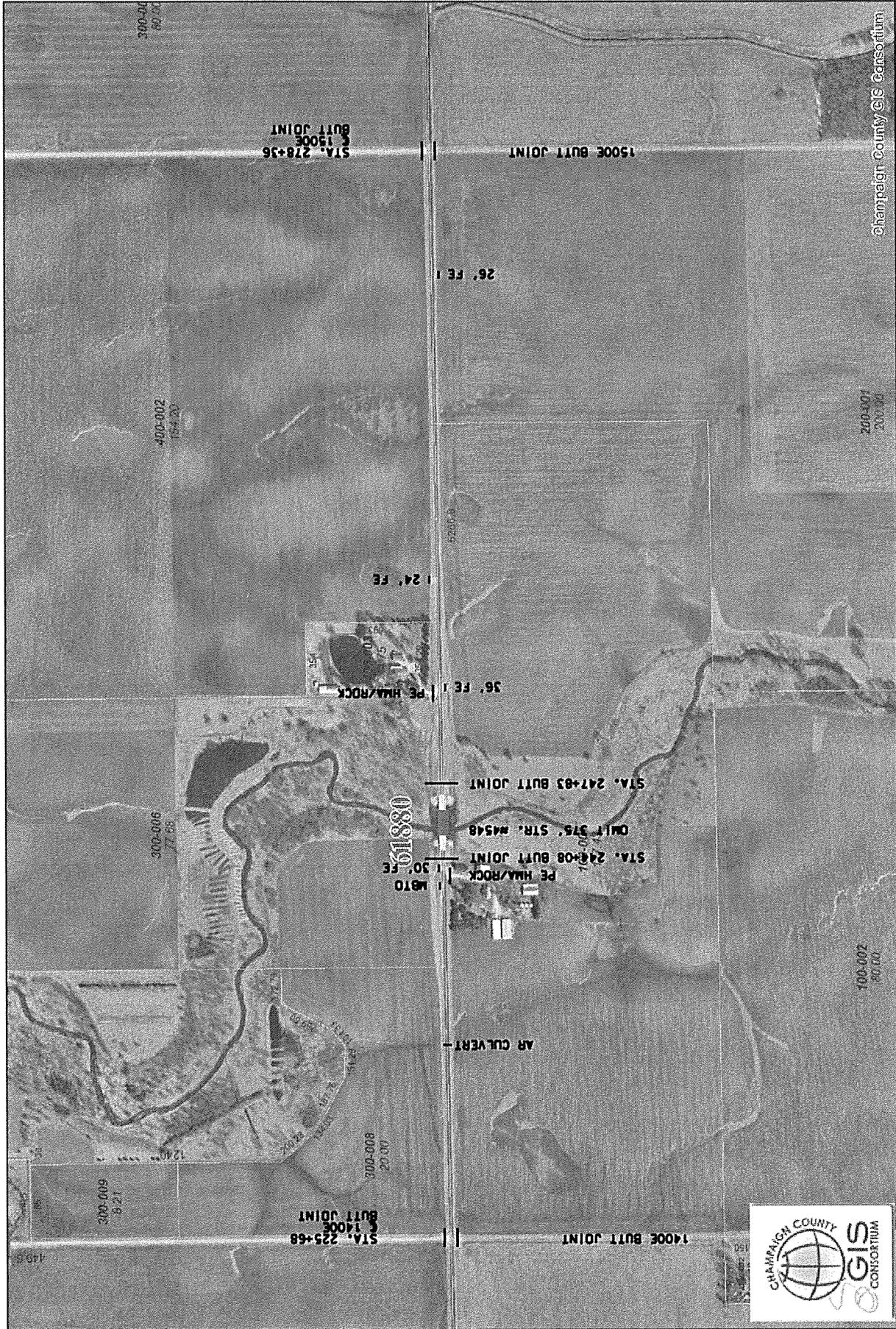
**CHAMPAIGN COUNTY  
HIGHWAY DEPARTMENT**

**CH 16  
AERIAL PLAN VIEW - 4**

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
527	16-00443-00-RS	CHAMPAIGN	49	19
CONTRACT NO. 91552				
ILLINOIS FED. AID PROJECT				

16-00443-00-RS

CR 16 CIR 5



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440 Feet

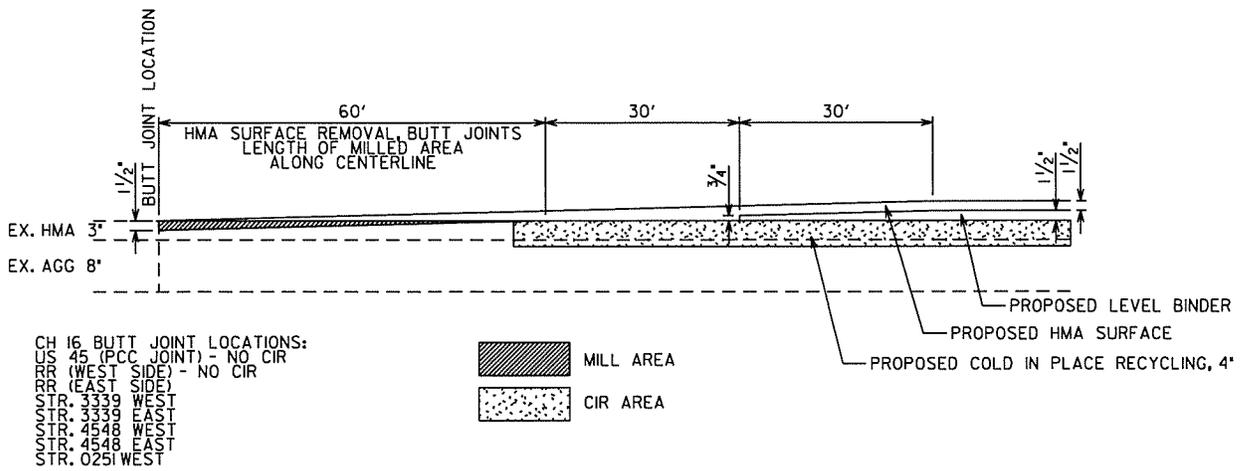
Date: Thursday, September 7, 2017

CHAMPAIGN COUNTY  
HIGHWAY DEPARTMENT

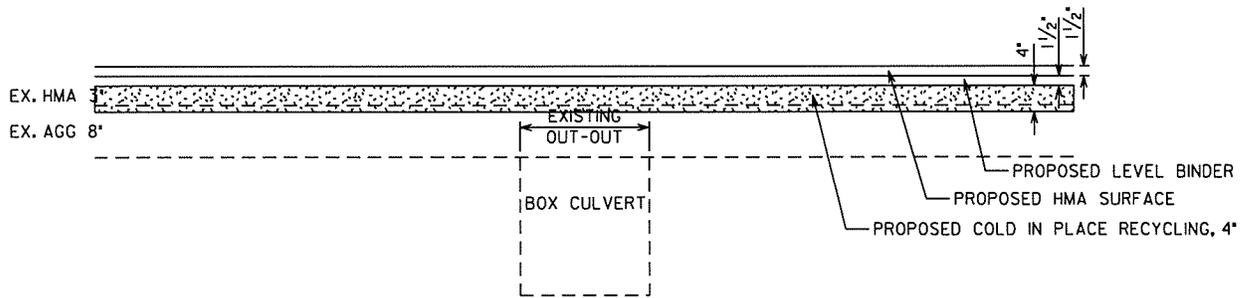
CH 16  
AERIAL PLAN VIEW - 5

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
527	16-00443-00-RS	CHAMPAIGN	49	20
			CONTRACT NO. 91552	
		ILLINOIS	FED. AID PROJECT	



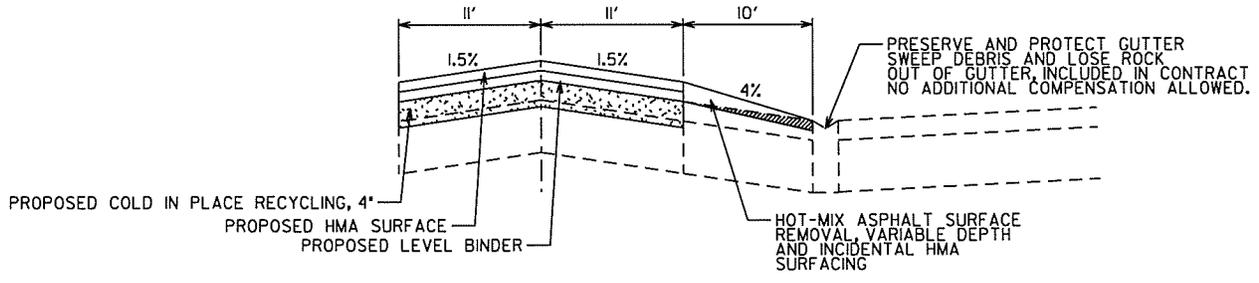
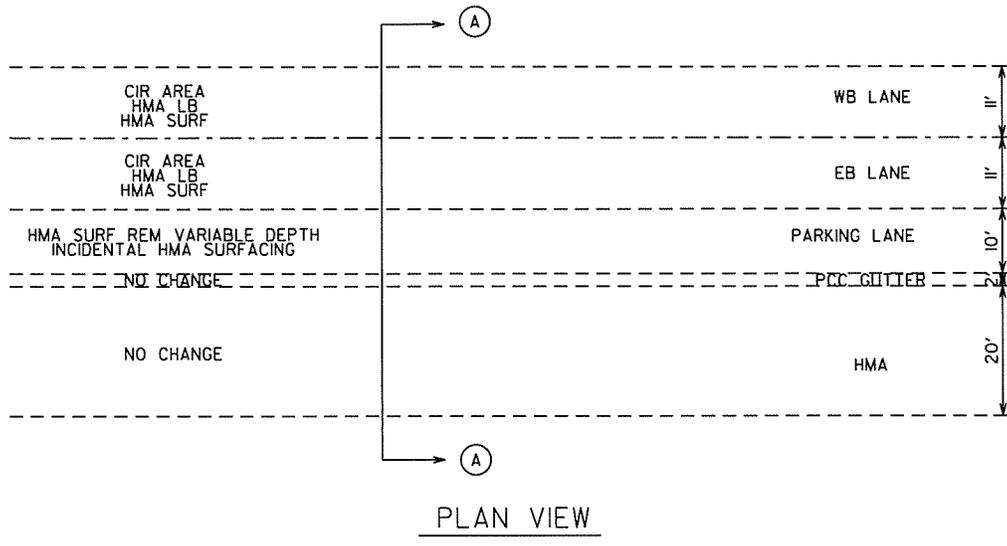


**MAINLINE BUTT JOINT DETAIL**  
 SECTION ALONG C. OF ROAD  
 NOT TO SCALE



- CH 16 CROSS ROAD CULVERT LOCATIONS:  
 MILE 2: WEST OF 1200E INTERSECTION  
 MILE 3: WEST OF ST. MARY'S CHURCH PROPERTY  
 MILE 3: WEST OF 1300E  
 MILE 4: BETWEEN 1ST TWO HOUSES ON NORTH  
 MILE 4: JUST WEST OF 2ND HOUSE NORTH SIDE  
 MILE 5: 1/2 WAY TO BRIDGE

**CROSS-ROAD CULVERT DETAIL**  
 SECTION ALONG C. OF ROAD  
 NOT TO SCALE

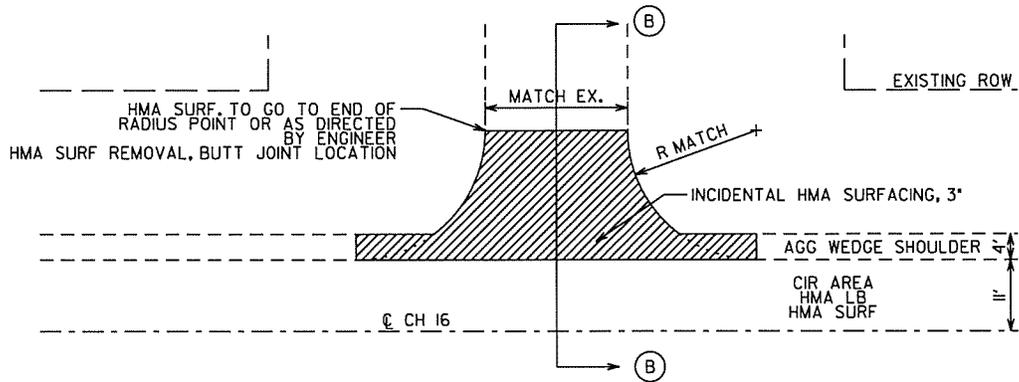


MILE 3: ST. MARY'S CHURCH DETAIL  
NOT TO SCALE

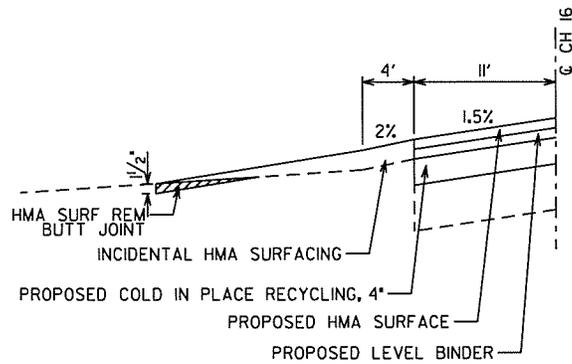
CHAMPAIGN COUNTY  
HIGHWAY DEPARTMENT

CH 16  
MILE 3: ST. MARY'S CHURCH DETAIL

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
527	16-00443-00-RS	CHAMPAIGN	49	23
			CONTRACT NO. 91552	
			ILLINOIS FED. AID PROJECT	



PLAN VIEW



B-B CROSS-SECTION

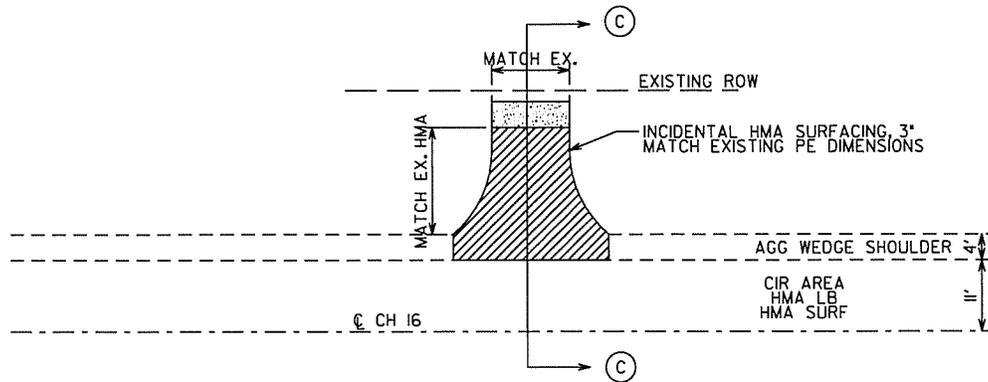
TYPICAL DETAIL OF SIDE ROAD

NOT TO SCALE

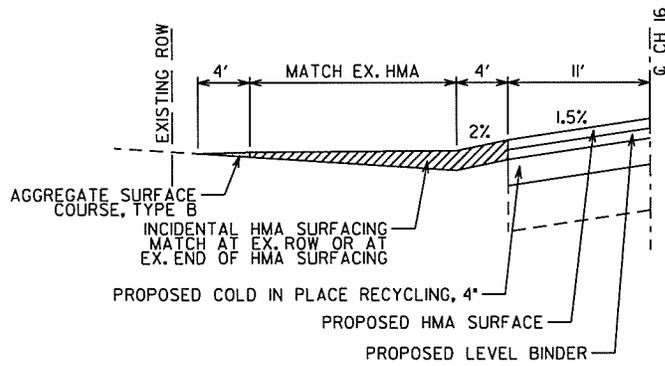
CHAMPAIGN COUNTY  
HIGHWAY DEPARTMENT

CH 16  
SIDE ROAD DETAIL

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
527	16-00443-00-RS	CHAMPAIGN	49	24
ILLINOIS FED. AID PROJECT				



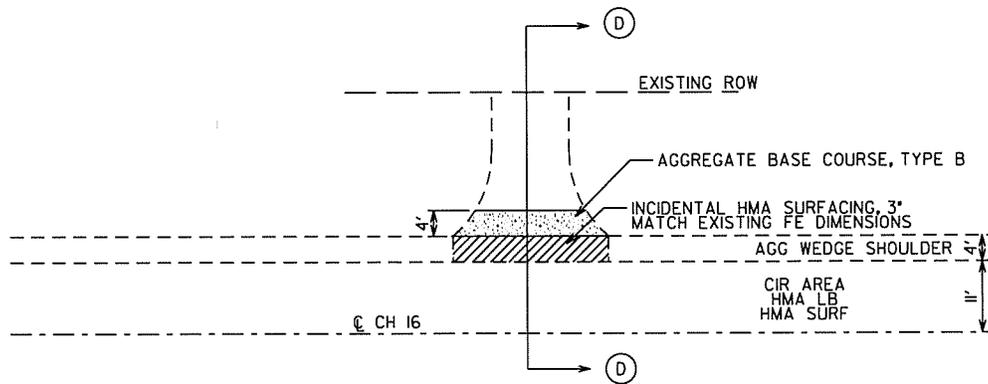
PLAN VIEW



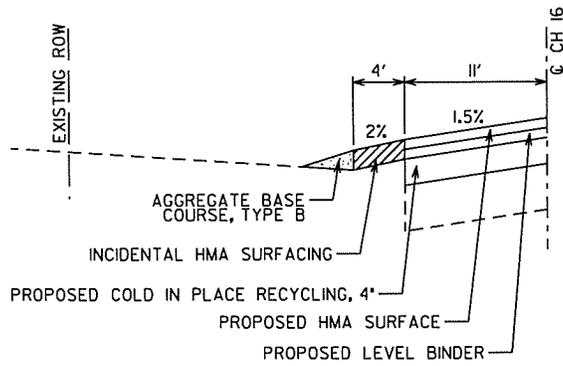
C-C CROSS-SECTION

TYPICAL DETAIL OF PRIVATE ENTRANCE

NOT TO SCALE



PLAN VIEW



D-D CROSS-SECTION

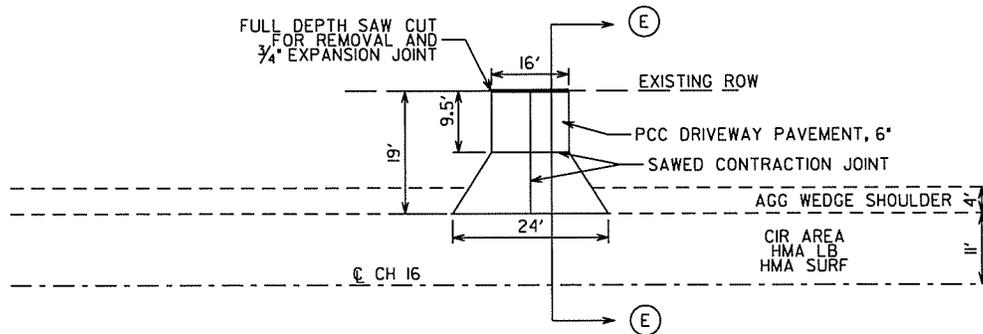
TYPICAL DETAIL OF FIELD ENTRANCE

NOT TO SCALE

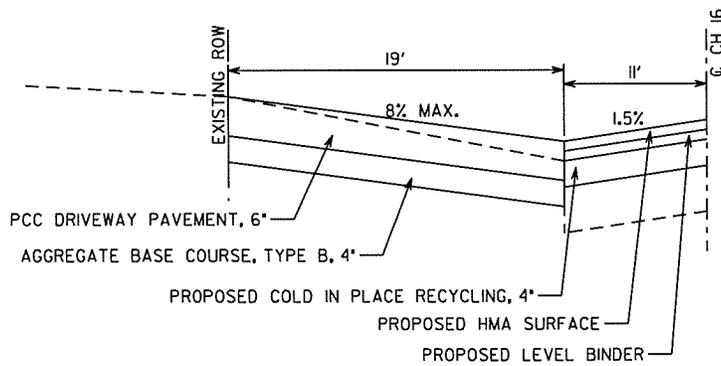
CHAMPAIGN COUNTY  
HIGHWAY DEPARTMENT

CH 16  
FIELD ENTRANCE DETAIL

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
527	16-00443-00-RS	CHAMPAIGN	49	26
CONTRACT NO. 91552				
ILLINOIS FED. AID PROJECT				



PLAN VIEW



E-E CROSS-SECTION

PCC DRIVEWAY ENTRANCE DETAIL

NOT TO SCALE  
ADDRESS #1562

ABV	ABOVE	CU YD	CUBIC YARD	HD	HEAD	RED	RED	STANDARD
A/C	ACCESS CONTROL	CULV	CULVERT	HEADWALL	HEADWALL	PNT	PNT	STATE BOND ISSUE
AC	ACRE	C&G	CURB & GUTTER	HEADWALL	HEADWALL	SB	SB	STATE ROUTE
ADJ	ADJUST	D	DEGREE OF CURVE	H&M	H&M	STA	STA	STATION
AS	AERIAL SURVEYS	DC	DEPRESSED CURVE	HMA	HMA	SPBGR	SPBGR	STEEL PLATE BEAM GUARDRAIL
AGG	AGGREGATE	DET	DETECTOR	HORIZ	HORIZ	SS	SS	STORM SEWER
AH	AHEAD	DIA	DIAMETER	HSE	HSE	ST	ST	STORY
API	APARTMENT	DIST	DISTRICT	IL	ILLINOIS	STR	STR	STRUCTURE
ASPH	ASPHALT	DPM	DIP	IMP	IMPROVEMENT	e	e	SUPERELEVATION RATE
AUX	AUXILIARY	DSBL	DOWNSTREAM FLOWLINE	IN DIA	INCH DIAMETER	S.E. RUN	S.E. RUN	SUPERELEVATION RUNOFF LENGTH
AGS	AGS	DSFL	DOWNSTREAM FLOWLINE	INL	INLET	SURF	SURF	SURFACE
AV	AVENUE	DR	DRAINAGE INLET OR DRIVE	INST	INSTALLATION DESIGN STUDY	T	T	TANGENT DISTANCE
AVL	AVENUE	DR	DRAINAGE INLET OR DRIVE	IDS	INTERSECTION DESIGN STUDY	T	T	TANGENT RUNOUT DISTANCE
AX	AXIS OF ROTATION	DRV	DRIVEWAY	IP	IRON PIPE	TEL	TEL	TELEPHONE
BK	BACK TO BACK	DCT	DRIVEWAY	IR	IRON ROD	TB	TB	TELEPHONE BOX
BKPL	BACKPLATE	EA	EACH	JOINT	JOINT	TP	TP	TELEPHONE POLE
B	BARR	EOP	EASTROAD	IN	INCH	TEMP	TEMP	TEMPORARY
BARR	BARRICADE	EOP	EASTROAD	INL	INLET	TBM	TBM	TEMPORARY BENCH MARK
BGN	BEGIN	EOP	EDGE OF PAVEMENT	INL	INLET	TBE	TBE	TO BE EXTENDED
BIM	BENCHMARK	E-C	EDGE TO CENTERLINE	INL	INLET	TBR	TBR	TO BE REMOVED
BIND	BINDER	E-E	EDGE TO EDGE	INL	INLET	TBS	TBS	TO BE SAVED
BIT	BITUMINOUS	EL	ELEVATION	INL	INLET	TWP	TWP	TOWNSHIP
BTM	BOTTOM	ENR	ENTRANCE	INL	INLET	TR	TR	TOWNSHIP ROAD
BLVD	BOULEVARD	EXC	EXCAVATION	INL	INLET	TS	TS	TRAFFIC SIGNAL
BRK	BRICK	EX	EXISTING	INL	INLET	TSC	TSC	TRAFFIC SIGNAL CONTROL BOX
BBOX	BUFFALO BOX	EXPWAY	EXPRESSWAY	INL	INLET	TRVS	TRVS	TRANSVERSE
BUILDG	BUILDING	E	EXTERNAL DISTANCE OF HORIZONTAL CURVE	INL	INLET	TRN	TRN	TRANSVERSE
BLDG	BUILDING	E	EXTERNAL DISTANCE OF HORIZONTAL CURVE	INL	INLET	TY	TY	TURN
CB	CATCH BASIN	E-F	FACE TO FACE	INL	INLET	T-A	T-A	TYPE A
C-C	CENTER TO CENTER	F	FACE TO FACE	INL	INLET	UNDGND	UNDGND	UNDERGROUND
CL	CENTERLINE OR CLEARANCE	FA	FEDERAL AID INTERSTATE	INL	INLET	USGS	USGS	U.S. GEOLOGICAL SURVEY
CL-E	CENTERLINE TO EDGE	FAP	FEDERAL AID PRIMARY	INL	INLET	USEL	USEL	UPSTREAM ELEVATION
CL-F	CENTERLINE TO FACE	FAS	FEDERAL AID SECONDARY	INL	INLET	USPL	USPL	UPSTREAM FLOWLINE
CTS	CENTERS	FAUS	FEDERAL AID URBAN SECONDARY	INL	INLET	VAL	VAL	VALVE
CERT	CERTIFIED	FP	FENCE POST	INL	INLET	V&X	V&X	VALVE BOX
CHSLD	CHISELED	FE	FIELD ENTRANCE	INL	INLET	V&V	V&V	VALVE VAULT
CS	CITY STREET	FH	FIRE HYDRANT	INL	INLET	V&V	V&V	VALVE VAULT
CP	CLAY PIPE	FL	FLOW LINE	INL	INLET	V&V	V&V	VALVE VAULT
CLSD	CLOSED	FDN	FOUNDATION	INL	INLET	V&V	V&V	VALVE VAULT
CLUD	CLOSED LID	FR	FRAME	INL	INLET	V&V	V&V	VALVE VAULT
CLD	CLOSED LID	F&G	FRAME & GRATE	INL	INLET	V&V	V&V	VALVE VAULT
CLD	CLOSED LID	FRWAY	FREEWAY	INL	INLET	V&V	V&V	VALVE VAULT
CLD	CLOSED LID	GAL	GALLON	INL	INLET	V&V	V&V	VALVE VAULT
CLD	CLOSED LID	GALV	GALVANIZED	INL	INLET	V&V	V&V	VALVE VAULT
CLD	CLOSED LID	G	GAS	INL	INLET	V&V	V&V	VALVE VAULT
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CLD	CLOSED LID	G	GAS	INL	INLET	V&V	V&V	VALVE VAULT
CL								

ADJUSTMENT ITEMS	EX	PR
Structure To Be Adjusted		
Structure To Be Cleaned		
Main Structure To Be Filled		
Structure To Be Filled		
Structure To Be Filled Special		
Structure To Be Removed		
Structure To Be Reconstructed		
Structure To Be Reconstructed Special		
Frame and Grate To Be Adjusted		
Frame and Lid To Be Adjusted		
Domestic Service Box To Be Adjusted		
Valve Vault To Be Adjusted		
Special Adjustment		
Item To Be Abandoned		
Item To Be Moved		
Item To Be Relocated		
Pavement Removal and Replacement		

ALIGNMENT ITEMS	EX	PR
Baseline		
Centerline		
Centerline Break Circle		
Baseline Symbol		
Centerline Symbol		
PI Indicator		
Point Indicator		
Horizontal Curve Data (Half Size)	CURVE P.I. STA- A+ D+ R+ L+ E+ T.P.+ S.E. RUN- P.C. STA- P.T. STA-	CURVE P.I. STA- A+ D+ R+ L+ E+ T.P.+ S.E. RUN- P.C. STA- P.T. STA-

BOUNDARIES ITEMS	EX	PR
Dashed Property Line		
Solid Property/Lot Line		
Section/Grant Line		
Quarter Section Line		
Quarter/Quarter Section Line		
County/Township Line		
State Line		
Iron Pipe Found		
Iron Pipe Set		
Survey Marker		
Property Line Symbol		
Same Ownership Symbol (Half Size)		
Northwest Quarter Corner (Half Size)		
Section Corner (Half Size)		
Southeast Quarter Corner (Half Size)		

CONTOUR ITEMS	EX	PR
Approx. Index Line		
Approx. Intermediate Line		
Index Contour		
Intermediate Contour		
<b>DRAINAGE ITEMS</b>	<b>EX</b>	<b>PR</b>
Channel or Stream Line		
Culvert Line		
Grading & Shaping Ditches		
Drainage Boundary Line		
Paved Ditch		
Aggregate Ditch		
Pipe Underdrain		
Storm Sewer		
Flowline		
Ditch Check		
Headwall		
Inlet		
Manhole		
Summit		
Roadway Ditch Flow		
Swale		
Catch Basin		
Culvert End Section		
Water Surface Indicator		
Riprap		

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS (Sheet 2 of 8)		

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STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS (Sheet 2 of 8)		

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS (Sheet 2 of 8)		

 Illinois Department of Transportation PASSED APPROVED ENGINEER OF DESIGN AND ENVIRONMENT	JANUARY 1, 2011 <i>Michael D. Brown</i> ENGINEER OF POLICY AND PROCEDURES	ISSUED 3-1-97
	JANUARY 1, 2011 <i>Scott S. Smith</i> ENGINEER OF DESIGN AND ENVIRONMENT	

**EROSION & SEDIMENT CONTROL ITEMS**

Cleaning & Grading Limits		<b>PR</b>
Dike		<b>PR</b>
Erosion Control Fence		<b>PR</b>
Perimeter Erosion Barrier		<b>PR</b>
Temporary Fence		<b>PR</b>
Ditch Check Temporary		<b>PR</b>
Ditch Check Permanent		<b>PR</b>
Inlet & Pipe Protection		<b>PR</b>
Sediment Basin		<b>PR</b>
Erosion Control Blanket		<b>PR</b>
Fabric Formed Concrete Revestment Mat		<b>PR</b>
Turf Reinforcement Mat		<b>PR</b>
Mulch Temporary		<b>PR</b>
Mulch Method 1		<b>PR</b>
Mulch Method 2 Stabilized		<b>PR</b>
Mulch Method 3 Hydraulic		<b>PR</b>

**NON-HIGHWAY IMPROVEMENT ITEMS**

Noise Attn./Levee		<b>EX</b>
Field Line		<b>EX</b>
Fence		<b>EX</b>
Base of Levee		<b>EX</b>
Mailbox		<b>PR</b>
Multiple Mailboxes		<b>PR</b>
Pay Telephone		<b>PR</b>
Advertising Sign		<b>PR</b>
<b>LANDSCAPING ITEMS</b>		
Contour Mounding Line		<b>PR</b>
Fence		<b>PR</b>
Fence Post		<b>PR</b>
Shrubs		<b>PR</b>
Mowline		<b>PR</b>
Perennial Plants		<b>PR</b>
Seeding Class 2		<b>PR</b>
Seeding Class 2A		<b>PR</b>
Seeding Class 4		<b>PR</b>
Seeding Class 4 & 5 Combined		<b>PR</b>

**EXISTING LANDSCAPING ITEMS (contd.)**

Seeding Class 5		<b>PR</b>
Seeding Class 7		<b>PR</b>
Seedlings Type 1		<b>PR</b>
Seedlings Type 2		<b>PR</b>
Sodding		<b>PR</b>
Nowstake w/Sign		<b>PR</b>
Tree Trunk Protection		<b>PR</b>
Evergreen Tree		<b>PR</b>
Shade Tree		<b>PR</b>

**LIGHTING**

Duct		<b>EX</b>
Conduit		<b>EX</b>
Electrical Aerial Cable		<b>EX</b>
Electrical Buried Cable		<b>EX</b>
Controller		<b>EX</b>
Underpass Luminaire		<b>EX</b>
Power Pole		<b>EX</b>

**STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS**  
(Sheet 3 of 8)

STANDARD 000001-06

Illinois Department of Transportation  
 PASSED JANUARY 3, 2011  
 ENGINEER OF POLICY AND PROCEDURES  
 APPROVED *Michael Bond*  
 PASSED JANUARY 3, 2011  
 APPROVED *Scott Smith*  
 ENGINEER OF DESIGN AND ENVIRONMENT  
 ISSUED 1-1-97

**LIGHTING**  
**(contd.)**

Pull Point



**EX**

**PR**

Handhole



**EX**

**PR**

Heavy Duty Handhole



**EX**

**PR**

Junction Box



**EX**

**PR**

Light Unit Comb.



**EX**

**PR**

Electrical Ground



**EX**

**PR**

Traffic Flow Arrow



**EX**

**PR**

High Mast Pole (Half Size)



**EX**

**PR**

Light Unit-1



**EX**

**PR**

**PAVEMENT (MISC.)**

Keyed Long, Joint



**EX**

**PR**

Keyed Long, Joint w/Tie Bars



**EX**

**PR**

Sawed Long, Joint w/Tie Bars



**EX**

**PR**

Bituminous Shoulder



**EX**

**PR**

Bituminous Taper



**EX**

**PR**

Stabilized Driveway



**EX**

**PR**

Widening



**EX**

**PR**

**PAVEMENT MARKINGS**

Bike Lane Symbol



**EX**

**PR**

Bike Lane Text



**EX**

**PR**

Handicap Symbol



**EX**

**PR**

RR Crossing



**EX**

**PR**

Raised Marker Amber 1 Way



**EX**

**PR**

Raised Marker Amber 2 Way



**EX**

**PR**

Raised Marker Crystal 1 Way



**EX**

**PR**

Two Way Turn Left



**EX**

**PR**

Shoulder Diag. Pattern



**EX**

**PR**

Skip-Dash White



**EX**

**PR**

Skip-Dash Yellow



**EX**

**PR**

Stop Line



**EX**

**PR**

Solid Line



**EX**

**PR**

Double Centerline



**EX**

**PR**

Dotted Lines



**EX**

**PR**

CL 2Ln 2Way  
RRPM 12.2 m (40') o.c.



**EX**

**PR**

CL 2Ln 2Way  
RRPM 80' (24.4 m) o.c.



**EX**

**PR**

CL Multilane Div.  
RRPM 40' (12.2 m) o.c.



**EX**

**PR**

CL Multilane Div.  
RRPM 80' (24.4 m) o.c.



**EX**

**PR**

CL Multilane Div. Dbl.  
RRPM 80' (24.4 m) o.c.



**EX**

**PR**

CL Multilane Undiv.



**EX**

**PR**

Two Way Turn Left Line



**EX**

**PR**

**STANDARD SYMBOLS,  
ABBREVIATIONS  
AND PATTERNS**  
(Sheet 4 of 8)

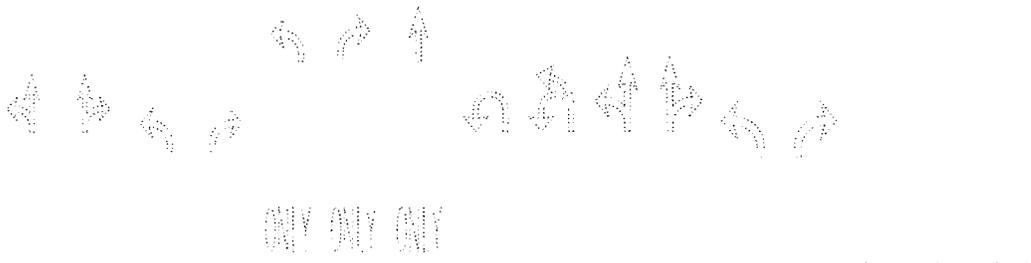
STANDARD 000001-06

Illinois Department of Transportation  
PASSED JANUARY 3, 2011  
APPROVED BY *[Signature]*  
ENGINEER OF POLICY AND PROCEDURES  
APPROVED BY *[Signature]*  
JANUARY 3, 2011  
ENGINEER OF DESIGN AND ENVIRONMENT  
ISSUED 1-1-97

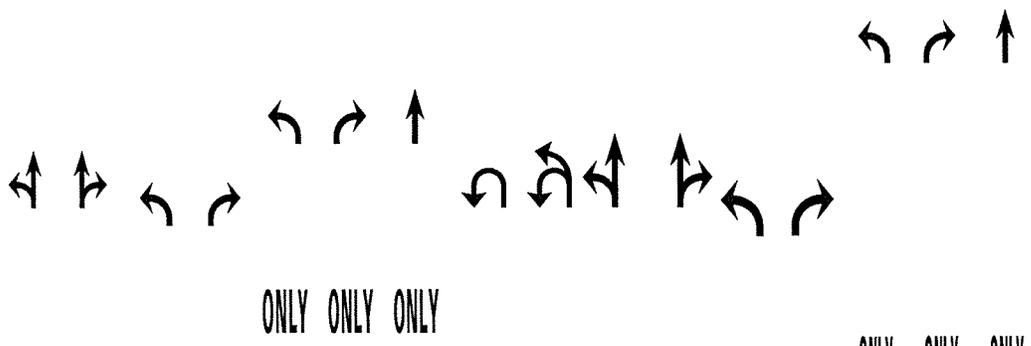
**PAVEMENT MARKINGS**  
(contd.)

- Urban Combination Left
- Urban Combination Right
- Urban Left Turn Arrow
- Urban Right Turn Arrow
- Urban Left Turn Only
- Urban Right Turn Only
- Urban Thru Only
- Urban U-Turn
- Urban Combined U-Turn
- Rural Combination Left
- Rural Combination Right
- Rural Left Turn Arrow
- Rural Right Turn Arrow
- Rural Left Turn Only
- Rural Right Turn Only
- Rural Thru Only

**EX**

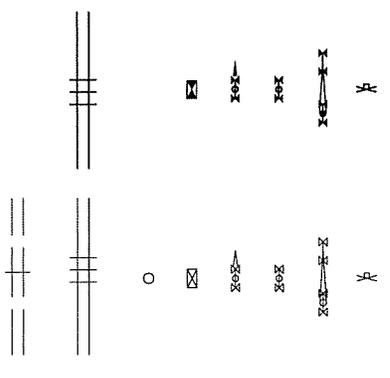


**PR**



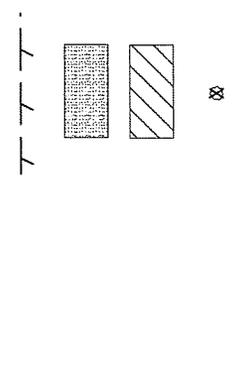
**RAILROAD ITEMS**

- Abandoned Railroad
- Railroad
- Railroad Point
- Control Box
- Crossing Gate
- Flashing Signal
- Railroad Cant. Mast Arm
- Crossbuck



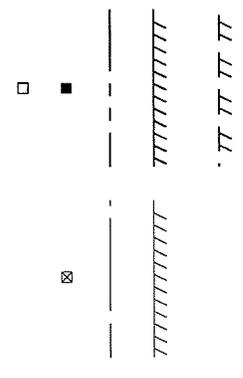
**REMOVAL ITEMS**

- Removal Tic
- Bituminous Removal
- Hatch Pattern
- Tree Removal Single



**RIGHT OF WAY ITEMS**

- Future ROW Corner Monument
- ROW Marker
- ROW Line
- Easement
- Temporary Easement



**STANDARD SYMBOLS,  
ABBREVIATIONS  
AND PATTERNS**  
(Sheet 5 of 8)  
**STANDARD 000001-06**

Illinois Department of Transportation  
 PASSED JANUARY 1, 2011  
 ENGINEER OF POLICY AND PROCEDURES  
 APPROVED JANUARY 1, 2011  
 ENGINEER OF DESIGN AND ENVIRONMENT

<u>RIGHT OF WAY ITEMS</u> (contd.)	<u>EX</u>	<u>PR</u>	<u>ROADWAY PROFILES</u>	<u>EX</u>	<u>PR</u>	<u>SIGNING ITEMS</u> (contd.)	<u>EX</u>	<u>PR</u>
Access Control Line	---	---	P.I. Indicator	▲	▲	Reverse Left W1-4L (Half Size)		
Access Control Line & ROW	---AC---	---AC---	Point Indicator	○	○	Reverse Right W1-4R (Half Size)		
Access Control Line & ROW with Fence	---AC---AC---	---AC---AC---	Earthworks Balance Point			Two Way Traffic Sign W6-3 (Half Size)		
Excess ROW Line	---AC---XS---	---XS---	Begin Point			Detour Ahead W20-2(O) (Half Size)		
<u>ROADWAY PLAN ITEMS</u>			Vert. Curve Data	VPI = ELEV = L E E	VPI = ELEV = L E E	Left Lane Closed Ahead W20-5(L(O) (Half Size)		
Cable Barrier			Ditch Profile Left Side	---	---	Right Lane Closed Ahead W20-5(R(O) (Half Size)		
Concrete Barrier			Ditch Profile Right Side	---	---	Road Closed Ahead W20-3(O) (Half Size)		
Edge of Pavement	---	---	Roadway Profile Line	---	---	Road Construction Ahead W20-1(O) (Half Size)		
Bit Shoulders, Medians and C&G Line	---	---	Storm Sewer Profile Left Side	---	---	Single Lane Ahead (Half Size)		
Aggregate Shoulder	---	---	Storm Sewer Profile Right Side	---	---	Transition Left W4-2L (Half Size)		
Sidewalks, Driveways	---	---	<u>SIGNING ITEMS</u>			Transition Right W4-2R (Half Size)		
Guardrail			Cone, Drum or Barricade	○	○			
Guardrail Post			Barricade Type II					
Traffic Sign			Barricade Type III					
Corrugated Median			Barricade With Edge Line					
Impact Attenuator			Flashing Light Sign					
North Arrow with District Office (Half Size)			Panels I					
Match Line	---	---	Panels II					
Slope Limit Line	---	---	Direction of Traffic					
Typical Cross-Section Line	---	---	Sign Flag (Half Size)					

**STANDARD SYMBOLS,  
ABBREVIATIONS  
AND PATTERNS**  
(Sheet 6 of 8)

**STANDARD 000001-06**

Illinois Department of Transportation

ISSUED 1-1-97

PASSED JANUARY 3, 2011

ENGINEER OF POLICY AND PROCEDURES

APPROVED JANUARY 3, 2011

ENGINEER OF DESIGN AND ENVIRONMENT

**SIGNING ITEMS**  
(cont'd.)

One Way Arrow Lrg. W1-6-(O)  
(Half Size)  
Two Way Arrow Large W1-7-(O)  
(Half Size)

Detour M4-10L-(O)  
(Half Size)  
Detour M4-10R-(O)  
(Half Size)

One Way Left R6-1L  
(Half Size)  
One Way Right R6-1R  
(Half Size)

Left Turn Lane R3-1100L  
(Half Size)  
Keep Left R4-7AL  
(Half Size)  
Keep Left R4-7BL  
(Half Size)  
Keep Right R4-7AR  
(Half Size)  
Keep Right R4-7BR  
(Half Size)

Stop Here On Red R10-6-AL  
(Half Size)  
Stop Here On Red R10-6-AR  
(Half Size)

No Left Turn R3-2  
(Half Size)  
No Right Turn R3-1  
(Half Size)

Road Closed R11-2  
(Half Size)  
Road Closed Thru Traffic R11-2  
(Half Size)

Illinois Department of Transportation  
PASSED January 3, 2011  
ENGINEER OF POLICY AND PROCEDURES  
APPROVED January 3, 2011  
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

**STRUCTURES ITEMS**

Box Culvert Barrel  
Box Culvert Headwall  
Bridge Pier  
Bridge  
Retaining Wall  
Temporary Sheet Piling

**PR**

**EX**

**TRAFFIC SHEET ITEMS**

Cable Number  
Left Turn Green  
Left Turn Yellow  
Signal Backplate  
Signal Section 8" (200 mm)  
Signal Section 12" (300 mm)  
Walk/Don't Walk Letters  
Walk/Don't Walk Symbols

**TRAFFIC SIGNAL ITEMS**

Galv. Steel Conduit  
Underground Cable  
Detector Loop Line  
Detector Loop Large  
Detector Loop Small  
Detector Loop Quadrupole

**PR**

**EX**

**STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS**  
(Sheet 7 of 8)  
STANDARD 000001-06

**TRAFFIC SIGNAL ITEMS (contd.)**

Detector Raceway		<b>EX</b>	<b>PR</b>
Aluminum Mast Arm		<b>EX</b>	<b>PR</b>
Steel Mast Arm		<b>EX</b>	<b>PR</b>
Veh. Detector Magnetic		<b>EX</b>	<b>PR</b>
Conduit Splice		<b>EX</b>	<b>PR</b>
Controller		<b>EX</b>	<b>PR</b>
Gulfbbox Junction		<b>EX</b>	<b>PR</b>
Wood Pole		<b>EX</b>	<b>PR</b>
Temp. Signal Head		<b>EX</b>	<b>PR</b>
Handhole		<b>EX</b>	<b>PR</b>
Double Handhole		<b>EX</b>	<b>PR</b>
Heavy Duty Handhole		<b>EX</b>	<b>PR</b>
Junction Box		<b>EX</b>	<b>PR</b>
Ped. Pushbutton Detector		<b>EX</b>	<b>PR</b>
Ped. Signal Head		<b>EX</b>	<b>PR</b>
Power Pole Service		<b>EX</b>	<b>PR</b>
Priority Veh. Detector		<b>EX</b>	<b>PR</b>
Signal Head		<b>EX</b>	<b>PR</b>
Signal Head w/Backplate		<b>EX</b>	<b>PR</b>
Signal Post		<b>EX</b>	<b>PR</b>
Closed Circuit TV		<b>EX</b>	<b>PR</b>
Video Detector System		<b>EX</b>	<b>PR</b>

**UNDERGROUND UTILITY ITEMS**

Cable TV		<b>EX</b>	<b>PR</b>	<b>ABANDONED</b>
Electric Cable		<b>EX</b>	<b>PR</b>	<b>ABANDONED</b>
Fiber Optic		<b>EX</b>	<b>PR</b>	<b>ABANDONED</b>
Gas Pipe		<b>EX</b>	<b>PR</b>	<b>ABANDONED</b>
Oil Pipe		<b>EX</b>	<b>PR</b>	<b>ABANDONED</b>
Sanitary Sewer		<b>EX</b>	<b>PR</b>	<b>ABANDONED</b>
Telephone Cable		<b>EX</b>	<b>PR</b>	<b>ABANDONED</b>
Water Pipe		<b>EX</b>	<b>PR</b>	<b>ABANDONED</b>

**UTILITIES ITEMS**

Controller		<b>EX</b>	<b>PR</b>
Double Handhole		<b>EX</b>	<b>PR</b>
Fire Hydrant		<b>EX</b>	<b>PR</b>
GuyWire or Deadman Anchor		<b>EX</b>	<b>PR</b>
Handhole		<b>EX</b>	<b>PR</b>
Heavy Duty Handhole		<b>EX</b>	<b>PR</b>
Junction Box		<b>EX</b>	<b>PR</b>
Light Pole		<b>EX</b>	<b>PR</b>
Manhole		<b>EX</b>	<b>PR</b>
Pipeline Warning Sign		<b>EX</b>	<b>PR</b>
Power Pole		<b>EX</b>	<b>PR</b>
Power Pole with Light		<b>EX</b>	<b>PR</b>
Sanitary Sewer Cleanout		<b>EX</b>	<b>PR</b>
Splice Box Above Ground		<b>EX</b>	<b>PR</b>
Telephone Splice Box Above Ground		<b>EX</b>	<b>PR</b>
Telephone Pole		<b>EX</b>	<b>PR</b>

**UTILITY ITEMS (contd.)**

Traffic Signal		<b>EX</b>	<b>PR</b>
Traffic Signal Control Box		<b>EX</b>	<b>PR</b>
Water Meter		<b>EX</b>	<b>PR</b>
Water Meter Valve Box		<b>EX</b>	<b>PR</b>
Profile Line		<b>EX</b>	<b>PR</b>
Aerial Power Line		<b>EX</b>	<b>PR</b>

**VEGETATION ITEMS**

Deciduous Tree		<b>EX</b>	<b>PR</b>
Bush or Shrub		<b>EX</b>	<b>PR</b>
Evergreen Tree		<b>EX</b>	<b>PR</b>
Stump		<b>EX</b>	<b>PR</b>
Orchard/Nursery Line		<b>EX</b>	<b>PR</b>
Vegetation Line		<b>EX</b>	<b>PR</b>
Woods & Bush Line		<b>EX</b>	<b>PR</b>

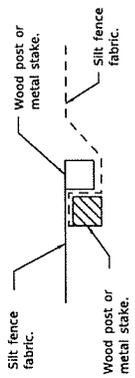
**WATER FEATURE ITEMS**

Stream or Drainage Ditch		<b>EX</b>	<b>PR</b>
Waters Edge		<b>EX</b>	<b>PR</b>
Water Surface Indicator		<b>EX</b>	<b>PR</b>
Water Point		<b>EX</b>	<b>PR</b>
Disappearing Ditch		<b>EX</b>	<b>PR</b>
Marsh		<b>EX</b>	<b>PR</b>
Marsh/Swamp Boundary		<b>EX</b>	<b>PR</b>

**STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS**  
(Sheet 8 of 8)

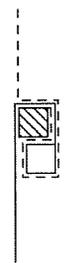
STANDARD 000001-06

Illinois Department of Transportation ENGINEER OF POLICY AND PROCEDURES	PASSED JANUARY 1, 2011 	ISSUED 1-1-97
	APPROVED JANUARY 1, 2011 	ENGINEER OF DESIGN AND ENVIRONMENT



Place end-post (stake) or first silt fence adjacent to end-post (stake) or second silt fence with fabric positioned as shown.

**STEP 1**

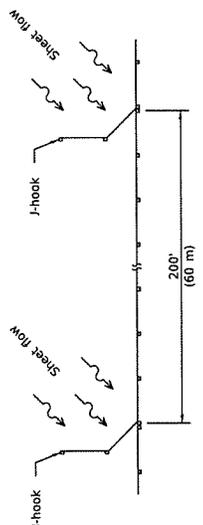


Rotate posts (stakes) together 180° clockwise and drive both posts (stakes) 18 (450) into ground.

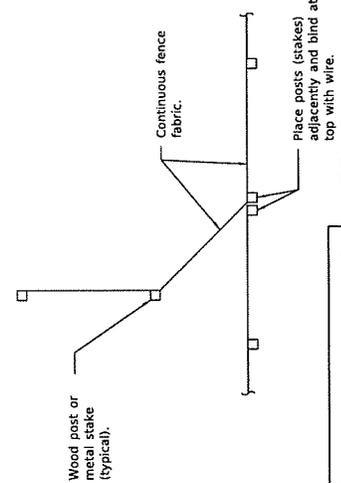
**STEP 2**

**ATTACHING TWO SILT FILTER FENCES**

(Not applicable for J-hooks)

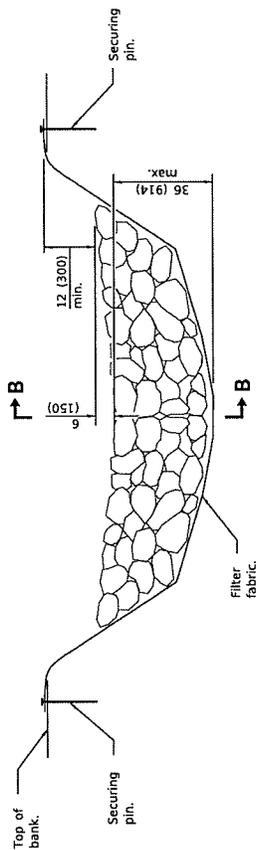


**SILT FILTER J-HOOK PLACEMENT**



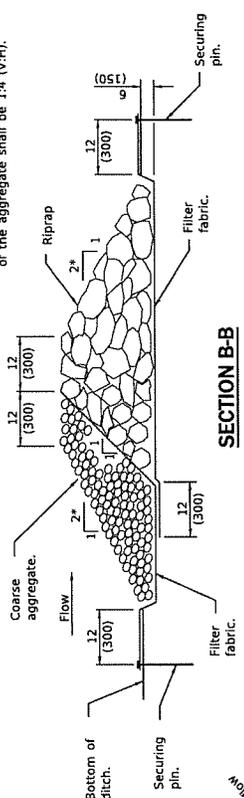
**J-HOOK**

	ISSUED 1-1-97
	PASSED JANUARY 1, 2013 <i>Michael Brand</i> ENGINEER OF POLICY AND PROCEDURES
APPROVED JANUARY 1, 2013 <i>[Signature]</i> ENGINEER OF DESIGN AND ENVIRONMENT	APPROVED JANUARY 1, 2013 <i>[Signature]</i> ENGINEER OF DESIGN AND ENVIRONMENT



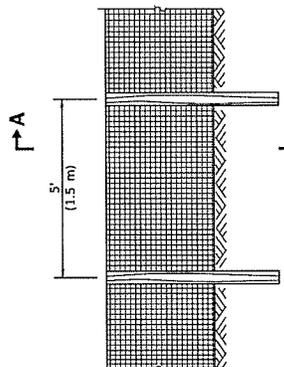
**ELEVATION**

\* When the ditch check is within the clear zone and the road is open to traffic, the traffic approach slope of the aggregate shall be 1:4 (V:H).



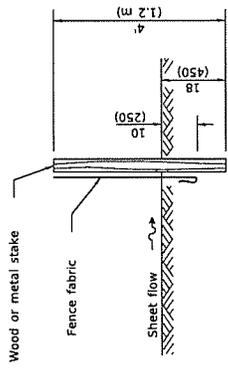
**SECTION B-B**

**AGGREGATE DITCH CHECK**

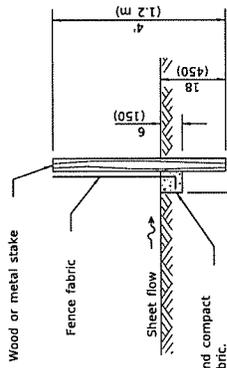


**ELEVATION**

**SILT FILTER FENCE AS A PERIMETER EROSION BARRIER**



**SLICE METHOD**



**TRENCH METHOD**

**SECTION A-A**

Excavate, backfill and compact trench to secure fabric.

**GENERAL NOTES**

The installation details and dimensions shown for perimeter erosion barriers shall also apply for inlet and pipe protection.

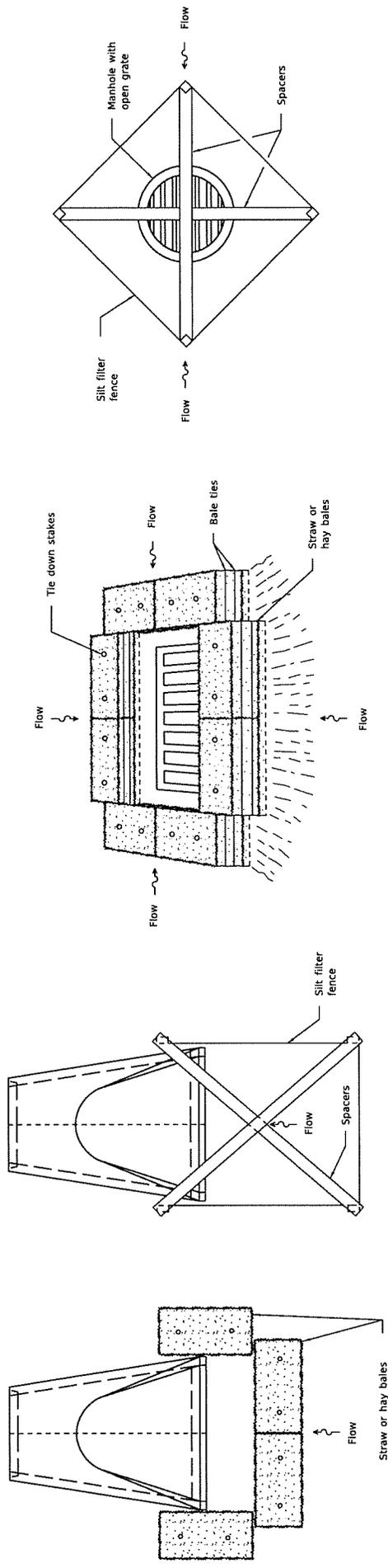
All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-13	Corrected notation for flowline (E) on SEDIMENT BASIN ELEVATION.
1-1-12	Omitted hay/straw perimeter barrier. Added SLICE METHOD to SECTION A-A.

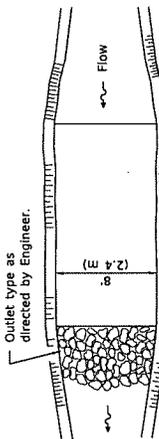
**TEMPORARY EROSION CONTROL SYSTEMS**

(Sheet 1 of 2)

**STANDARD 280001-07**

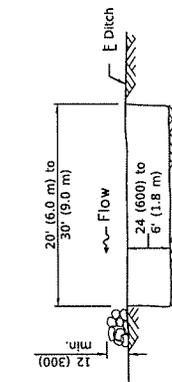


**INLET AND PIPE PROTECTION**



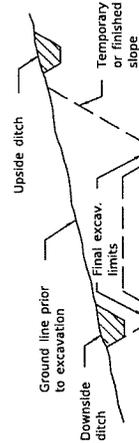
The long dimension should be parallel with the direction of the flow. Accumulated silt shall be removed anytime the basins become 75% filled.

**PLAN**

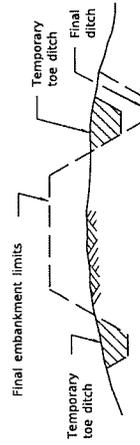


The performance of the basin will improve if put into a series.

**ELEVATION**



**TYPICAL CUT CROSS-SECTION**



**TYPICAL FILL CROSS-SECTION**

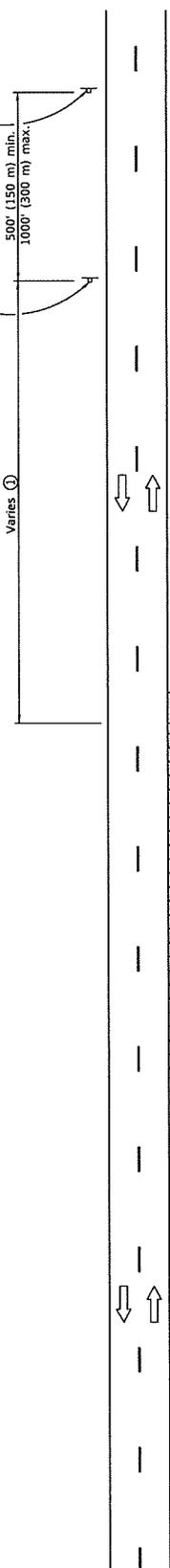
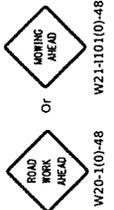
**SEDIMENT BASIN**

**TEMPORARY DITCHES FOR CUT & FILL SECTIONS**

	PASSED JANUARY 1, 2013	ISSUED 1-1-97
	APPROVED JANUARY 1, 2013	ILLINOIS Department of Transportation
	ENGINEER OF POLICY AND PROCEDURES	2013
	ENGINEER OF DESIGN AND ENVIRONMENT	

**TEMPORARY EROSION CONTROL SYSTEMS**  
(Sheet 2 of 2)

STANDARD 280001-07



**TYPICAL APPLICATIONS**

Shoulder work  
Utility operations

For contract construction projects

For maintenance and utility projects

**GENERAL NOTES**

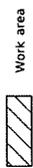
This Standard is used where at any time, any vehicle, equipment, workers or their activities require an intermittent or continuous moving operation on the shoulder, where the average speed is 1 mph (2 km/h) or less.

When the work operation does not exceed 60 minutes, traffic control may be according to Standard 701301.

All dimensions are in inches (millimeters) unless otherwise shown.

① Minimum distance is 200' (60 m). Maximum distance to be determined by the Engineer but should not exceed 1/2 the length required for one normal working day's operation, or 4 miles (6.4 km) whichever is less.

**SYMBOLS**



Work area



Sign

● Flagger with traffic control sign when required

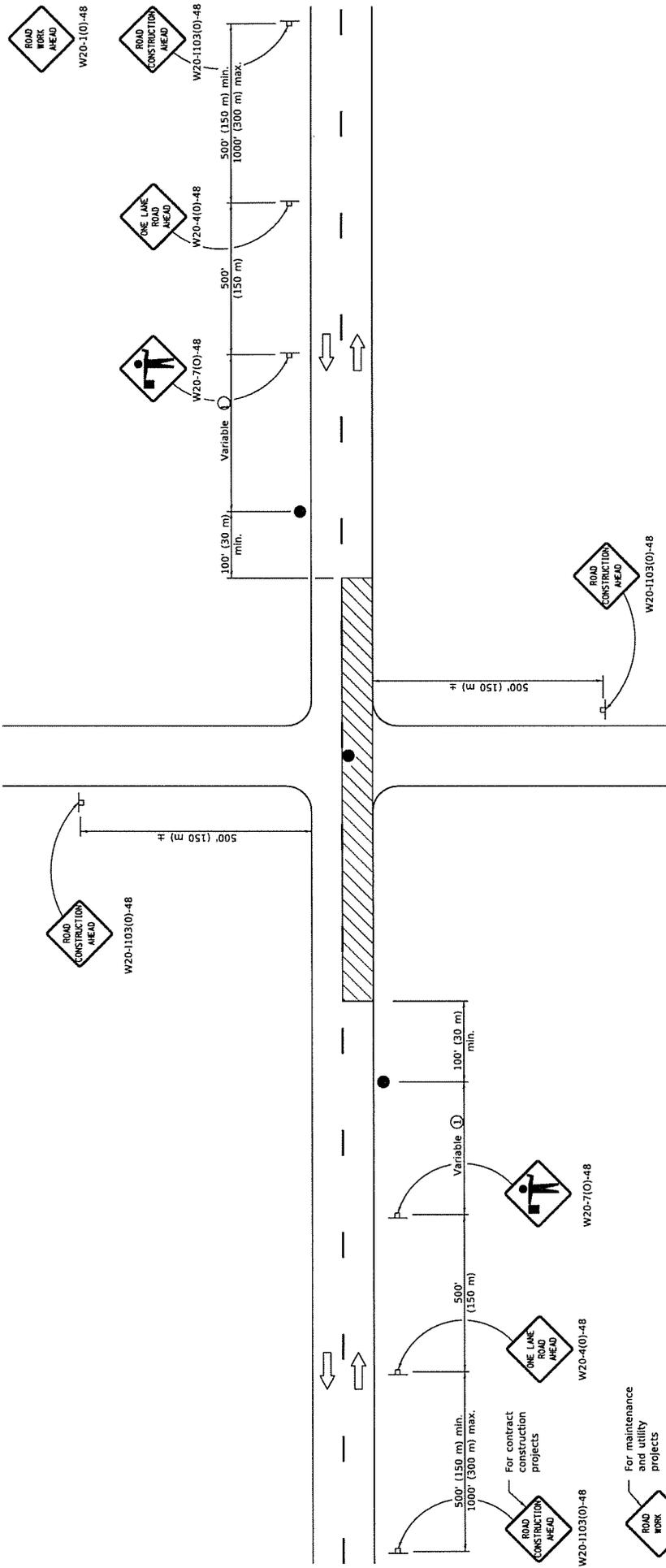
**OFF-RD MOVING OPERATIONS,  
2L, 2W, DAY ONLY**

STANDARD 701011-04

DATE	REVISIONS
1-1-14	Revised workers sign number to agree with current MUTCD.
1-1-13	Omitted text 'WORKERS' sign.

Illinois Department of Transportation  
 PASSED JANUARY 2014  
 APPROVED ENGINEER OF SAFETY ENGINEERING  
 APPROVED ENGINEER I. 2014  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



**GENERAL NOTES**

This Standard is used where at any time, any vehicle, equipment, workers or their activities require an intermittent or continuous moving operation on the pavement where the average speed of movement is greater than 1/2 mph (1 km/h) and less than 4 mph (6 km/h).  
 When the operation does not exceed 60 minutes, traffic control may be according to Standard 701301.  
 All dimensions are in inches (millimeters) unless otherwise shown.

① Minimum distance is 200' (60 m). Maximum distance to be determined by the Engineer but should not exceed 1/2 the length required for one normal working day's operation or 2 miles (3200 m), whichever is less.

**SYMBOLS**

- Work area
- Sign on portable or permanent support
- Flagger with traffic control sign

**TYPICAL APPLICATIONS**

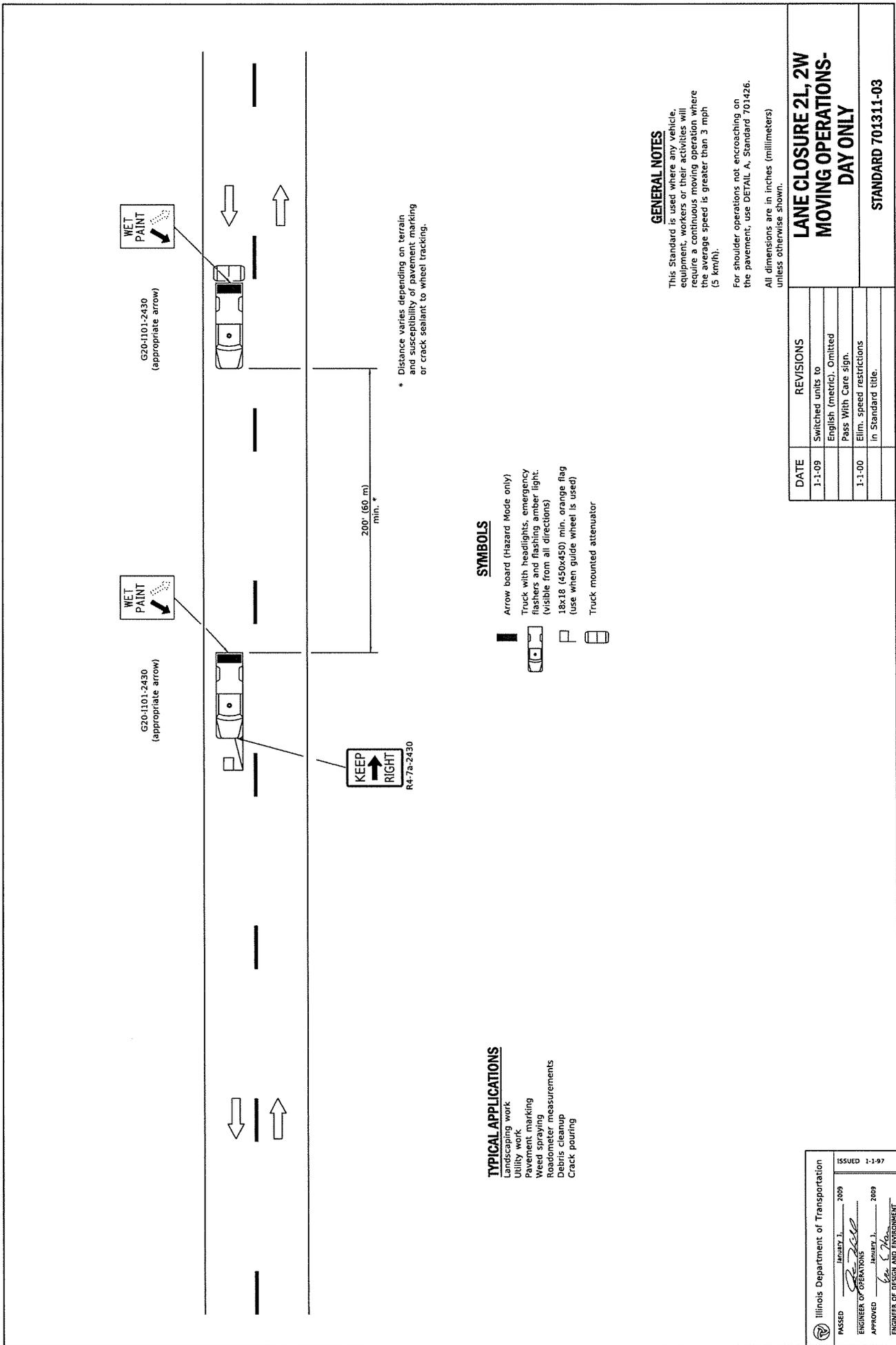
- Bituminous resurfacing
- Milling operations
- Utility operations
- Shoulder operations

DATE	REVISIONS
1-1-18	Revised lower speed limit for operation to 1/2 mph.
1-1-11	Revised flagger sign.

**LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS ≥ 45 MPH**

STANDARD 701306-04

Illinois Department of Transportation  
 PASSED JANUARY 1, 2018  
 ENGINEER OF SAFETY PROG. AND ENGINEERING  
 APPROVED JANUARY 1, 2018  
 ENGINEER OF DESIGN AND ENVIRONMENT



DATE	REVISIONS
1-1-09	Switched units to English (metric). Omitted Pass With Care sign. Elim. speed restrictions in Standard title.
1-1-00	

**LANE CLOSURE 2L, 2W MOVING OPERATIONS-DAY ONLY**

**STANDARD 701311-03**

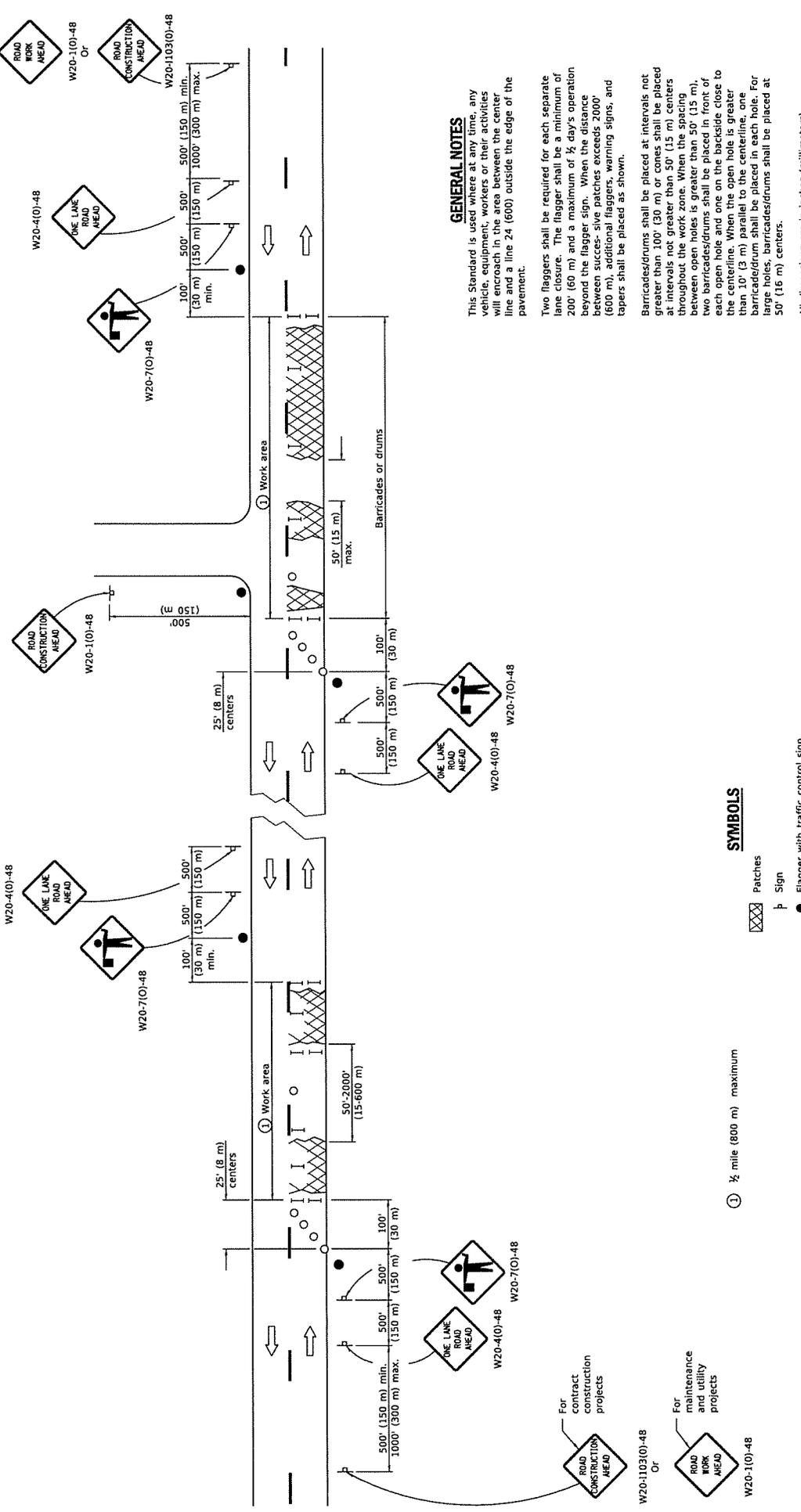
Illinois Department of Transportation

PASSED JANUARY 3, 2009

ENGINEER OF OPERATIONS

APPROVED JANUARY 3, 2009

ENGINEER OF DESIGN AND ENVIRONMENT



**GENERAL NOTES**

This Standard is used where at any time, any vehicle, equipment, workers or their activities will encroach in the area between the center line and a line 24' (600) outside the edge of the pavement.

Two flaggers shall be required for each separate lane closure. The flagger shall be a minimum of 200' (60 m) and a maximum of 1/4 mile (100 m) beyond the flagger sign. When the distance between successive patches exceeds 2000' (600 m), additional flaggers, warning signs, and tapers shall be placed as shown.

Barricades/drums shall be placed at intervals not greater than 100' (30 m). Cones shall be placed at intervals not greater than 50' (15 m) centers throughout the work zone. When the spacing between open holes is greater than 50' (15 m), two barricades/drums shall be placed in front of each open hole and one on the backside close to the centerline. When the open hole is greater than 10' (3 m) parallel to the centerline, one barricade/drum shall be placed in each hole. For large holes, barricades/drums shall be placed at 50' (15 m) centers.

All dimensions are in inches (millimeters) unless otherwise shown.

**SYMBOLS**

- ▨ Patches
- ⊥ Sign
- Flagger with traffic control sign
- I Barricade or drum
- Cone, barricade or drum

**TYPICAL APPLICATIONS**

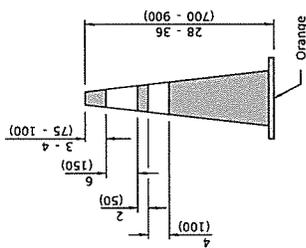
Patching

DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to English (metric).
	Corrected sign No.'s.

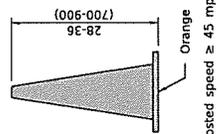
**LANE CLOSURE, 2L, 2W,  
WORK AREAS IN SERIES,  
FOR SPEEDS ≥ 45 MPH**

**STANDARD 701338-06**

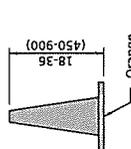
Illinois Department of Transportation  
 PASSED January 1, 2011  
 ENGINEER OF SAFETY ENGINEERING  
 APPROVED January 1, 2011  
 ENGINEER OF DESIGN AND ENVIRONMENT



**REFLECTORIZED CONE FOR NIGHTTIME**

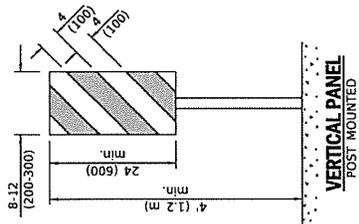


Posted speed  $\geq$  45 mph

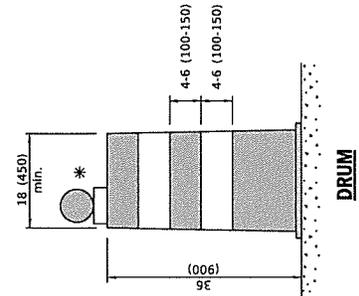


Posted speed < 45 mph

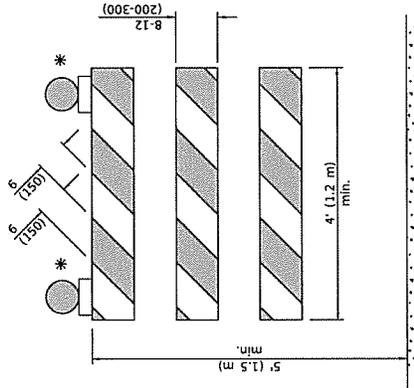
**CONE FOR DAYTIME**



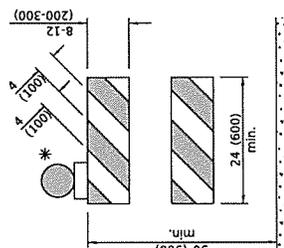
**VERTICAL PANEL POST MOUNTED**



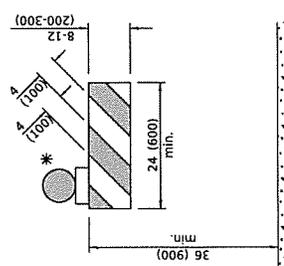
**DRUM**



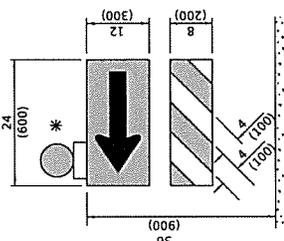
**TYPE III BARRICADE**



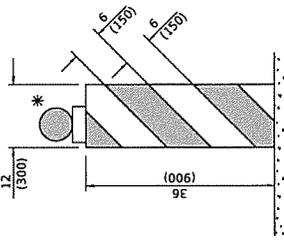
**TYPE II BARRICADE**



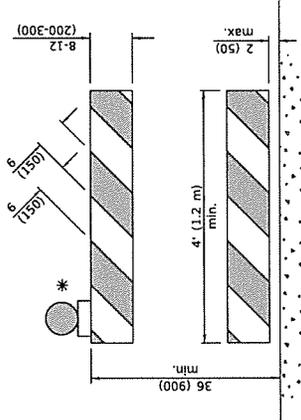
**TYPE I BARRICADE**



**DIRECTION INDICATOR BARRICADE**



**VERTICAL BARRICADE**



**DETECTABLE PEDESTRIAN CHANNELIZING BARRICADE**

\* Warning lights (if required)

**GENERAL NOTES**  
 All heights shown shall be measured above the pavement surface.  
 All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-18	Revised END WORK ZONE SPEED LIMIT sign from orange to white background.
1-1-17	Changed FLEXIBLE DELINEATOR to TUBULAR MARKER.

**TRAFFIC CONTROL DEVICES**

STANDARD 701901-07 (Sheet 1 of 3)

Illinois Department of Transportation  
 PASSED JANUARY 3, 2018  
 ENGINEER OF OPERATIONS  
 APPROVED [Signature] JANUARY 3, 2018  
 ENGINEER OF DESIGN AND ENVIRONMENT

ROAD CONSTRUCTION NEXT X MILES  
G20-1104(0)-6036

END CONSTRUCTION  
G20-1105(0)-6024

This signing is required for all projects 2 miles (3200 m) or more in length.  
ROAD CONSTRUCTION NEXT X MILES sign shall be placed 500' (150 m) in advance of project limits.  
END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 2 miles (3200 m).  
Dual sign displays shall be utilized on multi-lane highways.

**WORK LIMIT SIGNING**

WORK ZONE	W21-1115(0)-3618
SPEED LIMIT	R2-1-3648
<b>XX</b>	R10-1108p-3618 ****
PHOTO ENFORCED	R2-1106p-3618
\$XXX FINE MINIMUM	

Sign assembly as shown on Standards or as allowed by District Operations.

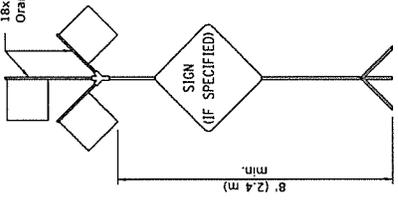
END WORK ZONE SPEED LIMIT	G20-1103-6036
---------------------------	---------------

This sign shall be used when the above sign assembly is used.

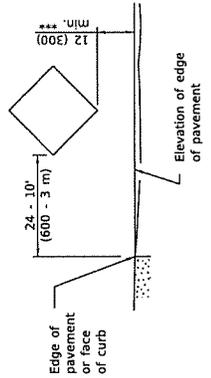
**HIGHWAY CONSTRUCTION SPEED ZONE SIGNS**

\*\*\*\* R10-1108p shall only be used along roadways under the jurisdiction of the State.

18x18 (450x450)  
Orange flags

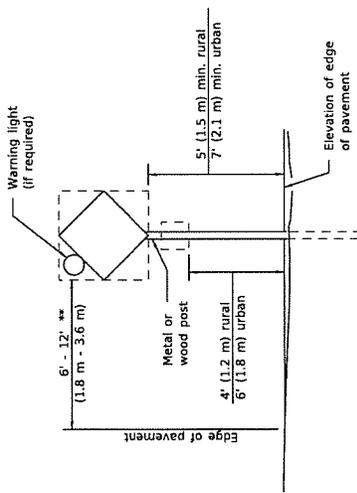


**HIGH LEVEL WARNING DEVICE**



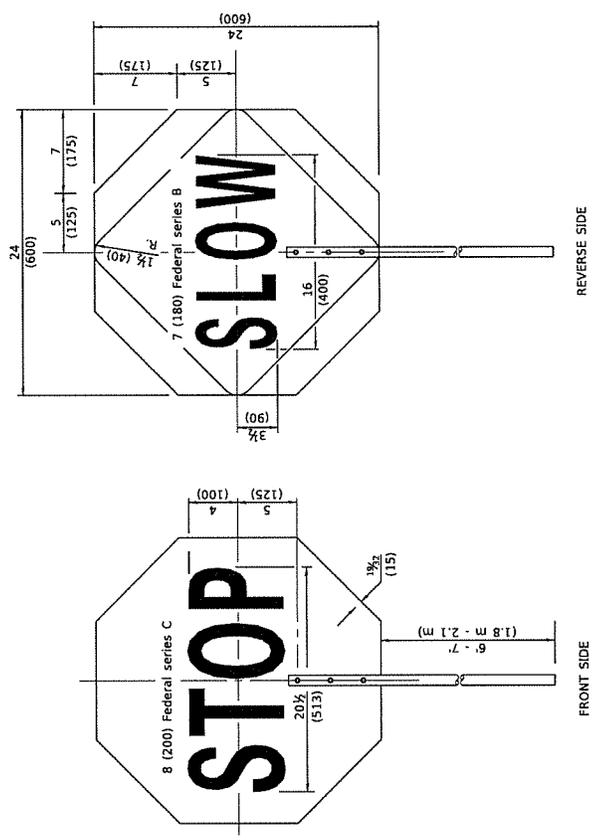
**SIGNS ON TEMPORARY SUPPORTS**

\*\*\* When work operations exceed four days, this dimension shall be 5' (1.5 m) min. If located behind other devices, the height shall be sufficient to be seen completely above the devices.



**POST MOUNTED SIGNS**

\*\* When curb or paved shoulder are present this dimension shall be 24 (600) to the face of curb or 6' (1.8 m) to the outside edge of the paved shoulder.



REVERSE SIDE

FRONT SIDE

MAX WIDTH	XX'	XX"
XX MILES AHEAD		

W12-1103-4848

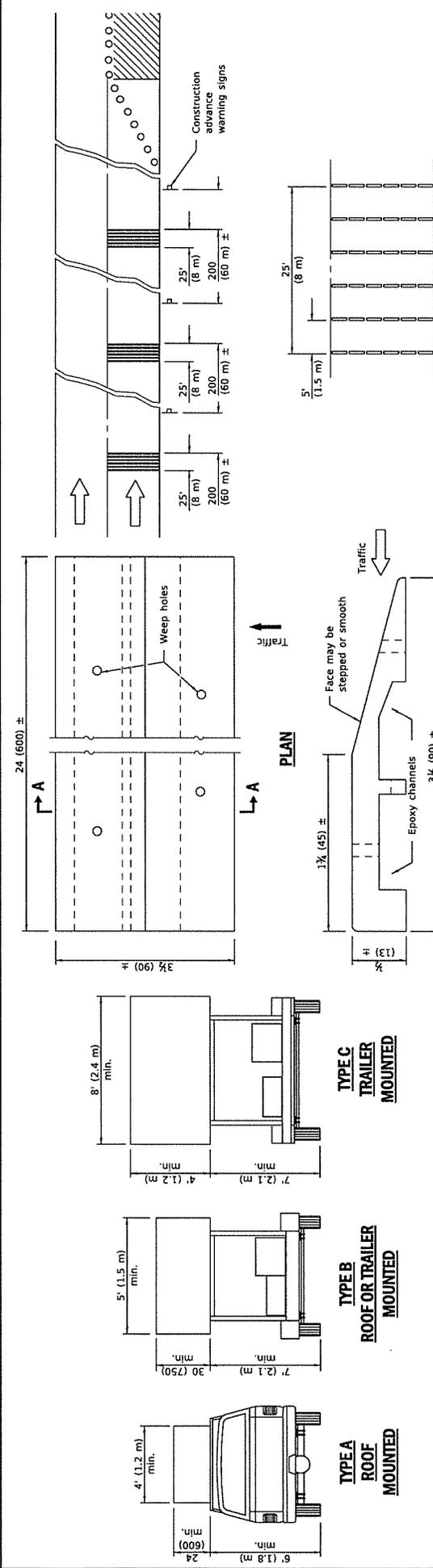
**WIDTH RESTRICTION SIGN**  
XX'-XX" width and X miles are variable.

**FLAGGER TRAFFIC CONTROL SIGN**

TRAFFIC CONTROL DEVICES

STANDARD 701901-07  
(Sheet 2 of 3)

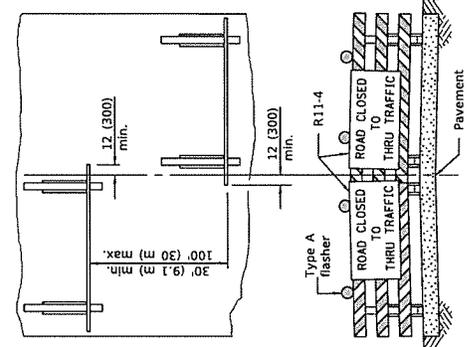
Illinois Department of Transportation	ISSUED 1-1-97
PASSED	JANUARY 1, 2018
APPROVED	JANUARY 1, 2018
ENGINEER OF OPERATIONS	ENGINEER OF DESIGN AND ENVIRONMENT



**TYPICAL INSTALLATION**

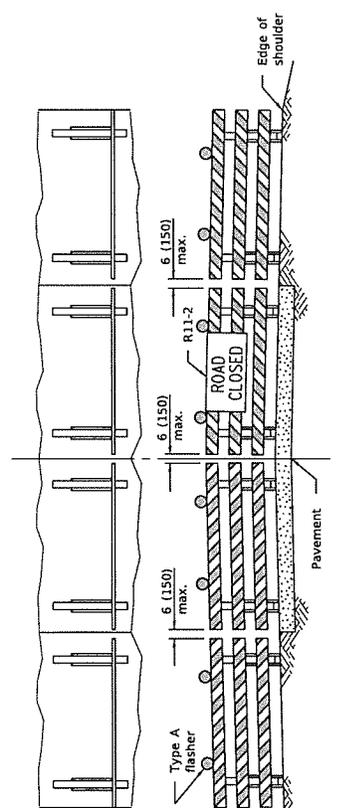
**SECTION A-A**

**TEMPORARY RUMBLE STRIPS**



**ROAD CLOSED TO THRU TRAFFIC**

Reflectorized striping shall appear on both sides of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the signs may be mounted on NCHRP 350 temporary sign supports directly in front of the barricade.



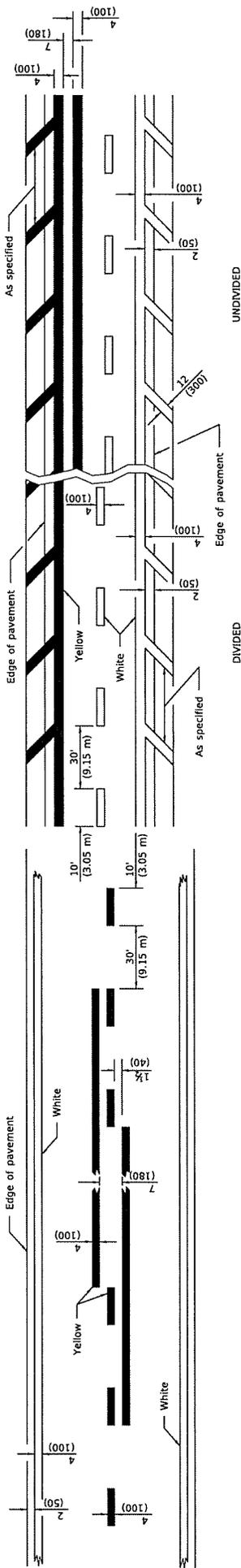
**ROAD CLOSED TO ALL TRAFFIC**

Reflectorized striping may be omitted on the back side of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the sign may be mounted on an NCHRP 350 temporary sign support directly in front of the barricade.

**TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD**

**TRAFFIC CONTROL DEVICES**  
 (Sheet 3 of 3)  
**STANDARD 701901-07**

Illinois Department of Transportation PASSED APPROVED ENGINEER OF OPERATIONS ENGINEER OF DESIGN AND ENVIRONMENT	JANUARY 3, 2018 [Signature]	ISSUED 1-1-97
	JANUARY 3, 2018 [Signature]	2018



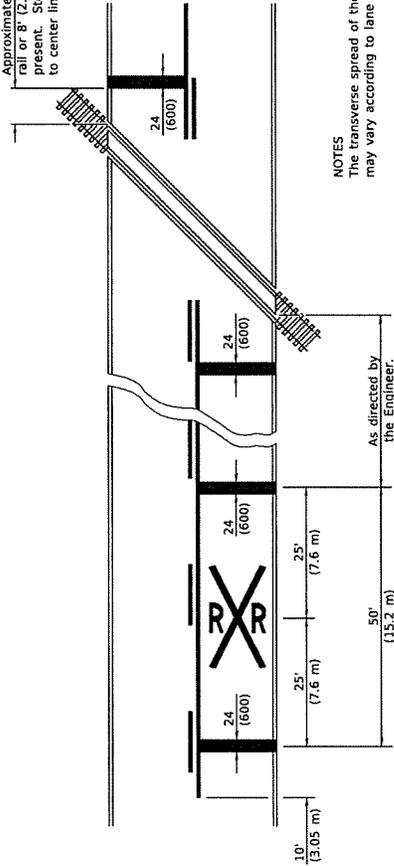
**2 LANE**

**DIVIDED**

**UNDIVIDED**

**LANE AND EDGE LINES**

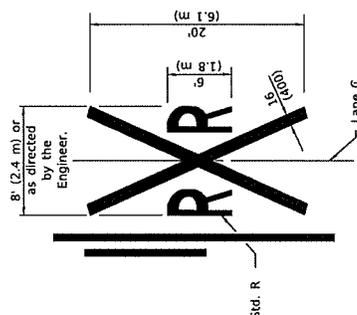
Approximately 15' (4.5 m) from nearest rail or 8' (2.4 m) back from gate, if present. Stop line placed perpendicular to center line.



NOTES  
The transverse spread of the "X" may vary according to lane width.

On multi-lane roads, the stop lines shall extend across all approach lanes and separate RRR symbols shall be placed adjacent to each other in each lane.

When the pavement marking symbol is used, a portion of the symbol shall be placed directly adjacent to the Advance Warning Sign (W10-1) as placed by Table 2C-4, Condition B of the MUTCD.



All dimensions are in inches (millimeters) unless otherwise shown.

**PAVEMENT MARKINGS AT RAILROAD-HIGHWAY GRADE CROSSING**

DATE	REVISIONS
1-1-15	Added symbols. Revised bike symbol. Revised note for stop line at RR crossing.
1-1-14	Added bike symbol. Renamed 'LANE DROP ARROW' detail to 'LANE-REDUCTION ARROW'.

**TYPICAL PAVEMENT MARKINGS**

(Sheet 1 of 3)

**STANDARD 780001-05**

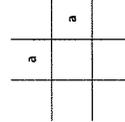
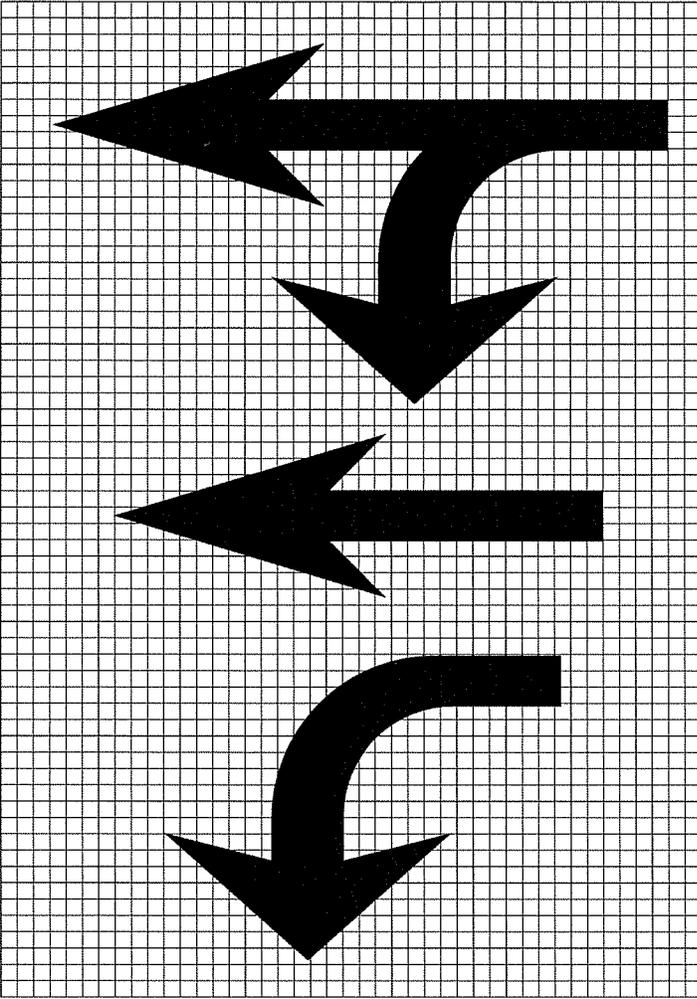
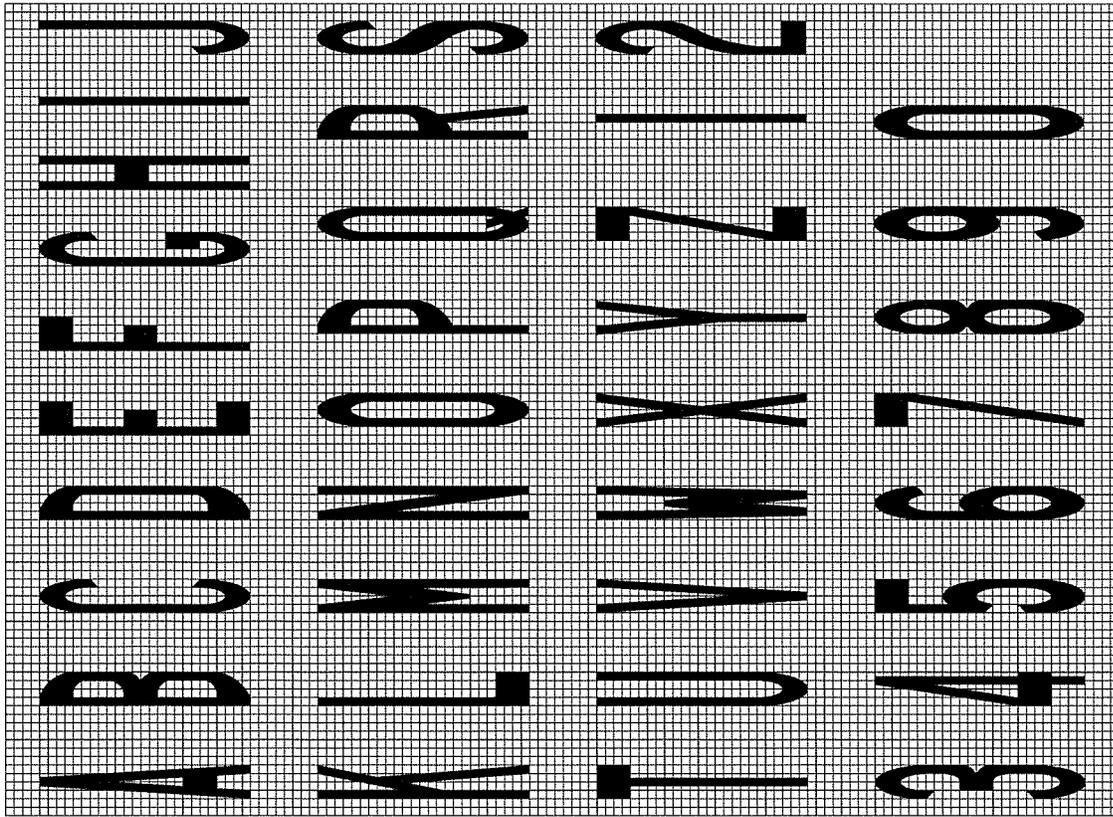
Illinois Department of Transportation

PASSED JANUARY 1, 2015

APPROVED JANUARY 1, 2015

ENGINEER OF OPERATIONS

ENGINEER OF DESIGN AND ENVIRONMENT



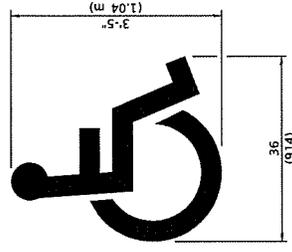
Legend Height	Arrow Size	a
6' (1.8 m)	Small	2.9 (74)
8' (2.4 m)	Large	3.8 (96)

The space between adjacent letters or numerals should be approximately 3 (75) for 6' (1.8 m) legend and 4 (100) for 8' (2.4 m) legend.

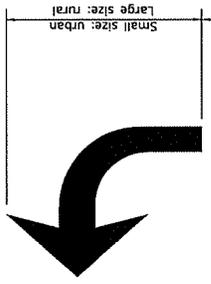
**LETTER AND ARROW GRID SCALE**


 Illinois Department of Transportation  
 PASSED January 1, 2015  
 ENGINEER OF OPERATIONS  
 APPROVED January 1, 2015  
 ENGINEER OF DESIGN AND ENVIRONMENT

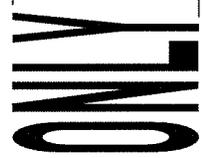
**TYPICAL PAVEMENT MARKINGS**  
 STANDARD 780001-05  
 (Sheet 2 of 3)



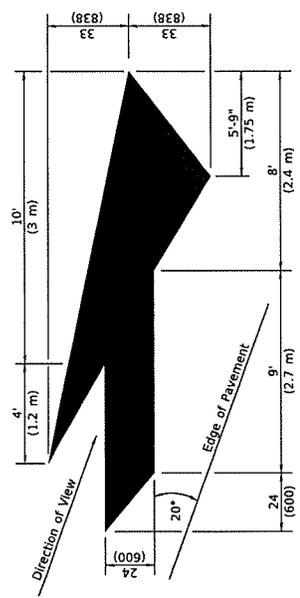
**INTERNATIONAL SYMBOL OF ACCESSIBILITY**



20' (6 m): urban  
50' (15 m): rural  
(Between arrow and word or between words)

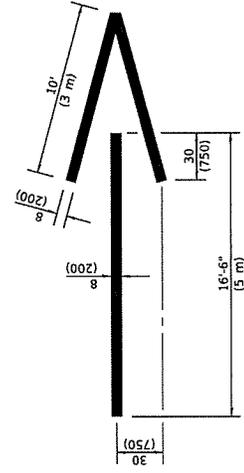


**WORD AND ARROW LAYOUT**

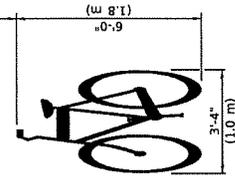
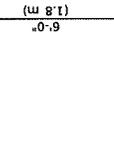
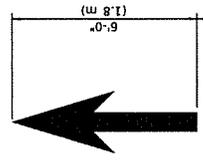


**LANE-REDUCTION ARROW**

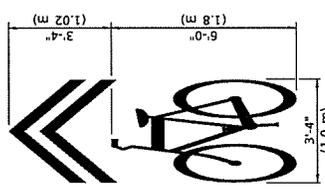
Right lane-reduction arrow shown. Use mirror image for left lane.



**WRONG WAY ARROW**



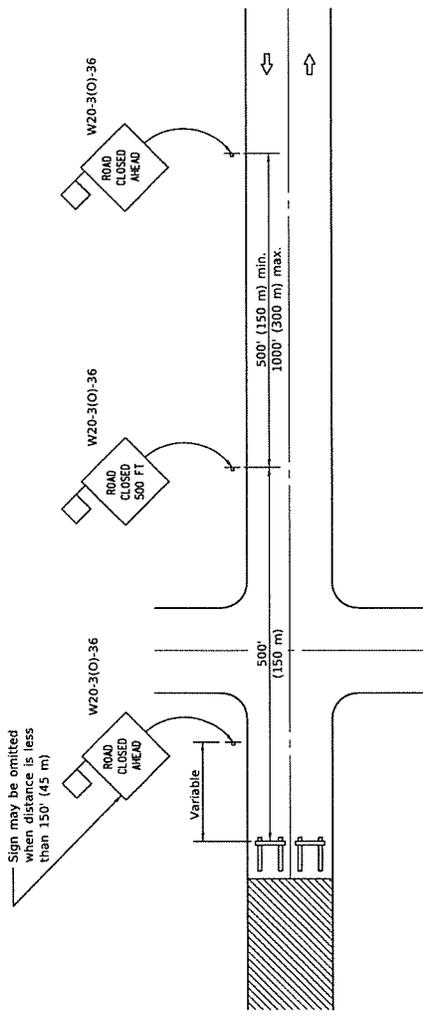
**BIKE SYMBOL**  
(Arrow is optional.)



**SHARED LANE SYMBOL**

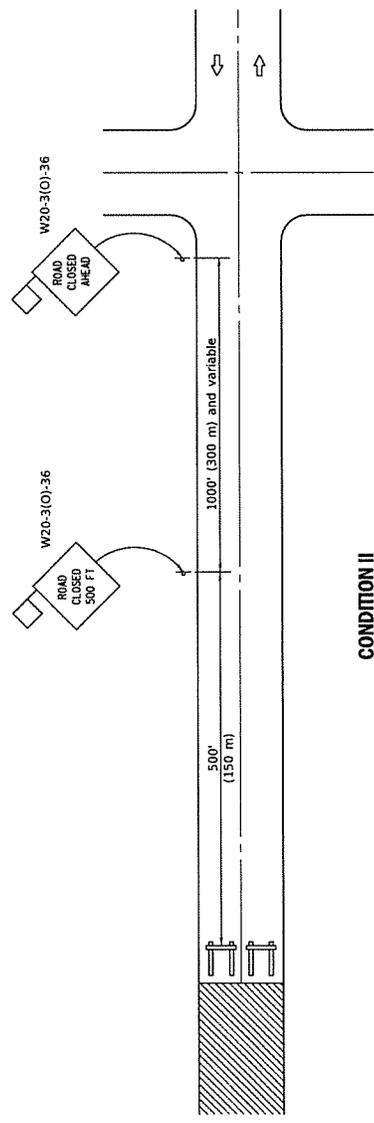
<b>TYPICAL PAVEMENT MARKINGS</b>	(Sheet 3 of 3)
<b>STANDARD 780001-05</b>	

	ISSUED 1-1-97
	PASSED
	ENGINEER OF OPERATIONS
	APPROVED
January 1, 2015 January 1, 2015 January 1, 2015	ENGINEER OF DESIGN AND ENVIRONMENT



**CONDITION I**

When distance from closure to crossroad is less than 1500' (450 m)



**CONDITION II**

When distance from closure to crossroad is greater than 1500' (450 m)

**SYMBOLS**

- Work area
- Type III Barricade
- Sign with 18x18 (450x450) min. orange flag attached

**GENERAL NOTES**

Type III Barricades and R11-2-4830 signs shall be positioned as shown in "Road Closed To All Traffic" detail on Highway Standard 701901.

Two Type A Low Intensity Flashing Lights shall be used on each approach in advance of the work area during hours of darkness. One light shall be installed above the barricades and the other above the first advance warning sign.

All warning signs shall have minimum dimensions of 36 x 36 (900 x 900) and have a black legend on an orange reflectorized background.

When fluorescent signs are used, orange flags are not required.

Longitudinal dimensions may be adjusted to fit field conditions.

When the distance between the barricade and the intersection is between 1500' (450 m) and 2000' (600 m), the advance sign shall be placed at the intersection. When the distance between the barricade and the intersection is over 2000' (600 m), an additional sign shall be placed at the intersection. The additional sign shall give the distance to the barricade in miles or fractions of a mile.

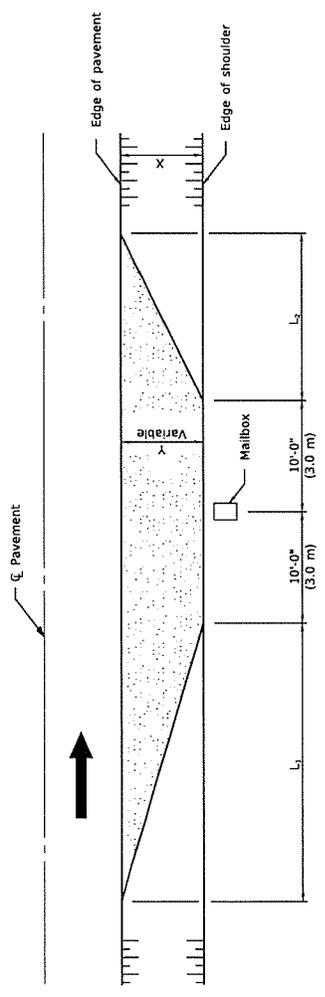
All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-12	Omitted two notes from GENERAL NOTES.
1-1-09	Switched units to English (metric).

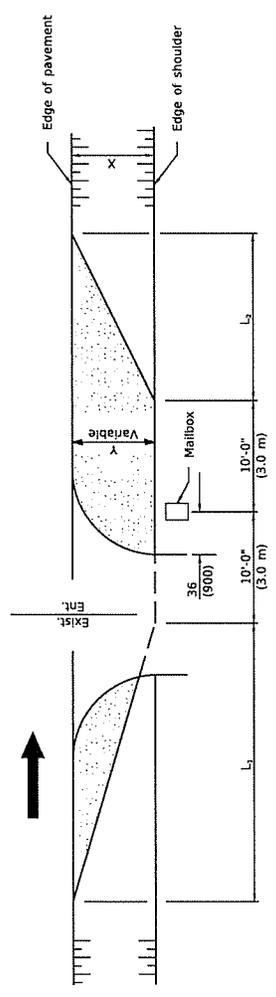
**TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS**

STANDARD B.L.R. 21-9

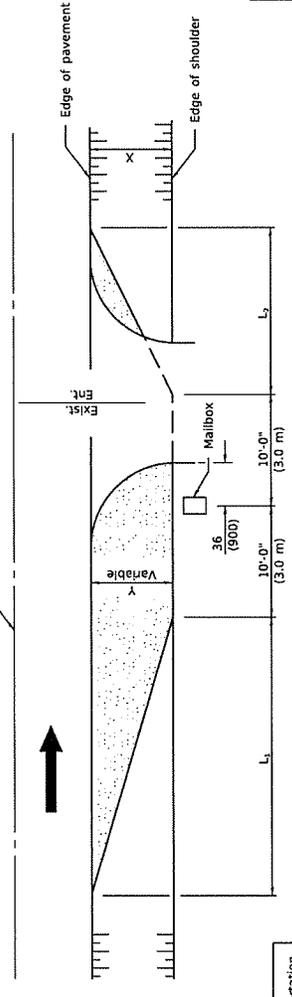
Illinois Department of Transportation  
 PASSED JANUARY 1, 2012  
 ENGINEER OF LOCAL ROADS AND STREETS  
 APPROVED JANUARY 1, 2012  
 ISSUED 1-1-97  
 ENGINEER OF DESIGN AND ENVIRONMENT



**TYPICAL APPLICATION**



**MAILBOX ON FAR SIDE OF ENTRANCE**



**MAILBOX ON NEAR SIDE OF ENTRANCE**

DIMENSIONS - ft. (m)

Width of Shoulder (X)	12 (3.6)	10 (3.0)	8 (2.4)	6 (1.8)	5 (1.5)	4 (1.2)
Width of Turnout (Y)	8 (2.4)	6 (1.8)	4 (1.2)	3 (0.9)	2 (0.6)	1 (0.3)
L <sub>1</sub>	30 (9.0)	20 (6.0)	15 (4.5)	10 (3.0)	10 (3.0)	10 (3.0)
L <sub>2</sub>	20 (6.0)	15 (4.5)	10 (3.0)	10 (3.0)	10 (3.0)	10 (3.0)

Note:  
Dimensions for Township and District Roads may vary from the above dimensions.

**GENERAL NOTES**

Mailboxes shall be mounted such that the face of the mailbox is 6 (150) to 12 (300) and the post a minimum of 24 (600) from the edge of the turnout surfacing.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-99	Add width of shoulder X.

**MAILBOX TURNOUT FOR LOCAL ROADS**

STANDARD B.L.R. 24-2

Illinois Department of Transportation  
 PASSED JANUARY 1, 2009  
 ENGINEER OF LOCAL ROADS AND STREETS  
 APPROVED [Signature] 2009  
 ENGINEER OF DESIGN AND ENVIRONMENT  
 [Signature]  
 ISSUED 1-1-97

## REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

### ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

#### I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor

performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

#### II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection

for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

**2. EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

**3. Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

## **6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

**8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

#### **10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#).

The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

### **III. NONSEGREGATED FACILITIES**

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

### **IV. DAVIS-BACON AND RELATED ACT PROVISIONS**

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

#### **1. Minimum wages**

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each

classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a

separate account assets for the meeting of obligations under the plan or program.

## 2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

## 3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee ( e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### 4. Apprentices and trainees

##### a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice

performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

##### b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

##### d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

#### **10. Certification of eligibility.**

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

#### **V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one

and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

**3. Withholding for unpaid wages and liquidated damages.** The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

**4. Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

#### **VI. SUBLETTING OR ASSIGNING THE CONTRACT**

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

## VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

## IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

## X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

### 1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

\* \* \* \* \*

## **2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

## **2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of

Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

\* \* \* \* \*

#### **Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\* \* \* \* \*

#### **XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of

Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

## Contract Provision - Cargo Preference Requirements

In accordance with Title 46 CFR § 381.7 (b), the contractor agrees—

“(1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.”

Provisions (1) and (2) apply to materials or equipment that are acquired solely for the project. The two provisions do not apply to goods or materials that come into inventories independent of the project, such as shipments of Portland cement, asphalt cement, or aggregates, when industry suppliers and contractors use these materials to replenish existing inventories.

