

**INDIANA  
DEPARTMENT OF TRANSPORTATION**

**CONTRACT INFORMATION**

**CONSTRUCTION PLANS  
SPECIAL PROVISIONS  
ADDITIONAL CONTRACT REQUIREMENTS**

**FOR**

**CONTRACT NO.** \_\_\_\_\_

**LETTING DATE:** \_\_\_\_\_

Certified By \_\_\_\_\_

Date \_\_\_\_\_

CONTRACT INFORMATION  
TABLE OF CONTENTS

CONTRACT NO.

This book shall be examined to determine that each page set out in the Contract Information Table of Contents, and the Special Provisions Table of Contents is attached, legible, and current.

PAGES

CONTRACT INFORMATION  
SCHEDULE OF PAY ITEMS  
CONSTRUCTION PLANS  
TRAFFIC CONTROL DEVICE REPORT  
SPECIAL PROVISIONS

PROPOSAL

TO THE  
INDIANA DEPARTMENT OF TRANSPORTATION

-----  
DATE OF LETTING: January 19, 2005

TIME OF LETTING: 10:00 AM                      EASTERN STANDARD

LOCATION OF LETTING: Auditorium, Government Center South  
402 W. Washington Street  
INDIANAPOLIS, INDIANA 46204

LOCATION OF DEPOSIT: N855 Government Center North  
100 N. Senate Avenue  
INDIANAPOLIS, INDIANA 46204  
-----

CONTRACT NUMBER: M -27762-A                      PROJECT NUMBER: 10000AN

STRUCTURE NUMBER:

ROUTE: 52

LOCATION: ON US 52 FROM SR 26 TO SR 28

DESCRIPTION: MEDIAN ISLAND RECONSTRUCTION

CRAWFORDSVILLE DISTRICT

COUNTY : TIPPECANOE

CONTRACT COMPLETION INFORMATION

CONTRACT COMPLETION DATE: May 27, 2005

TRAFFIC RESTRICTION TIME

30 CALENDAR DAYS

STANDARD SPECIFICATIONS EFFECTIVE DATE 1999

SUPPLEMENTAL SPECIFICATIONS EFFECTIVE DATE 9-1-04

LIST OF APPROVED OR PREQUALIFIED MATERIALS

STANDARD DRAWINGS LISTED ON STANDARD DRAWING INDEX EFFECTIVE DATE 9-1-04  
-----

SCHEDULE OF PAY ITEMS REVISED:

LETTING DATE: January 19, 2005

CONTRACT ID: M -27762-A

CONTRACTOR: \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
-----						
SECTION 0001 MEDIAN ISLAND RECONSTRUCTION						
-----						
0001	105-06845 CONSTRUCTION ENGINEERING	LUMP	LUMP			.
-----						
0002	105-07038 FIELD OFFICE, A	4.000 MOS		.		.
-----						
0003	106-03289 QUALITY ASSURANCE ADJUSTMENT	1.00 DOL	1.00000			1.00
-----						
0004	110-01001 MOBILIZATION AND DEMOBILIZATION	LUMP	LUMP			.
-----						
0005	202-02240 PAVEMENT REMOVAL	4.000 SYS		.		.
-----						
0006	202-02274 CURB, CONCRETE, INTEGRAL, REMOVE	4,241.000 LFT		.		.
-----						
0007	202-94749 CURB, ASPHALT, REMOVE	645.000 LFT		.		.
-----						
0008	203-02000 EXCAVATION, COMMON	1,308.000 CYS		.		.
-----						
0009	211-07454 STRUCTURE BACKFILL	366.000 CYS		.		.
-----						
0010	304-07489 HMA PATCHING, TYPE A	50.000 TON		.		.
-----						

SCHEDULE OF PAY ITEMS REVISED:

LETTING DATE: January 19, 2005

CONTRACT ID: M -27762-A

CONTRACTOR: \_\_\_\_\_

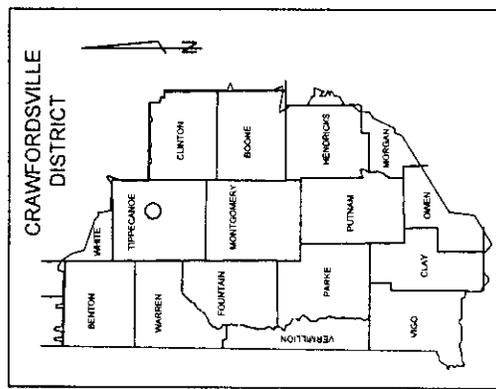
LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0011	605-06125 CURB, CONCRETE, MODIFIED	4,896.000 LFT	.		.	
0012	621-06570 TOP SOIL	916.000 CYS	.		.	
0013	720-44296 CAP INLET	1.000 EACH	.		.	
0014	801-06640 CONSTRUCTION SIGN, A	34.000 EACH	.		.	
0015	801-06710 FLASHING ARROW SIGN	50.000 DAY	.		.	
0016	801-06775 MAINTAINING TRAFFIC	LUMP	LUMP		.	
0017	805-96014 SAW CUT, FULL DEPTH	4,796.000 LFT	.		.	
	SECTION 0001 TOTAL				.	
	TOTAL BID				.	

INDIANA  
 DEPARTMENT OF TRANSPORTATION  
 -CRAWFORDSVILLE DISTRICT-

PROPOSED PLAN FOR:

US 52 FROM SR 26 (RP 48+41) TO SR 38 (RP 49+57)  
 IN TIPPECANOE CO., LAFAYETTE, INDIANA

DES. NO. 0300804

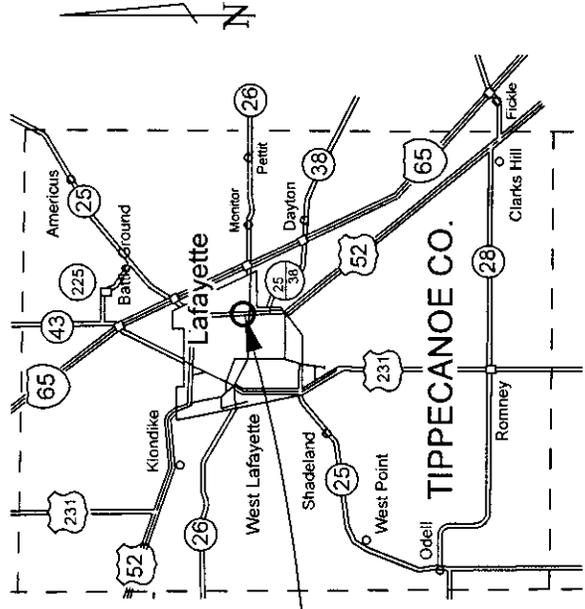


PROJECT LOCATION INDICATED THIS ○

LONG. 86° 51' 29" W  
 LAT. 40° 24' 49" N

GROSS LENGTH= 1.2 MI.  
 NET LENGTH= 1.2 MI.

NOTE: NO ADDITIONAL RW  
 REQUIRED WITH THIS PROJECT

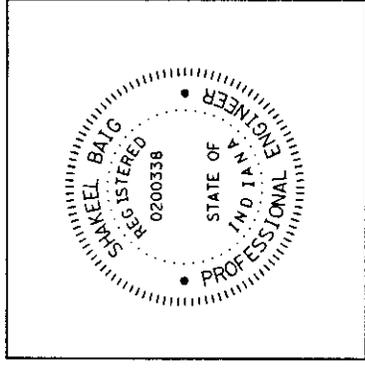


PROJ. LOCATION  
 BEGIN STA. 100+00  
 END STA. 161+65

INDIANA DEPARTMENT OF TRANSPORTATION  
 STANDARD SPECIFICATIONS DATED 1999  
 TO BE USED WITH THESE PLANS

TRAFFIC DATA	
A.A.D.T.(20)	N/A
V.P.D.	N/A
A.A.D.T.(20)	N/A
V.P.D.	N/A
D.H.V.(20)	N/A
%	N/A
DIRECTIONAL DISTRIBUTION	N/A
TRUCKS	N/A
% A.A.D.T.	N/A
% DRIV.	N/A
DESIGN DATA	
DESIGN SPEED	N/A
MPH	
PROJ. DESIGN CRITERIA	
FUNCTIONAL CLASSIFICATION	
RURAL/URBAN	
TERRAIN	
ACCESS CONTROL	

PLANS PREPARED BY: *Peter S. Rykala*  
 DATE: 11-9-04  
 DESIGNER: *Peter S. Rykala*  
 TELEPHONE NUMBER: (765) 361-5249



CERTIFIED BY: *Smaeel Baig*  
 DATE: Nov. 09, 2004  
 PROFESSIONAL ENGINEER

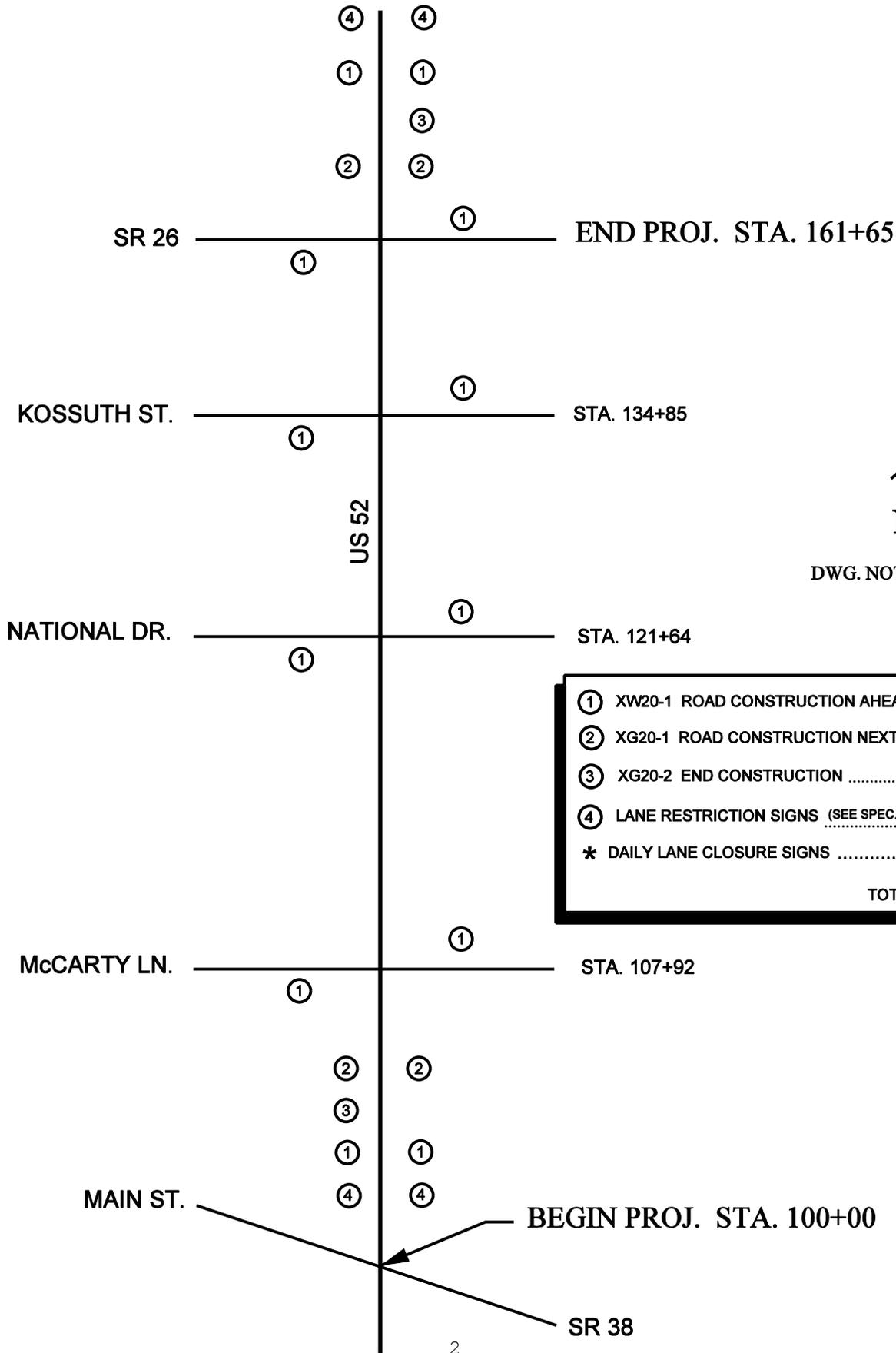
APPROVED BY: *Michael J. ...*  
 DATE: 11/17/04  
 DISTRICT DEVELOPMENT ENGINEER

# CONSTRUCTION SIGNS

M-27762

Contract No. M-27762

## US 52



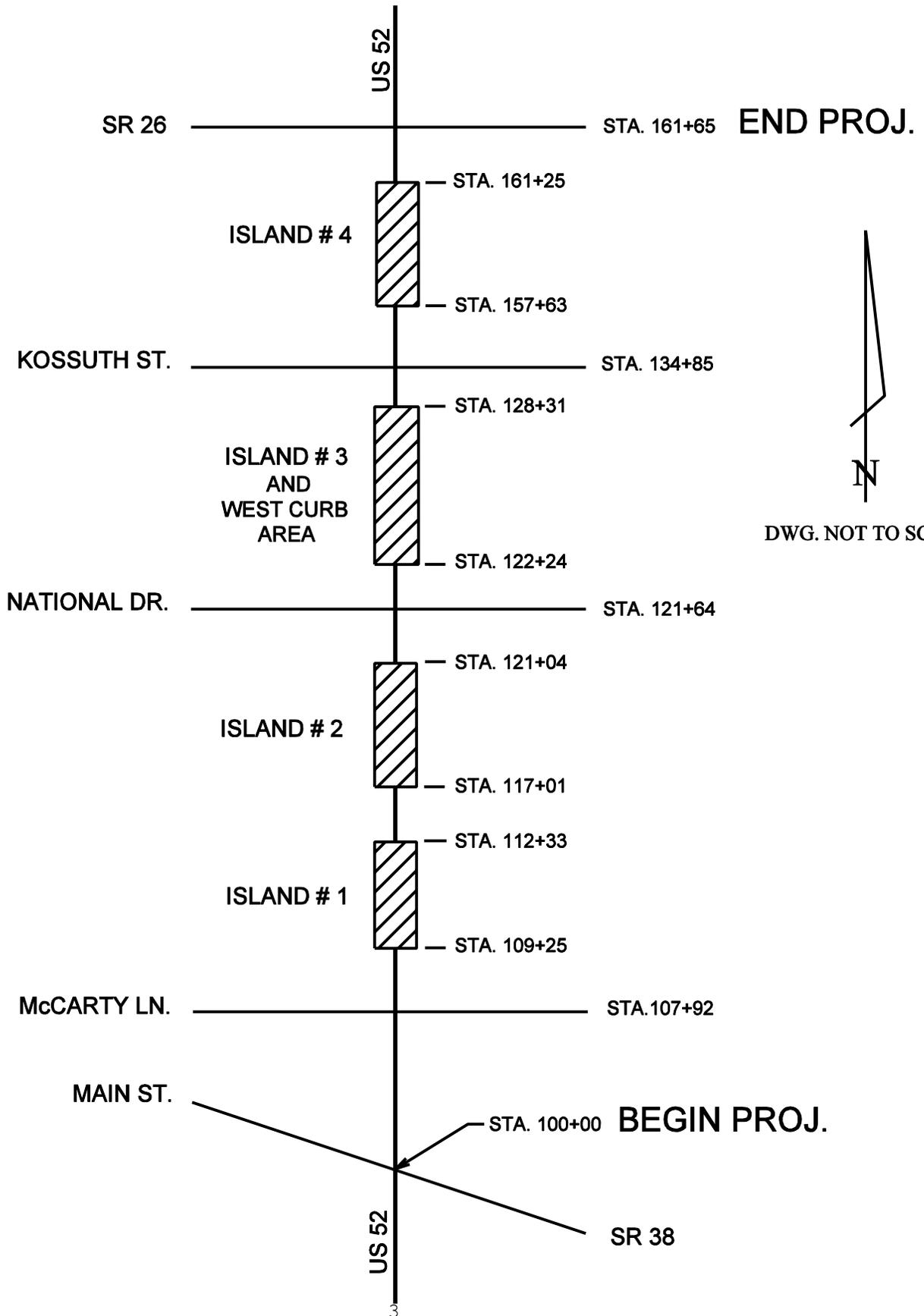
DWG. NOT TO SCALE

①	XW20-1 ROAD CONSTRUCTION AHEAD .....	12
②	XG20-1 ROAD CONSTRUCTION NEXT <u>1.2</u> MI. ....	4
③	XG20-2 END CONSTRUCTION .....	2
④	LANE RESTRICTION SIGNS (SEE SPEC. PROVISIONS) .....	4
*	DAILY LANE CLOSURE SIGNS .....	12
TOTAL .....		34

# ISLAND LOCATIONS

Contract No. M-27762

## US 52



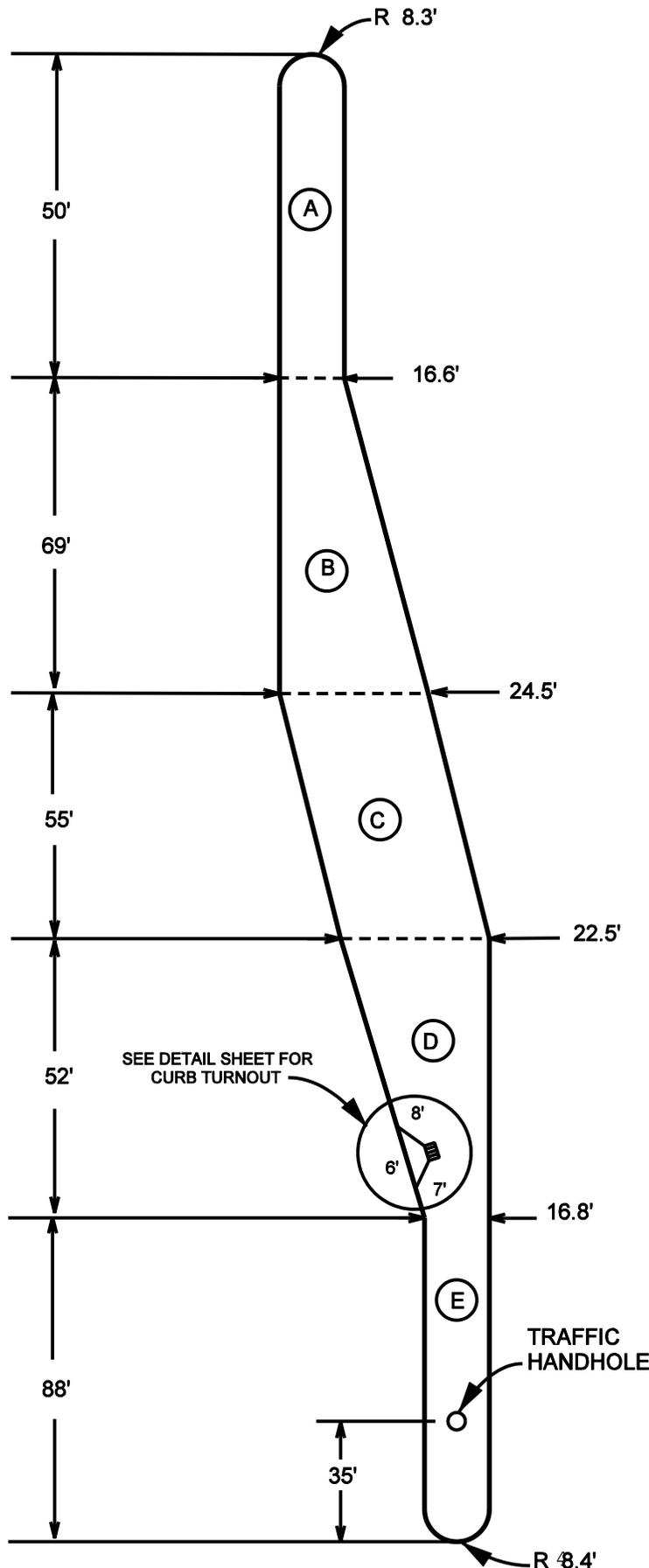
DWG. NOT TO SCALE

# ISLAND #1

Contract No. M-27762



DWG. NOT TO SCALE



## APPROX. AREAS

- (A) = 93 SQ. YD.
- (B) = 158 SQ. YD.
- (C) = 144 SQ. YD.
- (D) = 114 SQ. YD.
- (E) = 165 SQ. YD.

TOTAL = 674 SQ. YD.

INTEGRAL CURB REMOVAL  
AND REPLACEMENT = 650'

- \* LEAVE CATCH BASIN IN PLACE
- \* 2.5' WIDTH OF CATCH BASIN

## SIGNS MOUNTED IN ISLAND

- \* DO NOT ENTER SIGN
- \* ONE WAY SIGN

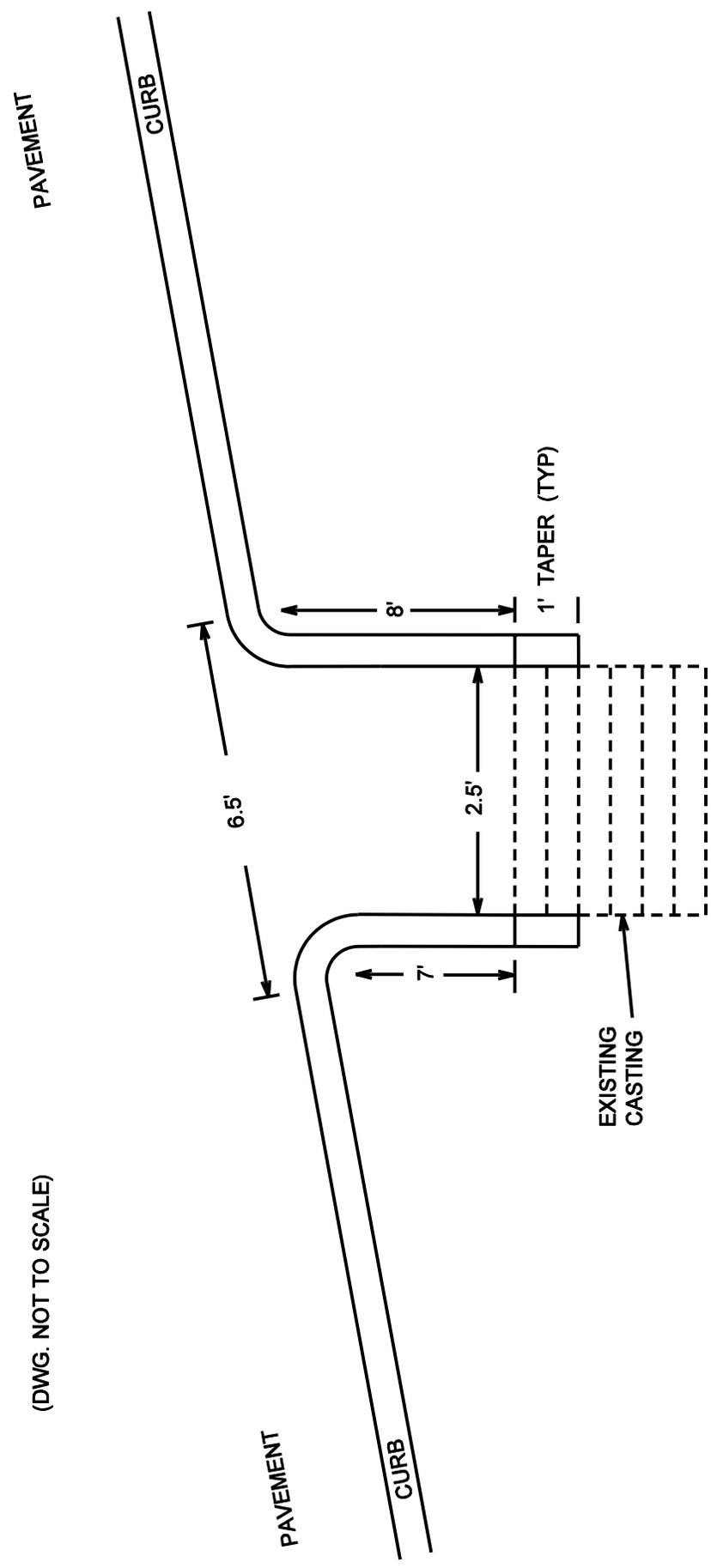
# DETAIL SHEET FOR CURB TURNOUT

## ( ISLAND #1 )

## US 52

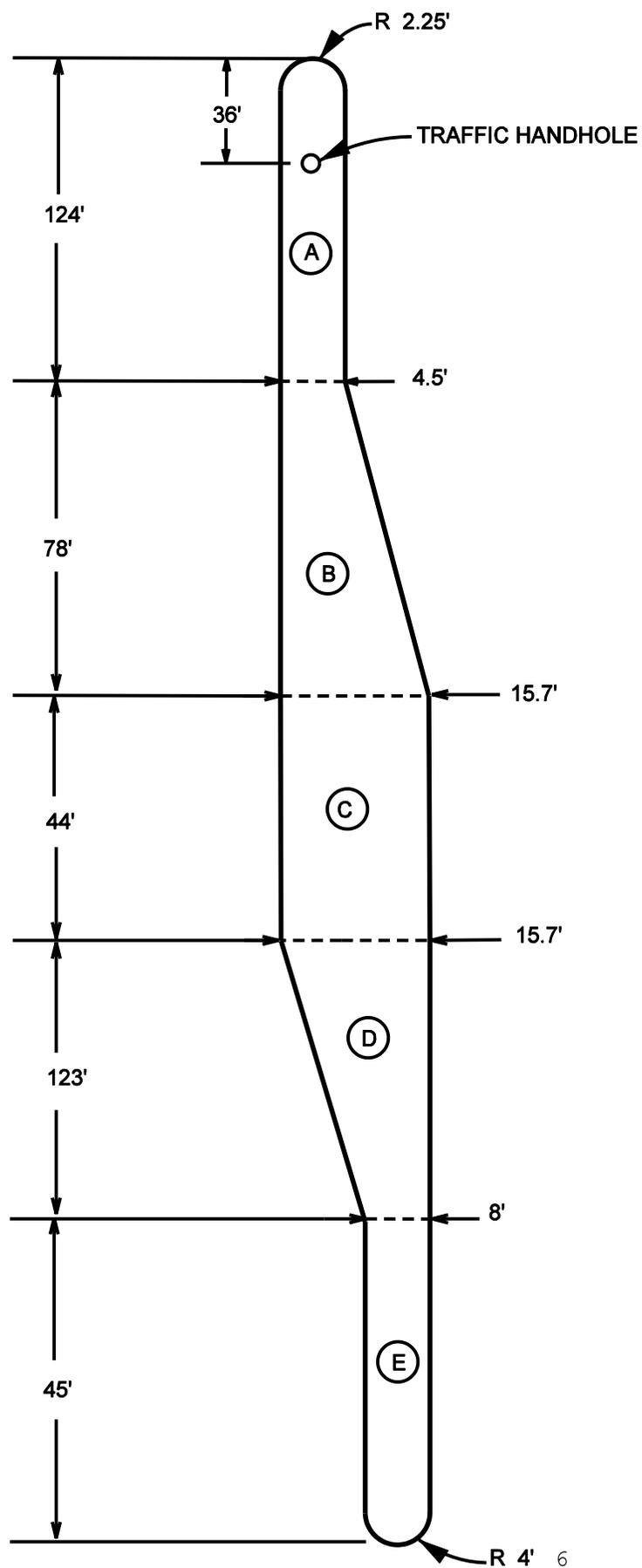


(DWG. NOT TO SCALE)



# ISLAND #2

Contract No. M-27762



DWG. NOT TO SCALE

## APPROX. AREAS

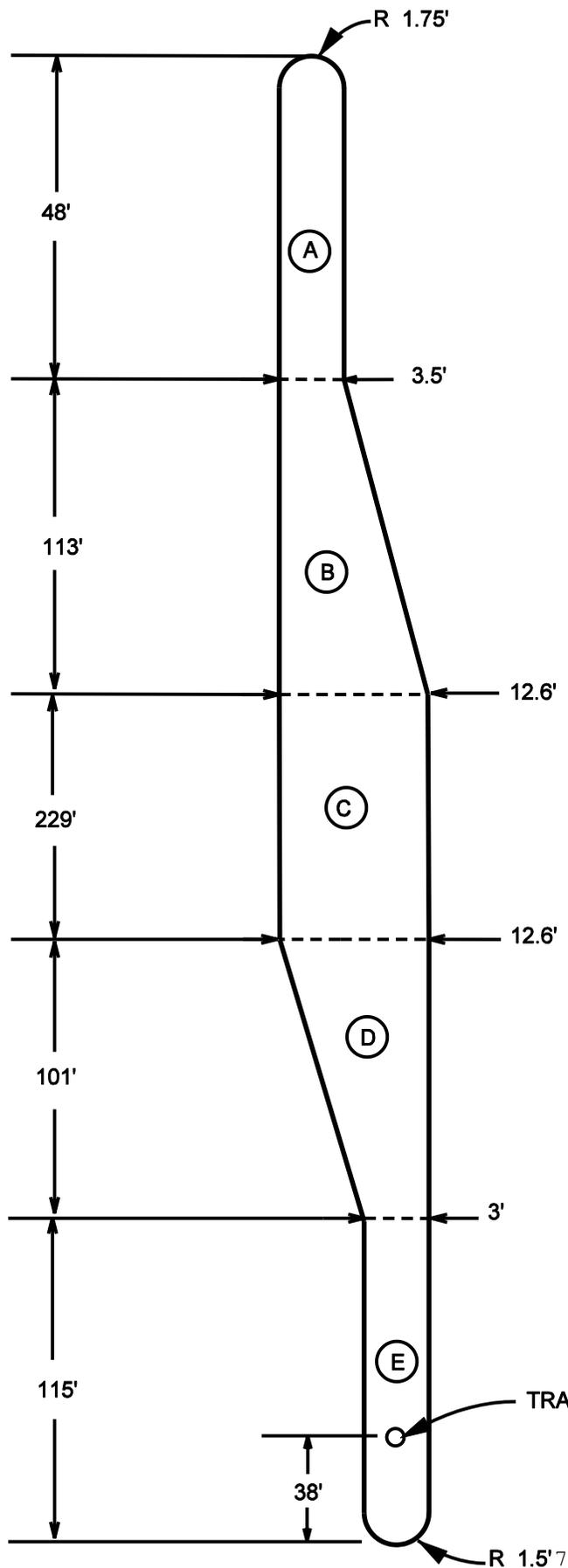
- (A) = 62 SQ. YD.
- (B) = 88 SQ. YD.
- (C) = 77 SQ. YD.
- (D) = 162 SQ. YD.
- (E) = 40 SQ. YD.

TOTAL = 429 SQ. YD.

INTEGRAL CURB REMOVAL  
AND REPLACEMENT = 819'

# ISLAND #3

Contract No. M-27762



DWG. NOT TO SCALE

## APPROX. AREAS

(A) = 19 SQ. YD.

(B) = 102 SQ. YD.

(C) = 321 SQ. YD.

(D) = 88 SQ. YD.

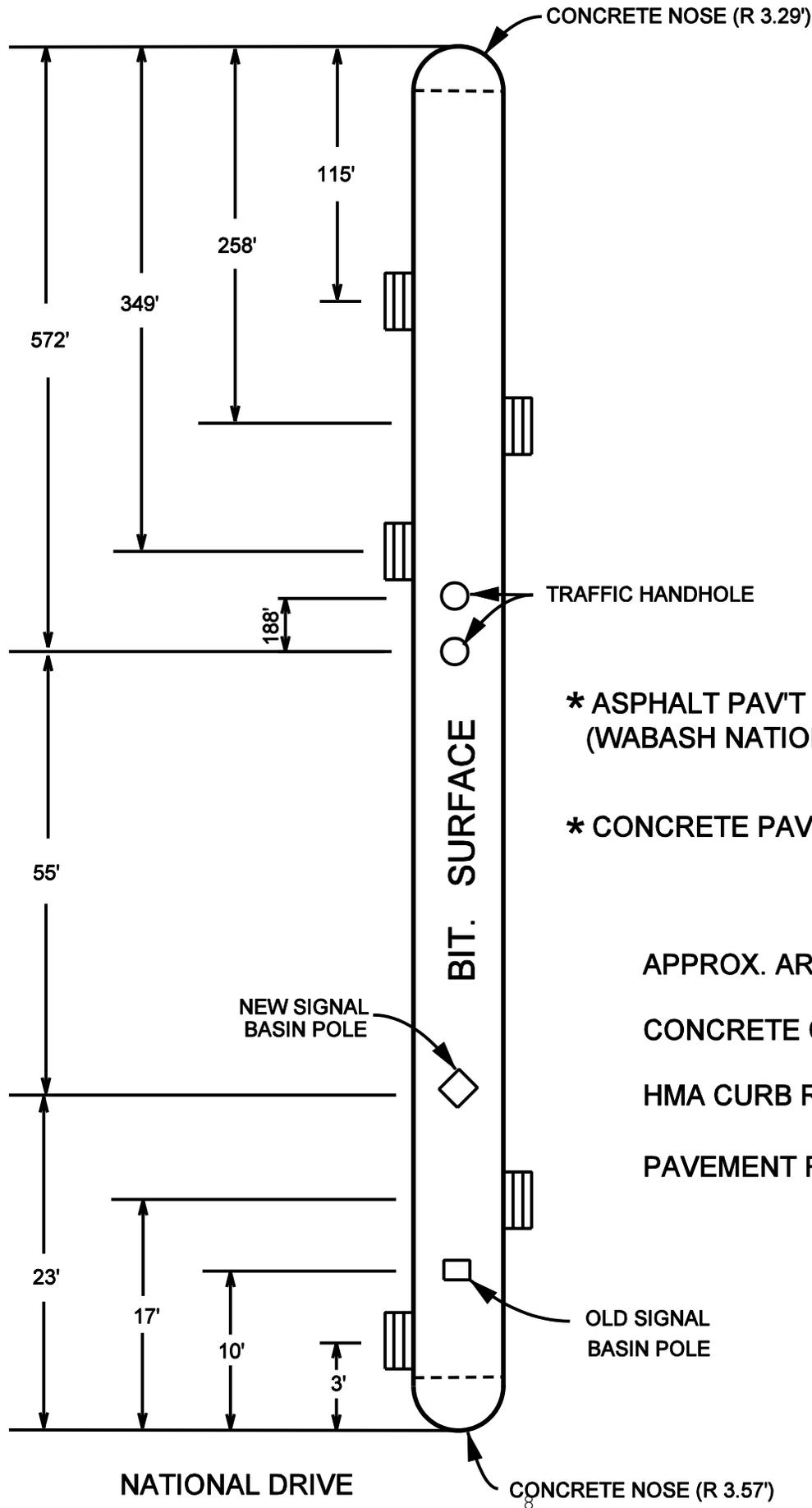
(E) = 39 SQ. YD.

TOTAL = 569 SQ. YD.

INTEGRAL CURB REMOVAL  
AND REPLACEMENT = 1212'

# WEST SIDE OF ISLAND #3

Contract No. M-27762



TRAFFIC HANDHOLE

\* ASPHALT PAV'T TO THE WEST  
(WABASH NATIONAL)

\* CONCRETE PAV'T TO THE EAST (US 52)

APPROX. AREA = 495 SQ. YD.

CONCRETE CURB REMOVAL = 645'

HMA CURB REMOVAL = 645'

PAVEMENT REMOVAL = 3.92 SQ. YD.

OLD SIGNAL  
BASIN POLE

CONCRETE NOSE (R 3.57')

NATIONAL DRIVE

BIT. SURFACE

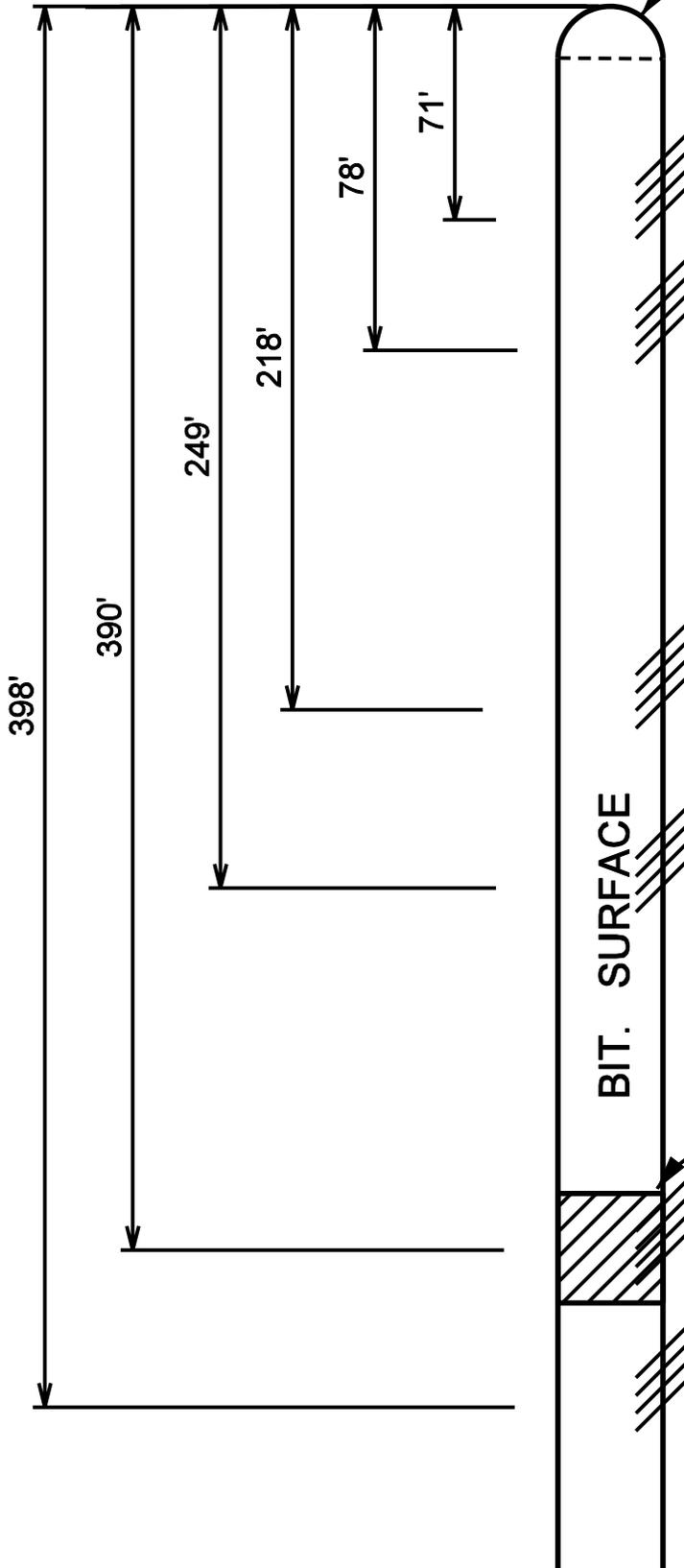
DWG. NOT TO SCALE

# CURB REPAIR AREA

Contract No. M-27762

NATIONAL DRIVE

CONCRETE NOSE (R 3.29')



DWG. NOT TO SCALE

 DAMAGED CURBING

\* ASPHALT PAV'T TO THE WEST  
(WABASH NATIONAL)

\* CONCRETE PAV'T TO THE EAST (US 52)

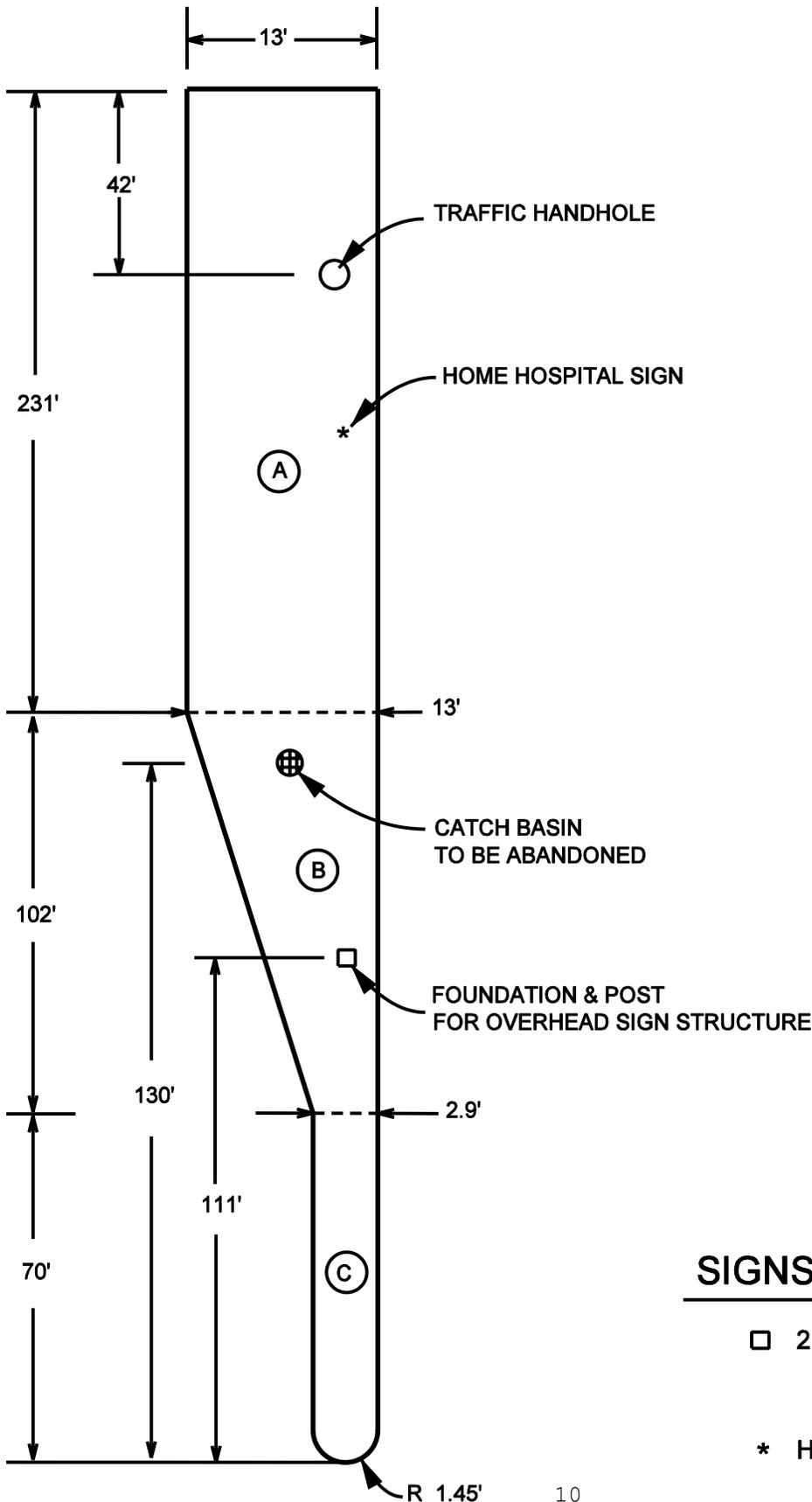
HMA PATCHING, TYPE A = 50 TONS

CURB, CONCRETE, INTEGRAL, REMOVE =  
100 LFT UNDISTRIBUTED

CURB CONCRETE, MODIFIED =  
100 LFT UNDISTRIBUTED

# ISLAND #4

Contract No. M-27762



DWG. NOT TO SCALE

## APPROX. AREAS

(A) = 334 SQ. YD.

(B) = 91 SQ. YD.

(C) = 23 SQ. YD.

TOTAL = 448 SQ. YD.

INTEGRAL CURB REMOVAL  
AND REPLACEMENT = 815'

## SIGNS MOUNTED IN ISLAND

□ 2 ROUTE ASSEMBLY MARKERS  
( 26 E AND 52 E)

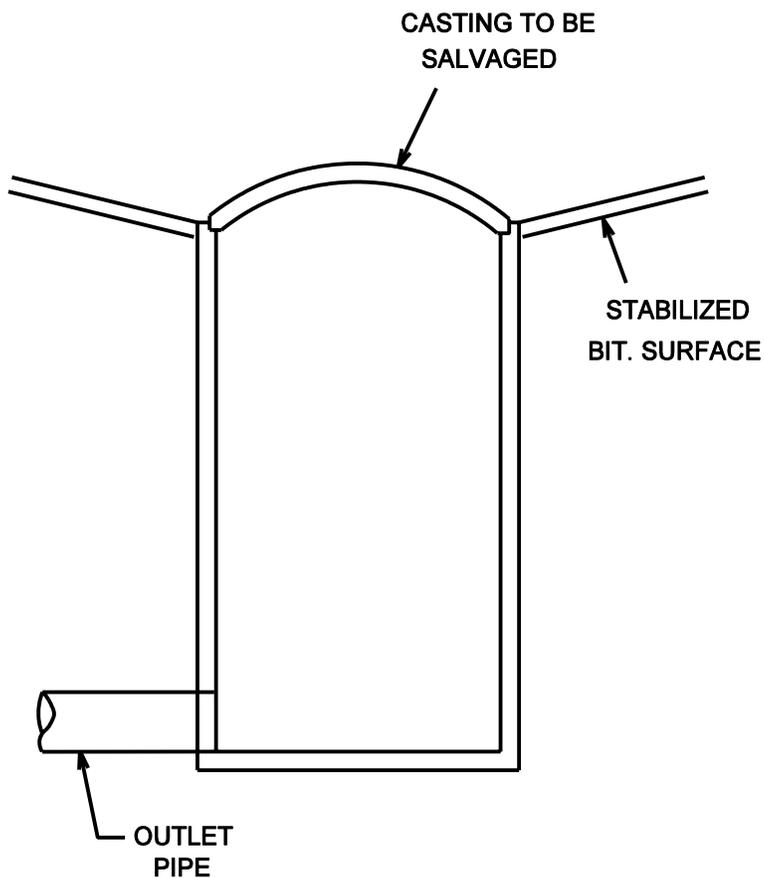
\* HOME HOSPITAL SIGN

# ABANDONMENT OF STORM SEWER CATCH BASINS

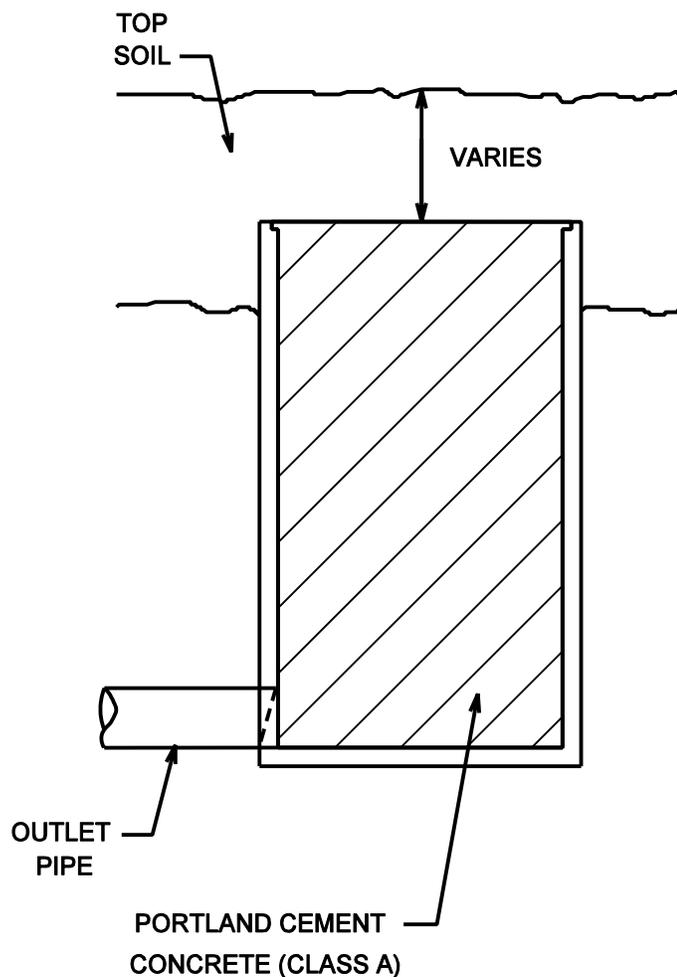
( ISLAND #4 ONLY )

US 52

## EXISTING



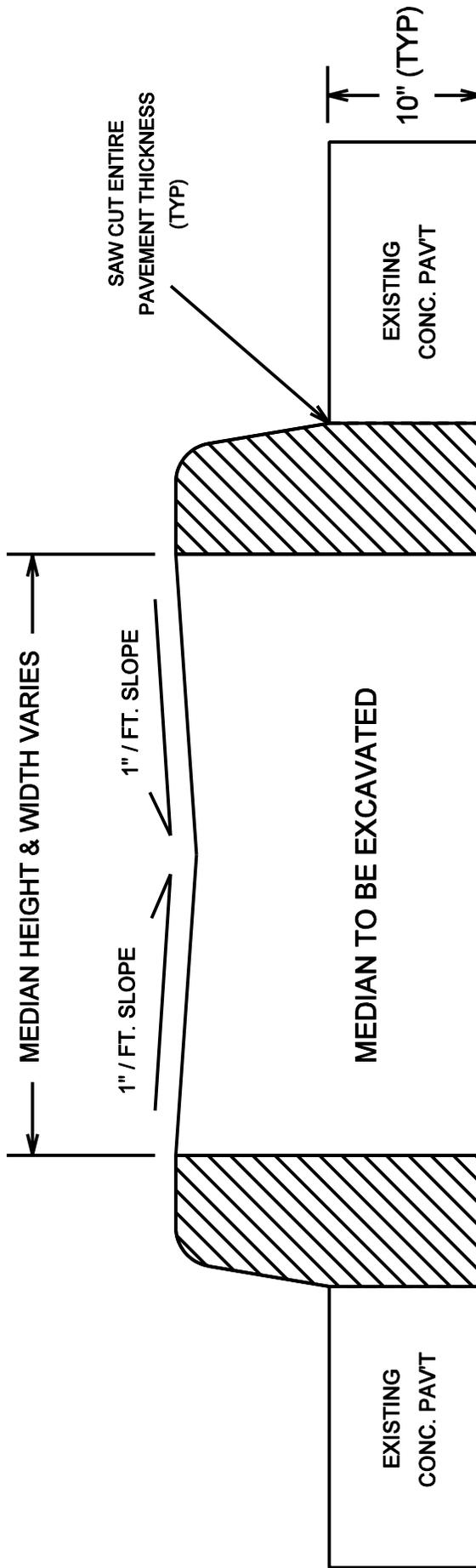
## POST ABANDONMENT



COST OF ABANDONMENT IS INCLUDED  
IN PAY ITEM: "CAP INLET".

# TYPICAL CROSS SECTION

## EXISTING INTEGRAL CURB US 52 MEDIANS



Contract No. M-27762

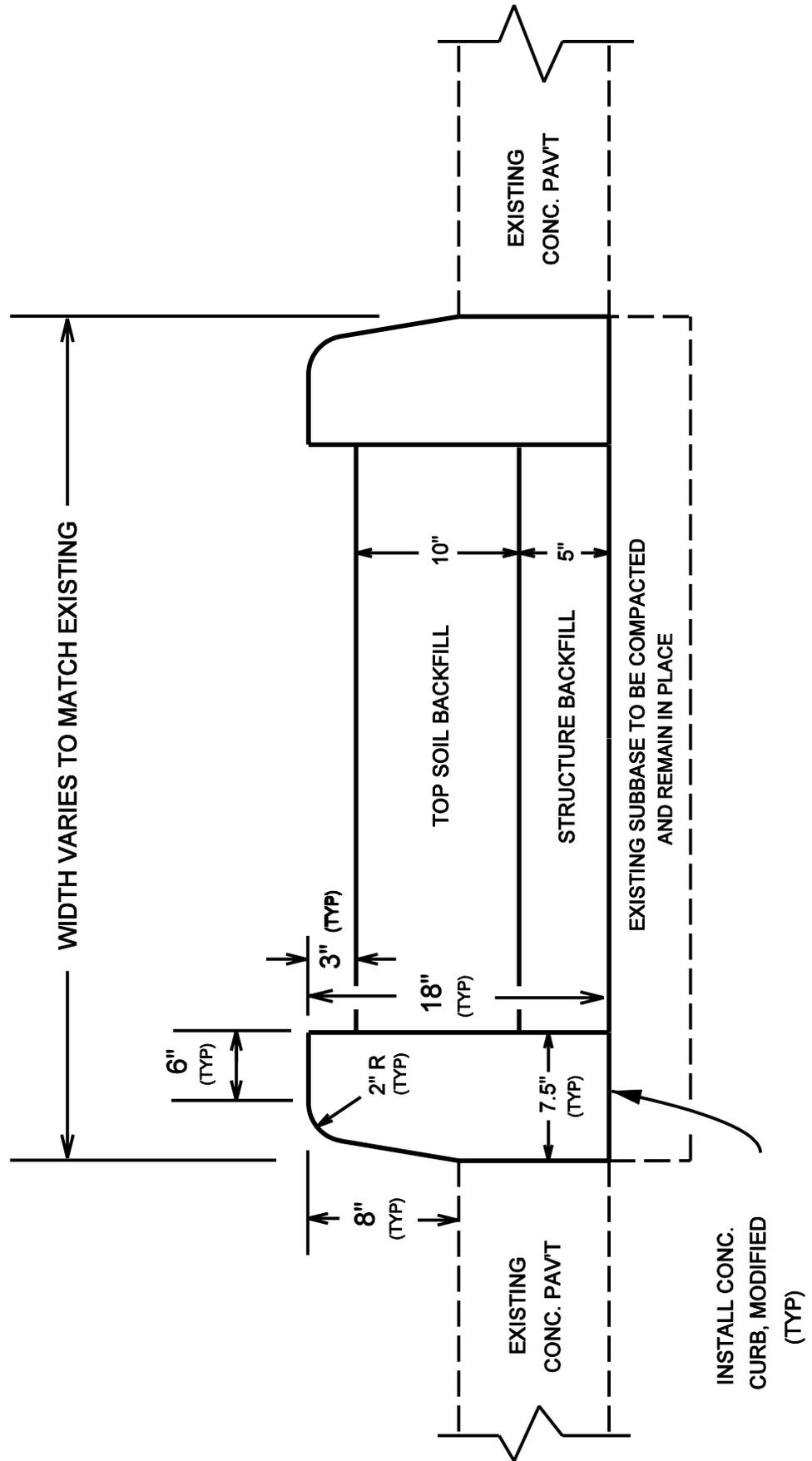
M-27762

 = CURBS TO BE REMOVED

(DWG. NOT TO SCALE)

# TYPICAL CROSS SECTION

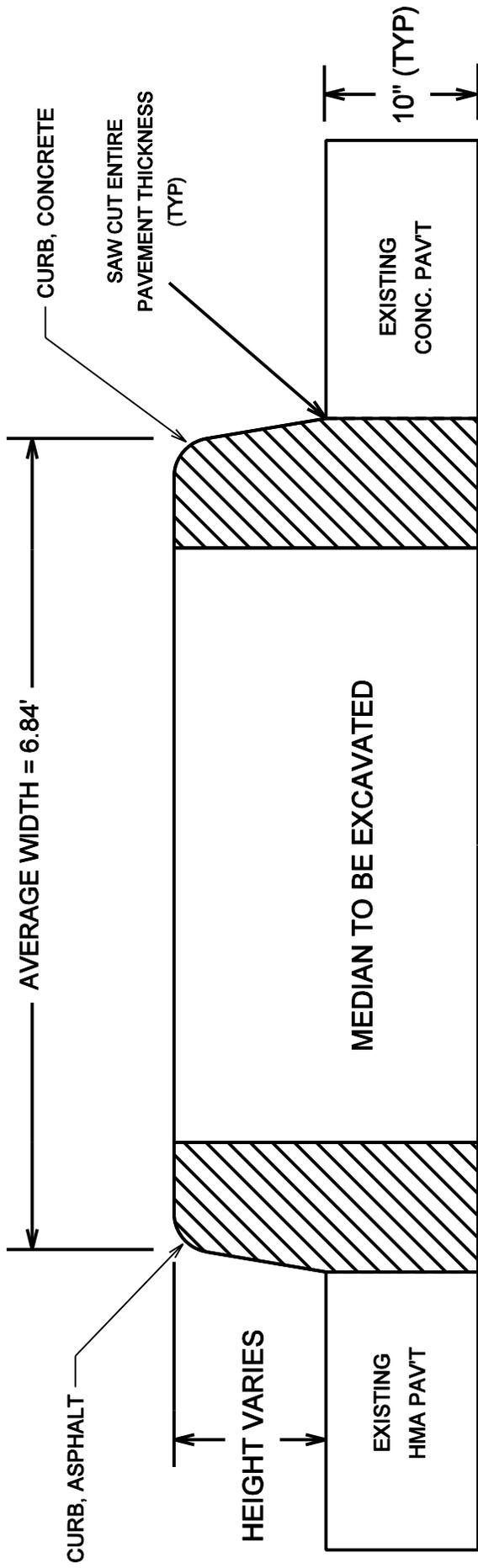
## US 52 MEDIAN ISLAND REPLACEMENT ( ISLANDS #1, #2, #3, AND #4 )



(DWG. NOT TO SCALE)

# TYPICAL CROSS SECTION

## EXISTING WEST CURB AREA

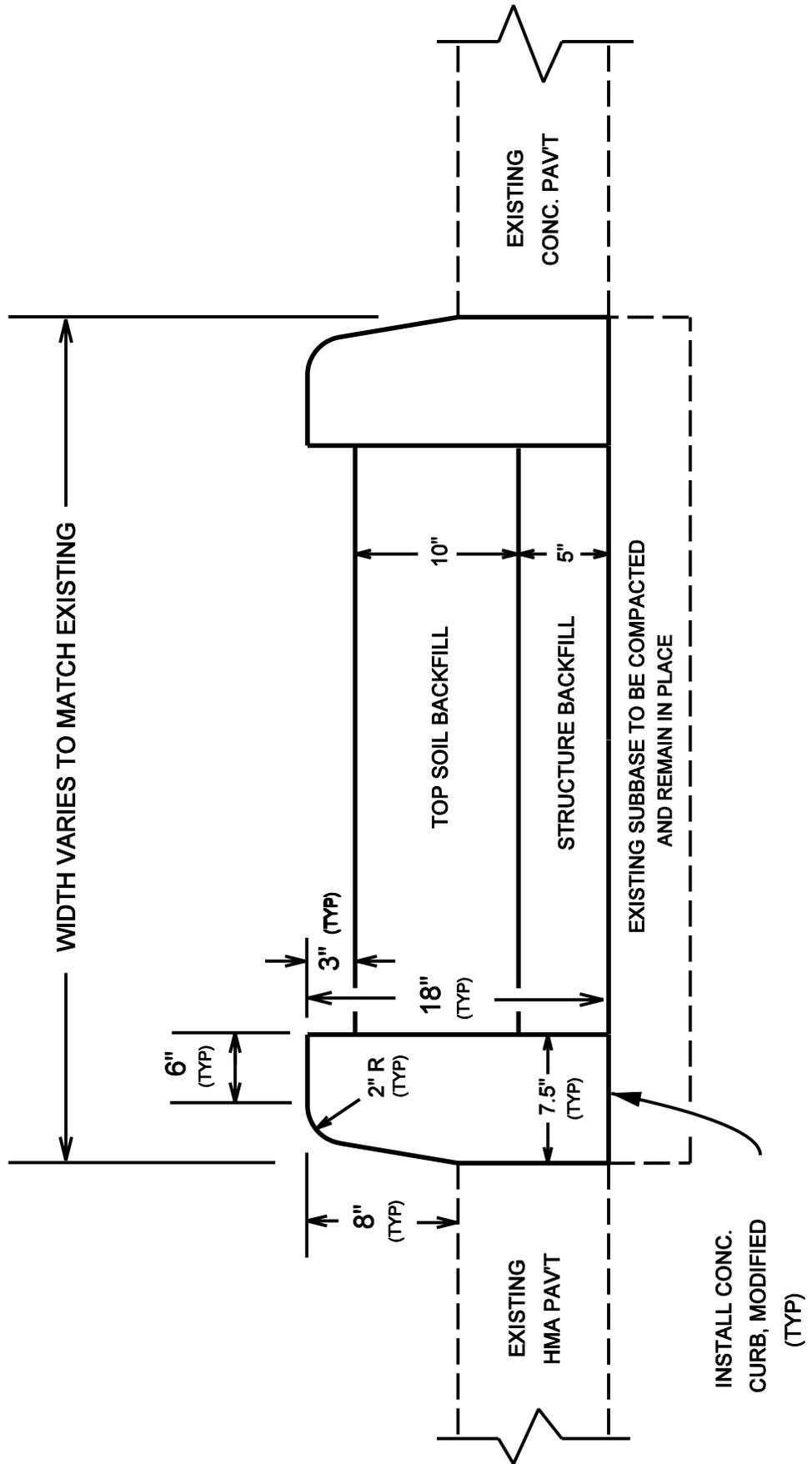


 = CURBS TO BE REMOVED

(DWG. NOT TO SCALE)

# TYPICAL CROSS SECTION

## WEST CURB AREA REPLACEMENT



(DWG. NOT TO SCALE)

**US 52 QUANTITIES**  
(FOR INFORMATION ONLY)

M-27762

Contract No. M-27762

	Island					Curb Repair	Totals
	Island # 1	Island # 2	Island # 3	West Side	Island # 4		
202-02240 Pavement Removal (syd)			3.92		3.92		3.92
202-02274 Curb, Concrete, Integral, Remove (lft)	650	819	1212	100	645	815	4241
202-94749 Curb, Asphalt, Remove (lft)			645		645		645
203-02000 Excavation, Common (cys)	337	215	284		248	224	1308
211-07454 Structure Backfill (cys)	94	60	80		69	63	366
304-07489 HMA Patching, Type A (tons)				50			50
605-06125 Curb, Concrete, Modified (lft)	650	819	1212	100	1300	815	4896
621-06570 Top Soil (Including 25% for Shrinkage Factor) (cys)	236	150	199		174	157	916
720-44296 Cap Inlet (each)						1	1
805-96014 Saw Cut, Full Depth (lft)	650	819	1212		1300	815	4796



SPECIAL PROVISIONS  
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Crawfordsville District

PAYMENT OF PREDETERMINED MINIMUM WAGE DETERMINATION  
(DAVIS-BACON ACT)  
General Decision Number IN030006

Modification Number 6 of General Decision Number IN030006 with a publication date of November 5, 2004 shall apply to this contract.

The above referenced wage determination is available at the Department's Contracts and Construction Division website location: <http://www.state.in.us/dot/div/contracts/letting/index.html>.

Hard copies of the wage determination will be mailed to those Contractors requesting such by calling 1-317-232-5070 or by faxing their request to 1-317-232-0676. They may also be obtained in Room 855, Indiana Government Center North, 100 North Senate Avenue, Indianapolis, IN.

If the wage determination is updated prior to 10 calendar days before the bid opening date, an addendum will be issued.

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MUTCD

The Standard Specifications are revised as follows:

SECTION 101, BEGIN LINE 63, DELETE AS FOLLOWS:

MUTCD Indiana Manual on Uniform Traffic Control Devices, ~~or Federal Manual on Uniform Traffic Control Devices~~ in accordance with 107.12.

SECTION 107 BEGIN LINE 372, DELETE AS FOLLOWS:

Barricades, warning signs, lights, signals, markings, and other protective devices shall be in accordance with the plans, ~~the Federal MUTCD~~ and the Indiana MUTCD, ~~all of which are~~ current on the date of advertisement for bids.

~~In case of discrepancy, the Federal MUTCD shall prevail if the contract involves Federal funds. For such a contract, Part VI of the Federal MUTCD as revised September 3, 1993 shall be used in lieu of Part VI of the Federal MUTCD, 1988 Edition.~~

~~If the contract does not involve Federal funds, the Indiana MUTCD shall prevail. For such a contract, Part VI of the Federal MUTCD as revised September 3, 1993 shall be used as a guide. If it is in conflict with Part VI of the Indiana MUTCD, the Indiana MUTCD shall prevail.~~

SECTION 107, BEGIN LINE 421, DELETE AND INSERT AS FOLLOWS:

flagger situations. The "Stop"/"Slow" paddle shall be required as a primary hand signaling device to control traffic through work areas. The "Stop"/"Slow" paddle shall be in accordance with section ~~6F-2~~ 6E.03 of the MUTCD, except it shall be at least 610 mm (24 in.) wide.

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ENGINEER APPLICATION PERSONAL COMPUTER

The Standard Specifications are revised as follows:  
SECTION 105, DELETE LINES 1001 THROUGH 1093.

SECTION 105, AFTER LINE 1094, INSERT AS FOLLOWS:

*The computer shall be in accordance with the requirements shown below.*

1. *Desktop System.*
  - a. *Microprocessor: Intel Pentium, 1.9 GHz, or faster.*
  - b. *256 MB RAM, or larger.*
  - c. *One 1.44 MB 3.5 in. floppy disk drive.*
  - d. *One fixed disk (hard drive), minimum 40 GB.*
  - e. *24X CD ROM drive, or faster.*
  - f. *Sound blaster compatible sound system.*
  - g. *An SVGA display adapter, 32 Mb video ram minimum.*
  - h. *MPEG video.*
  - i. *A minimum of one serial port.*
  - j. *One parallel port.*
  - k. *One mouse and mouse pad.*
  - l. *A 101 key enhanced keyboard, minimum*
  - m. *A 56 KB V.90 modem*
  - n. *Operating system shall be Windows XP (Home or Pro). The Contractor shall provide and install in a timely manner all critical updates/patches concerning security and virus control to the Operating Systems when necessary.*
2. *SVGA Display.*
  - a. *A 432 mm (17 in.) color display monitor, or larger.*
  - b. *1024 x 768 resolution, or better.*
  - c. *Dot pitch 0.28 mm, or better.*
3. *An inkjet printer shall be provided meeting or exceeding the following.*
  - a. *HP compatible print codes.*
  - b. *Fully compatible with DOS programs. HP Deskjet 600 or 900 series or 3820 or 5550. Other brand printers or models are acceptable if they are equal to the above printers and capable of printing from Paradox for DOS. The connection shall be via parallel port. USB connections are not acceptable.*
4. *Software.*
  - a. *Paradox, Ver. 4.5 for DOS, if available. If the Contractor cannot provide this software, the Contractor shall notify the appropriate Department District computer specialist.*
  - b. *Microsoft Office XP, or newer*
  - c. *All install CDs for the Operating System, device drivers, and all software installed on the PC shall remain at the construction field office site in case that re-installation or re-configuration is required.*

- d. *McAfee antivirus software for Windows. This shall be the latest version and shall be fully installed, with Vshield option activated. The Contractor shall be responsible for providing periodic updates for the DAT and associated files containing new virus names, etc.*

5. *Miscellaneous Requirements.*

- a. *Uninterruptible Power Supply (UPS) minimum 280VA/175W (15 minutes) with full time surge suppression and noise isolation, including RJ-11 connections for modem phone line surge protection. American Power Conversion (APC) model Back-UPS Pro 280 (APC part # BP280), or equivalent.*
- b. *Dust covers for system unit, monitor, and printer.*
- c. *Black ink cartridges and 8 1/2" x 11" sheet paper for inkjet printers shall be supplied and replenished as needed.*
- d. *A supplemental phone line in addition to the standard telephone line shall be installed and connected to the PC modem through the UPS surge protection described above. If a supplemental phone line is being installed to accommodate a FAX machine, this same line may be used for joint FAX and PC communications using a line splitter or other appropriate device.*

*The requirements shown herein shall be considered as minimum requirements. Equipment or software which exceeds these requirements may be furnished, except where DOS or Windows is specified.*

*All manuals necessary for operation of the system shall be provided. These shall include manuals for microcomputer operations, Windows operating system, monitor operation, printer operation and code references, and all other manuals or documentation normally furnished with the equipment or software when purchased. Appropriate dust covers shall be provided for all equipment.*

*The initial condition of the field office PC shall be nearly pristine. No owner installed e-mail accounts, games, spyware, online services, applications, network or other profiles shall be set up on this computer prior to placement. If the PC was used in a previous contract, all software not specified above, or otherwise provided by the Department, shall be removed prior to placement in the current field office.*

*The microcomputer system in the field office shall be installed, and maintained in good working order. If a portion of the system becomes defective, inoperative, damaged, or stolen, that portion shall be repaired or replaced within five business days, Mondays through Fridays, after the Contractor is notified of such situation.*

*The Department will be utilizing the hardware and software specified herein to run Construction Management System software applications. These applications are known to run on Intel compatible equipment. If the Department experiences problems running these applications due to requirement compatibility, the Contractor shall, within five business days, Mondays through Fridays, replace and set up appropriate equipment to ensure compatibility to the satisfaction of the Department.*

CONSTRUCTION ENGINEERING

The Standard Specifications are revised as follows:

SECTION 105, BEGIN LINE 189, INSERT AS FOLLOWS:

The Contractor shall be responsible for the accuracy of transfer from the control lines and grades and layout of the work. *The Contractor shall notify the Engineer and the District Traffic Section to locate all existing underground traffic signal and lighting wiring. The District Traffic Section will only perform this locate service once per construction season per contract.* The Contractor shall also be responsible for the preservation of all stakes and marks. If the construction stakes or marks are carelessly or willfully destroyed or disturbed by the Contractor or its employees, the cost to the Department for replacing them will be charged against the Contractor. Such costs will be deducted from payment for the work.

SECTION 105, BEGIN LINE 207, INSERT AS FOLLOWS:

**(b) Construction Engineering by the Contractor.** If set out as a pay item, the construction engineering, including all staking and layout usually done by the Department, shall be performed by the Contractor. Construction engineering shall include re-establishing the survey points and survey centerlines; referencing the necessary control points; running a level circuit to check or re-establish plan bench marks; running a level circuit to establish elevations on new bench mark tablets; setting stakes for right-of-way, culverts, slopes, subbase, ~~subsurface~~ underdrains, paving, subgrade, bridge piers, abutments,

and all other stakes required for control lines and grades; and setting vertical control elevations, such as footings, caps, bridge seats, and screed elevations. *Construction engineering shall also include documenting the underground wiring as located by the District Traffic Section.*

*The Contractor, shall notify the District Traffic Section to locate all existing underground traffic signal and lighting wiring. The District Traffic Section will only perform this locate service once per construction season per contract. The required documentation shall be performed and a copy provided to the Engineer as soon as practical after the locations have been marked. Documentation which is not provided to the Engineer in a timely manner shall not be considered valid for the purpose of resolving conflicts related to the accuracy of the location markings. The documentation may be digital pictures, regular photos, or sketches of the areas marked. The documentation shall be such that the underground wiring can be easily and accurately re-established in the field by the Contractor, if needed.*

A complete cross section shall be taken at each 150 m (500 ft) interval. Horizontal control shall be checked at the beginning and ending of the mainline and all "S" lines. This information shall be used to verify that the planned alignment and elevations will match existing conditions. Required alignments and

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BASIS FOR USE OF APPROVED OR PREQUALIFIED MATERIALS

The Standard Specifications are revised as follows:

SECTION 106, AFTER LINE 45, INSERT AS FOLLOWS:

*The basis for use of materials shown in the List of Approved or Prequalified Materials will be the Engineer's verification that the materials provided are included in the List of Approved or Prequalified Materials.*

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TRAFFIC CONTROL DEVICE REPORT

The Standard Specifications are revised as follows:

SECTION 107, AFTER LINE 389, INSERT AS FOLLOWS:

*A traffic control device report shall be completed weekly by the Contractor and a signed copy given to the Engineer. The cost of the report will not be paid for directly but shall be included in the cost of other items.*

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STATEMENTS ABOUT EXISTING CONDITIONS OF UTILITIES,  
ADDITIONAL RIGHT-OF-WAY, AND ENCROACHMENTS

The Standard Specifications are revised as follows:

SECTION 107, AFTER LINE 690, INSERT AS FOLLOWS:

***107.25 Existing Conditions of Utilities, Additional Right-of-Way, and Encroachments.*** *Such existing conditions are as described below.*

***(a) Utilities.*** *The status of all utility companies and organizations potentially involved with the work to be performed are described below.*

*The facilities of Verizon exist within the project limits, but are not expected to be affected by the proposed construction. If questions arise, Donna Mahon of the utility may be contacted at 260 - 461 - 3202.*

*The facilities of PSI exist within the project limits, but are not expected to be affected by the proposed construction. If questions arise, Kevin Johnston of the utility may be contacted at 765 - 454 - 6182.*

*The facilities of Vectren Energy exist within the project limits, but are not expected to be affected by the proposed construction. If questions arise, Steve Rawlinson of the utility may be contacted at 812 - 491 - 4765.*

*The facilities of Insight Cablevision exist within the project limits, but are not expected to be affected by the proposed construction. If questions arise, Mike Hooker of the utility may be contacted at 765 - 447 - 9488.*

*The facilities of Lafayette Water and Sewer exist within the project limits. The utility will be able to complete its involvement with the contract when the Contractor has completed existing curb removal and excavation of existing backfill materials in the location of each median such that the utility may adjust its facilities. It is anticipated that the utility will take approximately 2 work days/location to adjust its facilities in such area. If questions arise, Opal Kuhl of the utility may be contacted at 765 - 476 - 4471.*

*(b) **Right-of-Way.** There is no involvement of additional right-of-way for the contract.*

*(c) **Encroachments.** There is no involvement of encroachments for the contract.*

*(d) **Other Noteworthy Conditions.** There are no other noteworthy conditions which may affect the prosecution and progress of the contract.*

*(e) **Preconstruction Conference Notification.** The Contractor shall provide notification during the preconstruction conference about known corrections to or omissions of the information presented in 107.25(a) through 107.25(d) above. Otherwise, notification shall be provided as required in 105.06. Notifications regarding such corrections or omissions shall not alleviate the Contractor's inquiry or interpretation obligations as contained in 120 IAC 3-6-6.*

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FAILURE TO COMPLETE ON TIME FOR RESTRICTION

The Standard Specifications are revised as follows:

SECTION 108, AFTER LINE 475, INSERT AS FOLLOWS:

*(a) **Blank.***

*(b) **Blank.***

*(c) **Restriction.** The work specified shall be arranged and prosecuted such that traffic is restricted on US 52 for not longer than the number of calendar days shown on the Proposal sheet.*

*If the necessary work is not completed and US 52 is not reopened to unrestricted traffic within the number of calendar days for restriction shown on the Proposal sheet, \$2,000.00 will be assessed as liquidated damages, not as a penalty, but as damages sustained for each calendar day for which traffic on US 52 remains restricted in excess of the number shown on the Proposal sheet.*

*Unless otherwise determined, an increase in quantities will increase the time allowed for the performance of the contract by the ratio of the final contract price to the original contract price. Only those pay items which must be constructed during the restriction to traffic period will be considered when computing a time extension for the restriction to traffic period.*

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DETERMINATION AND EXTENSION OF CONTRACT

The Standard Specifications are revised as follows:

SECTION 108, BEGIN LINE 312, INSERT AS FOLLOWS:

The number of days for performance permitted in the contract as awarded will be based on the original quantities as defined in 104.02.

- (a) For a completion date contract, unless otherwise determined, an increase in quantities will increase the time permitted for the performance of the contract by the ratio of the final contract price to the original contract price. *The final contract price used in the calculation will not include items that do not reflect additional work performed by the Contractor, such as incentives, disincentives, QA adjustments, failed material adjustments, material substitutions, or other similar items.* The contract time shall be the number of calendar days starting with the day after the letting, to and including the original contract completion date.
- (b) If intermediate completion times are specified, unless otherwise determined, an increase in quantities will increase the time permitted. This will be computed by the ratio of the original dollar amounts to the final dollar amounts of only those pay items which are involved in the closure or restrictions work. *Items that do not reflect additional work performed by the Contractor, such as incentives, disincentives, QA adjustments, failed material adjustments, material substitutions, or other similar items will not be included in the final dollar amounts of the pay items used in the computation.* When computing such time, the number of days specified for the intermediate completion time will be used. If a calendar date is specified, the number of calendar days will be computed by starting with the day after the letting, and continuing to and including the intermediate completion date.

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STOCKPILED MATERIALS

The Standard Specifications are revised as follows:

SECTION 111, BEGIN LINE 9, DELETE AND INSERT AS FOLLOWS:

vicinity of the project, or stored in approved storage facilities. Such materials shall be limited to structural steel, concrete structural members, ~~pavement~~ reinforcing steel, pavement contraction joints, granular base and subbase materials, aggregates for HMA and concrete pavements, and structural supports for signals, signs, and luminaires.

*In addition to the aforementioned, the Department will consider the stockpiling of other steel products, such as guardrail, culvert pipe, etc if it has been determined that a critical shortage of that material would cause delay to the project.*

SECTION 111, BEGIN LINE 109, DELETE AND INSERT AS FOLLOWS:

Approval of partial payment for stockpiled materials will not constitute final acceptance of such materials for use in completing the work. Structural steel members and ~~pavement~~ reinforcing steel may be subjected to additional inspection and testing prior to final acceptance and incorporation into the work. All other stockpiled pay items will be subjected to additional inspection and testing prior to final acceptance and incorporation into the work.

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STATE FUNDED CONTRACT REQUIREMENTS

The Standard Specifications are revised as follows:

SECTION 112, BEGIN LINE 1, INSERT AS FOLLOWS:

**SECTION 112 -- STATE FUNDED CONTRACT REQUIREMENTS**

**112.01 General Requirements.** *The Contractor shall insert in each subcontract all of the stipulations contained herein, and further shall require their inclusion in each lower tier subcontract or purchase order that may in turn be made. These requirements shall not be incorporated by reference. The Contractor shall be responsible for compliance by each subcontractor or lower tier subcontractor with these requirements.*

**112.02 Payment to Laborers.** *The rate of wages and fringe benefits for all laborers and mechanics employed on the contract shall be in accordance with the General Decision included in the Contract Information book.*

- (a) *"Wages", "wage rates", "minimum wages", and "prevailing wages" shall include the basic hourly rate of pay for laborers and mechanics plus the amount contributed by the Contractor and its subcontractors for certain fringe benefits.*
- (b) *The meaning of "fringe benefits" for purposes of the contract shall be defined by the provisions of the Davis-Bacon Act and the interpretation of the fringe benefits regulations as set forth in 29 CFR 5.20 et seq., which are herein incorporated by reference.*
- (c) *The term "laborer" shall include at least those workers, including apprentices and trainees, whose duties are manual or physical in nature, including those workers who use tools or who are performing the work of a trade, as distinguished from mental or managerial. The term shall not include workers whose duties are primarily administrative, executive, or clerical.*

**112.03 Payment of Predetermined Minimum Wage.**

**(a) General Requirements.**

1. *All laborers employed or working upon the site of the work shall be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account the full amounts of wages and bona fide fringe benefits, or cash equivalents thereof, due at time of payment. The payment shall be computed at wage rates not less than those contained in the General Decision, regardless of any contractual relationship which may be alleged to exist between the Contractor or its subcontractors and such laborers. The General Decision 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. For the purpose of this section, contributions made or costs reasonably anticipated for bona fide fringe benefits on behalf of laborers are considered wages paid to such laborers subject to 112.03(c)2. Also, for the purpose of this section, regular contributions made or costs incurred for more than one 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 shall be paid the appropriate wage rate and fringe benefits on the General Decision for the classification of work actually performed, without regard to skill, except as provided in 112.03(d) and 112.03(e).*
2. *Laborers 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.*

**(b) Classification.**

1. *The Department's contracting officer will require that each class of laborers employed under the contract, which is not listed in the General Decision, shall be classified in conformance with the General Decision.*
2. *The contracting officer will approve an additional classification, wage rate, and its fringe benefits only when the following criteria have been met:*
  - a. *The work to be performed by the additional classification requested is not performed by a classification in the General Decision.*

- b. *The additional classification is utilized in the area by the construction industry.*
  - c. *The proposed wage rate, including all bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the General Decision.*
  - d. *With respect to helpers, when such a classification prevails in the area in which the work is performed.*
3. *The wage rate, including fringe benefits where appropriate, determined pursuant to the requirements herein shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.*

**(c) Payment of Fringe Benefits.**

1. *Whenever the minimum wage rate prescribed in the contract for a class of laborers includes a fringe benefit which is not expressed as an hourly rate, the Contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the General Decision or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.*
2. *If the Contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of each laborer the amount of all costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. The Department may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.*

**(d) Apprentices and Trainees (Programs of the U.S. Department of Labor).**

1. *Apprentices.*
  - a. *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 DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Department. A person will be permitted to work as an apprentice if employed in his/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 Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.*

- b. *The allowable ratio of apprentices to journeyman-level employees on the project site in each craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Each employee 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 listed in the General Decision for the classification of work actually performed. In addition, each apprentice performing work on the project site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the General Decision for the work actually performed. Where the Contractor or a subcontractor 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-level hourly rate, specified in the Contractor's or subcontractor's registered program shall be observed.*
- c. *Every apprentice shall 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 journeyman-level hourly rate specified in the General Decision. 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 shall be paid the full amount of fringe benefits listed in the General Decision for the applicable classification.*
- d. *If the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Department, withdraws approval of an apprenticeship program, the Contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.*

## *2. Trainees.*

- a. *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 DOL, Employment and Training Administration, or the Department.*

- b. *The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Each 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 General Decision for the classification of work actually performed. In addition, each trainee performing work on the project site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the General Decision for the work actually performed.*
- c. *Every trainee shall be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the General Decision. Trainees shall be paid fringe benefits in accordance with 103.03. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed in the General Decision unless the Administrator of the DOL's Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the General Decision which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.*
- d. *If the Employment and Training Administration withdraws approval of a training program, the Contractor or subcontractor 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.*

*(e) Apprentices and Trainees. Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation are not subject to the requirements of 112.03(d). 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.*

**(f) Truck Drivers.**

1. *The payment of Davis-Bacon wages to truck drivers shall be in accordance with the decision reached in Building and Construction Trades Dept. v. Midway, (D.C. Cir. 1991) 932 F. 2d 985.*

2. *Davis-Bacon wages shall only apply to laborers who work on the site of the construction work, and not laborers employed off-site, such as suppliers, materialmen, and material delivery truck drivers, regardless of their employer.*
3. *For purposes of the contract, the definition of work subject to Davis-Bacon wages shall include transportation between the actual construction location and a facility which is dedicated to such construction and deemed a part of the site of the work within the meaning of the term "site of the work", as set forth in the regulations at 29 CFR 5.2 et seq. which are herein incorporated by reference.*
4. *"Site of the work" shall be the physical place or places where the construction called for in the contract will remain when work on it has been completed.*
5. *The site of the work shall include off-site facilities such as fabrication plants, mobile factories, batch plants, borrow pits, job headquarters, tool yards, etc., provided they are dedicated exclusively, or nearly so, to the performance of the contract work and are so located in proximity to the actual construction location that it would be reasonable to include them.*
6. *The site of the work shall not include permanent home offices, branch plant establishments, fabrication plants, or tool yards of the Contractor or a subcontractor whose locations and continuance in operation are determined wholly without regard to a particular 100 percent State-funded construction contract or project.*
7. *Fabrication plants, batch plants, borrow pits, job headquarters, tool yards, etc., of a commercial supplier or materialman which are established by a supplier of materials before opening of bids and not on the project site, are not part of the site of the work, even where the operations for a period of time may be dedicated exclusively, or nearly so, to the performance of a contract.*

**(g) Withholding.** *The Department will upon its own action withhold, or cause to be withheld, from the Contractor or subcontractor under this contract or another contract with the Contractor as much of the accrued payments or advances as may be considered necessary to pay laborers, including apprentices, trainees, and helpers, employed by the Contractor or a subcontractor the full amount of wages required by the contract. In the event of failure to pay a laborer, including an apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the Department's contracting officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of further payment, advance, or guarantee of funds until such violations have ceased.*

**(h) Overtime Requirements.** *No Contractor or subcontractor contracting for a part of the contract work which may require or involve the employment of laborers, including apprentices, trainees, and helpers described in 112.03(d) and 112.03(e) shall require or permit a laborer in a given workweek in which he/she is employed on such work, to work in excess of 40 h in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 h in such workweek.*

**(i) Violation: Liability for Unpaid Wages.** *In the event of violation of 112.03(g), the Contractor and each subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages.*

**(j) Withholding for Unpaid Wages.** *The Department will upon its own action withhold, or cause to be withheld, from the monies payable on account of work performed by the Contractor or subcontractor under the contract or another contract with the Contractor, such sums as may be determined to be necessary to satisfy any liabilities of the Contractor or subcontractor for unpaid wages.*

#### **112.04 Statements and Payrolls.**

- (a) Payrolls and basic records relating thereto shall be maintained by the Contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, apprentices, and trainees working at the site of the work.*
- (b) The payroll records shall contain the name of each employee; his or her correct classification; hourly rates of wages paid, including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof 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. The Contractor and each subcontractor employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.*
- (c) The Contractor and each subcontractor shall furnish, each week in which contract work is performed, to the Engineer a payroll of wages paid each of its employees, including apprentices and trainees, described in 112.03(d) and 112.03(e), and watchers and guards engaged on work during the preceding weekly payroll period. The payroll submitted shall set out accurately and completely all of the information required to be maintained in accordance with 112.04(b). This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents as Federal stock number 029-005-0014-1, U.S. Government Printing Office, Washington, D.C. 20402. The Contractor shall be responsible for the submission of copies of payrolls by all subcontractors.*

- (d) *Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or its agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:*
1. *That the payroll for the payroll period contains the information required to be maintained under 112.04(b) and that such information is correct and complete.*
  2. *That each laborer, including each 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 29 CFR 3.*
  3. *That each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.*
- (e) *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 112.04 requirement (d).*
- (f) *The Contractor or subcontractor shall make the records required under 112.04 requirement (b) available for inspection, copying, or transcription by authorized representatives of the Department, and shall permit such representatives to interview employees during working hours on the project site. If the Contractor or subcontractor fails to submit the required records or to make them available, the Department, after written notice to the Contractor, may take such actions as may be necessary to cause the suspension of further payment, advance, or guarantee of funds.*

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DEMOLITION/RENOVATION NOTIFICATION TO IDEM

The Standard Specifications are revised as follows.

SECTION 202, AFTER LINE 33, INSERT AS FOLLOWS:

*In accordance with IAC 14-10, the Contractor shall complete and submit a demolition/renovation notification to IDEM when demolition or renovation of buildings, houses, canopies, and bridges are part of the contract. This notification shall be submitted regardless of whether asbestos containing material is present. Each notification form submitted to IDEM may have a maximum of 10 structures listed on the form. For the purposes of this form, a structure includes a building, house, canopy, or a bridge. Fees for this demolition/renovation notification are \$50.00 per notification and shall be paid to IDEM by the Contractor.*

*Copies of the demolition/renovation notification form can be obtained at: [www.in.gov/icpr/webfile/formsdiv/44593.pdf](http://www.in.gov/icpr/webfile/formsdiv/44593.pdf). Questions concerning the completion of the demolition/renovation notification should be addressed to IDEM's Office of Air Management's toll free number (888) 547-8150. Office hours are Monday through Friday between the hours of 6:30 a.m. and 4:30 p.m. IDEM will assist in proper completion of the notification.*

*Initial notification to IDEM shall be by certified mail, return receipt requested, or by hand delivery. Verification of this notification shall be provided to the Engineer. The Contractor shall provide such notification 10 work days prior to the date on which demolition or renovation operations are anticipated to begin. If the Contractor postpones the beginning date of demolition or renovation operations, IDEM shall be provided written notice of the new start date, postmarked at least five work days or delivered at least two work days before these operations begin. Verification of this notification shall also be provided to the Engineer.*

SECTION 202, BEGIN LINE 275, DELETE AND INSERT AS FOLLOWS:

**202.06.1 Inspection and Removal of Asbestos.** The Contractor shall comply with all applicable environmental regulations including but not limited to those as follows:

- (a) ~~326 IAC 14-10 requires notification to the IDEM of all demolition or renovation operations. Notification is required for renovation operations only if reportable quantities of asbestos are broken, dislodged or disturbed during the renovation procedure. Initial notification to IDEM shall be by certified mail, return receipt requested, or by hand delivery. Verification of this notification shall be provided to the Engineer. The Contractor shall provide such notification 10 work days prior to the date on which removal or demolition operations are anticipated to begin. In accordance with 202.02 and IAC 14-10, a demolition/renovation notification is to be submitted to IDEM 10 work days prior to the start of demolition or renovation operations. During the 10 work day period, the IDEM may make a determination of the existence of asbestos materials. If the Contractor postpones the beginning date of demolition or removal operations, the IDEM shall be provided written notice of the new start date, postmarked at least five work days or delivered at least two work days before removal or demolition begins. Verification of this notification shall also be provided. Local governmental agencies may have additional regulations that must be followed. The Contractor shall contact IDEM's air management office to determine what local agencies have regulations.~~

HMA REVISIONS FOR 2005

The Supplements to the 1999 Standard Specifications are revised as follows:

SECTION 401, BEGIN LINE 714, DELETE AND INSERT AS FOLLOWS:

- Standard Practice for ~~Short and Long Term~~ Mixture Conditioning  
Aging of Hot-Mix Asphalt (HMA)..... AASHTO R 30*
- Standard Practice for ~~Designing~~ Superpave Volumetric  
Design for Hot Mix Asphalt (HMA)..... AASHTO PP 28*
- Maximum Specific Gravity and Density of Bituminous  
Paving Mixtures ..... AASHTO T 209*
- Resistance of Compacted ~~Bituminous~~ Asphalt Mixture to  
Moisture Induced Damage..... AASHTO T 283*
- Method for Preparing and Determining the  
Density of Hot Mix Asphalt (HMA)  
Specimens by Means of the ~~SHRP~~ Superpave  
Gyratory Compactor..... AASHTO T 312*

SECTION 401, LINE 736C, DELETE AND INSERT AS FOLLOWS:

Primary Control Sieve	<del>9.5</del> 4.75 mm	4.75 mm	<del>4.75</del> 2.36 mm	2.36 mm	NA
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SECTION 401, BEGIN LINE 737a, DELETE AND INSERT AS FOLLOWS:

<i>Open Graded, Mixture Designation – Control Point (Percent Passing)</i>		
	<del>€19.0</del> OG19.0	<del>€25.0</del> OG25.0

SECTION 401, BEGIN LINE 754, DELETE AND INSERT AS FOLLOWS:

*Dense graded mixture shall be tested for moisture susceptibility in accordance with AASHTO T 283 except that the loose mixture curing shall be replaced by ~~short term aging~~ mixture conditioning for 2 h in accordance with AASHTO R 30. The minimum tensile strength ratio, TSR, shall be 80%. The 150 mm (6 in.) mixture specimens shall be compacted in accordance with AASHTO T 312. If anti-stripping additives are added to the mixture to be in accordance with the minimum TSR requirements, the dosage rate shall be submitted with the DMF.*

*The MAF equals the Gmm from the mixture design divided by the following: 2.465 for 9.5 mm mixtures and 2.500 for 12.5 mm, 19.0 mm, and 25.0 mm mixtures. If the MAF calculation results in a value where ~~0.960-0.980~~  $0.960-0.980 \leq MAF \leq 1.040-1.020$ , then the MAF shall be considered to be 1.000. If the calculated MAF is outside of the above range, then the actual calculated value shall be used. The MAF does not apply to OG mixtures.*

SECTION 401, BEGIN LINE 783a, DELETE AND INSERT AS FOLLOWS:

<i>VOIDS IN MINERAL AGGREGATE (VMA) CRITERIA @ <math>N_{des}</math></i>	
<i>Mixture Designation</i>	<i>Minimum VMA, Percent</i>
<i>4.75 mm</i>	<i>16.0</i>
<i>9.5 mm</i>	<i>15.0</i>
<i>12.5 mm</i>	<i>14.0</i>
<i>19.0 mm</i>	<i>13.0</i>
<i>25.0 mm</i>	<i>12.0</i>
<i><del>C19.0</del> OG19.0 mm</i>	<i>NA</i>
<i><del>C25.0</del> OG25.0 mm</i>	<i>NA</i>

SECTION 401, BEGIN LINE 791, DELETE AND INSERT AS FOLLOWS:

*Note 4: For ~~C19.0~~ OG19.0 mm and ~~C25.0~~ OG25.0 mm mixtures, VFA is not applicable.*

SECTION 401, BEGIN LINE 809, DELETE AND INSERT AS FOLLOWS:

~~Mainline surface or open graded mixtures shall not contain recycled materials. Recycled materials shall not be used in ESAL Category 3, 4, or 5 surface mixtures or open graded mixtures.~~

SECTION 401, BEGIN LINE 858, DELETE AND INSERT AS FOLLOWS:

*The bulk specific gravity of gyratory specimens for dense graded mixtures will be determined in accordance with AASHTO T 166 except samples are not required to be dried overnight. The bulk specific gravity of gyratory specimens for open graded mixtures, ~~C19.0~~ OG19.0, ~~C25.0~~ OG25.0 will be determined in accordance with ASTM D 6752, except as follows. The duration of the test from initiating the vacuum extraction to weighing the specimen after the water bath will not exceed five minutes. The mass of water absorbed by the specimen while in the water bath will be subtracted from the mass of the specimen obtained in the water bath. Any test in which the mass of water absorbed by the specimen exceeds ~~2% of the sample mass~~ 5 g is invalid.*

SECTION 401, BEGIN LINE 880, DELETE AND INSERT AS FOLLOWS:

*The Engineer's acceptance test results for each subplot will be available ~~when~~ after the subplot and testing is are complete.*

SECTION 401, BEGIN LINE 1035, DELETE AS FOLLOWS:

*Within one work day of coring operations the Contractor shall clean, dry, and refill the core holes with HMA of similar or smaller particles ~~or other approved materials.~~*

SECTION 401, BEGIN LINE 1045, INSERT AS FOLLOWS:

*The Engineer's acceptance test results for each subplot will be available when the subplot testing is complete. Acceptance of the pavement for density (%MSG) will be reported to the nearest 0.1%. Rounding will be in accordance with 109.01(a).*

SECTION 401, BEGIN LINE 1052, DELETE AND INSERT AS FOLLOWS:

**401.18 Pavement Smoothness.** *The pavement smoothness will be accepted by means of a profilograph, a 4.9 m (16 ft) long straightedge, or a 3 m (10 ft) long straightedge.*

The profilograph shall be used where all of the following conditions are met:

- (a) the design speed is greater than 70 km/h (45 mph),
- (b) the pavement lanes are full width and ~~75 m (250 ft)~~ 0.16 km (0.1 mi.) or longer, and
- (c) the HMA is placed on a milled surface or the total combined planned lay rate of surface, intermediate, and base is ~~180-210~~ kg/m<sup>2</sup> (330-385 lb/syd) or greater.

If a pay item, profilograph, HMA, is included in the contract and the above conditions are met, the Contractor shall furnish, calibrate, and operate an approved profilograph in accordance with ITM 901. The profilogram produced shall become the property of the Department. The profilograph shall remain the property of the Contractor. When a profilograph, HMA, is not included as a pay item, and the above conditions are met, the Department will furnish, calibrate, and operate the profilograph or the Department will develop an extra work agreement in accordance with 109.05 to include profilograph, HMA as a pay item.

Within the limits of a smoothness section where the posted speed is 65 km/h (40 mph) or less, smoothness of that section may be measured by a profilograph or a 4.9 m (16 ft) long straightedge. The Contractor shall notify the Engineer of the selected process prior to placement of the HMA. Smoothness pay adjustments are only applicable when measured by a profilograph.

The 4.9 m (16 ft) long straightedge shall be used on overlays where the profilograph is not specified. The 4.9 m (16 ft) long straightedge shall be used on all full width pavement lanes shorter than ~~75 m (250 ft)~~ 0.16 km (0.1 mi.), on tapers, within 15 m (50 ft) of ~~bridge ends~~ a reinforced concrete bridge approach, and within 15 m (50 ft) of an existing pavement, which is being joined.

SECTION 401, BEGIN LINE 1095, DELETE AND INSERT AS FOLLOWS:

When the profilograph is being used on a surface course, in addition to the requirements for the profile index, all areas having a high or low point deviation in excess of 8 mm (0.3 in.) shall be corrected. Courses underlying the surface courses that are exposed by corrective actions shall be milled to ~~25 mm (1 in.)~~ 38 mm (1 1/2 in.) and replaced with the same type surface materials. The initial profile index shall be determined prior to any corrective action. The final profile index will be determined after all corrective action has been completed.

SECTION 401, BEGIN LINE 1126, DELETE AND INSERT AS FOLLOWS:

The subplot quality assurance adjustment for mixture properties and density is calculated as follows.

$$q = \sum L x U x (SCPF - 1.00)/MAF$$

where:

- q = quality assurance adjustment ~~quantity~~ for the subplot
- L = ~~subplot~~ subplot quantity
- U = unit price for the material, \$/Mg (\$/TON)
- SCPF = subplot composite pay factor

~~The quality assurance adjustment points for smoothness will be calculated in accordance with 401.19(e).~~

The total quality assurance adjustments is to be calculated as follows:-

$$Q = Q_s + (\sum q)/MAF$$

where:

- Q = total quality assurance adjustment quantity
- Q<sub>s</sub> = quality assurance adjustment for smoothness as calculated in 401.19(e)
- q = quality assurance adjustment quantity

SECTION 401, BEGIN LINE 1152a, DELETE AND INSERT AS FOLLOWS:

<i>BINDER CONTENT</i>	
<i>Deviation from JMF (±%)</i>	<i>Pay Factor</i>
<i>≤ 0.2</i>	<i>1.05</i>
<i>&gt; 0.2 and ≤ 0.3</i>	<i>1.04</i>
<i>&gt; 0.3 and ≤ 0.4</i>	<i>1.02</i>
<i>&gt; 0.4 and ≤ 0.5</i>	<i>1.00</i>
<i>&gt; 0.5 and ≤ 0.6</i>	<i>0.95</i>
<i>&gt; 0.6 and ≤ 0.7</i>	<i>0.90</i>
<i>&gt; 0.7 and ≤ 0.8</i>	<i>0.85</i>
<i>&gt; 0.8</i>	<i>0.85 - 0.05 per each 0.1% over 0.8%</i>

<u>BINDER CONTENT</u>		
<u>DENSE GRADED</u>	<u>OPEN GRADED</u>	<u>PAY FACTOR</u>
<u>Deviation from JMF (± %)</u>	<u>Deviation from JMF (± %)</u>	<u>Pay Factor</u>
<u>≤ 0.2</u>	<u>≤ 0.2</u>	<u>1.05</u>
<u>0.3</u>	<u>0.3</u>	<u>1.04</u>
<u>0.4</u>	<u>0.4</u>	<u>1.02</u>
<u>0.5</u>	<u>0.5</u>	<u>1.00</u>
<u>0.6</u>	<u>0.6</u>	<u>0.95</u>
<u>0.7</u>	<u>0.7</u>	<u>0.90</u>
<u>0.8</u>	<u>0.8</u>	<u>0.85</u>
<u>&gt; 0.8</u>	<u>&gt; 0.8</u>	<u>0.85 – 0.05 per each 0.1% over 0.8%</u>

<u>VMA</u>	
<u>Deviation from JMF (± %)</u>	<u>Pay Factor</u>
<u>DENSE GRADED</u>	
<u>≤ 0.5</u>	<u>1.05</u>
<u>&gt; 0.5 and ≤ 1.0</u>	<u>1.00</u>
<u>&gt; 1.0 and ≤ 1.5</u>	<u>0.95</u>
<u>&gt; 1.5 and ≤ 2.0</u>	<u>0.90</u>
<u>&gt; 2.0 and ≤ 2.5</u>	<u>0.85</u>
<u>&gt; 2.5</u>	<u>0.85 – 0.02 per each 0.1% over 2.5%</u>
<u>OPEN GRADED</u>	
<u>All</u>	<u>1.00</u>

<u>VMA</u>		
<u>DENSE GRADED</u>	<u>OPEN GRADED</u>	<u>PAY FACTOR</u>
<u>Deviation from JMF (± %)</u>	<u>Deviation from JMF (± %)</u>	<u>Pay Factor</u>
<u>≤ 0.5</u>		<u>1.05</u>
<u>&gt; 0.5 and ≤ 1.0</u>	<u>All</u>	<u>1.00</u>
<u>&gt; 1.0 and ≤ 1.5</u>		<u>0.95</u>
<u>&gt; 1.5 and ≤ 2.0</u>		<u>0.90</u>
<u>&gt; 2.0 and ≤ 2.5</u>		<u>0.85</u>
<u>&gt; 2.5</u>		<u>0.85 – 0.02 per each 0.1% over 2.5%</u>

<i>AIR VOIDS</i>	
<i>Deviation from JMF (± %)</i>	<i>Pay Factor</i>
<i>DENSE GRADED</i>	
$\leq 0.5$	1.05
$> 0.5 \text{ and } \leq 1.0$	1.00
$> 1.0 \text{ and } \leq 1.5$	0.95
$> 1.5 \text{ and } \leq 2.0$	0.85
$> 2.0$	Submitted to the Materials and Tests Division
<i>OPEN GRADED</i>	
$\leq 1.0$	1.05
$> 1.0 \text{ and } \leq 3.0$	1.00
$> 3.0 \text{ and } \leq 3.5$	0.95
$> 3.5 \text{ and } \leq 4.0$	0.85
$> 4.0$	Submitted to the Materials and Tests Division

<i>AIR VOIDS</i>		
<i>DENSE GRADED</i>	<i>OPEN GRADED</i>	<i>PAY FACTOR</i>
<i>Deviation from JMF (± %)</i>	<i>Deviation from JMF (± %)</i>	<i>Pay Factor</i>
$\leq 0.5$	$\leq 1.0$	1.05
$> 0.5 \text{ and } \leq 1.0$	$> 1.0 \text{ and } \leq 3.0$	1.00
$> 1.0 \text{ and } \leq 1.5$	$> 3.0 \text{ and } \leq 3.5$	0.95
$> 1.5 \text{ and } \leq 2.0$	$> 3.5 \text{ and } \leq 4.0$	0.85
$> 2.0$	$> 4.0$	Submit to Materials and Tests Division*

SECTION 401, BEGIN LINE 1164a, DELETE AND INSERT AS FOLLOWS:

<i>DENSITY</i>		
<i>Percentages are based on %MSG</i>	<i>Pay Factors – Percent</i>	
<i>Dense Graded</i>	<i>Open Graded</i>	
$\geq 97.0$		Submitted to the Materials and Tests Division*
95.6 - 96.9		1.05 - 0.01 for each 0.1% above <del>95.6</del> 95.5
94.0 - 95.5		1.05
93.1 - 93.9		1.00 + 0.005 for each 0.1% above <del>93.1</del> 93.0
92.0 - 93.0	84.0	1.00
91.0 - 91.9		1.00 - 0.003 for each 0.1% below 92.0
90.0 - 90.9		0.97 - 0.012 for each 0.1% below 91.0
89.0 - 89.9		0.85 - <del>0.015</del> 0.030 for each 0.1% below 90.0
$\leq 88.9$		Submitted to the Materials and Tests Division*

\* Test results will be considered and adjudicated as a failed material in accordance with normal Department practice as listed in 105.03.

SECTION 401, BEGIN LINE 1183, DELETE AND INSERT AS FOLLOWS:

$N_n$  = number of layers

SECTION 401, BEGIN LINE 1200, INSERT AS FOLLOWS:

*The total quality assurance adjustments is to be calculated as follows:*

$$Q = Q_s + (\sum q)$$

where:

$Q$  = total quality assurance adjustment  
 $Q_s$  = quality assurance adjustment for smoothness  
 $q$  = subplot quality assurance adjustment

SECTION 401, BEGIN LINE 1233, DELETE AND INSERT AS FOLLOWS:

**401.21 Method of Measurement.** HMA mixtures will be measured by the megagram (ton) of the type specified, in accordance with 109.01(b). ~~The mass (weight) accepted for payment measured quantity~~ will be divided by the MAF to determine the ~~accepted pay~~ quantity.

SECTION 402, BEGIN LINE 474, INSERT AS FOLLOWS:

PG 64-28\*, PG 70-22, PG 76-22.....902.01(a)

SECTION 402, BEGIN LINE 501, DELETE AND INSERT AS FOLLOWS:

*The MAF equals the Gmm from the mixture design divided by the following: 2.465 for 9.5 mm mixtures and 2.500 for 12.5 mm, 19.0 mm, and 25.0 mm mixtures. If the MAF calculation results in a value where ~~0.960~~ 0.980 ≤ MAF ≤ ~~1.040~~ 1.020, then the MAF shall be considered to be 1.000. If the calculated MAF is outside of the above range, then the actual calculated value shall be used.*

SECTION 402, BEGIN LINE 537, DELETE AND INSERT AS FOLLOWS:

**(d) Composition Limits for HMA Curbing Mixes.** *The mixture shall be HMA surface type A in accordance with 402 except 402.05 shall not apply and ~~no~~ RAP shall not be used. The binder content shall be 7.0% and the gradations shall meet the following.*

SECTION 402, BEGIN LINE 745, DELETE AND INSERT AS FOLLOWS:

**402.16 Low Temperature Density Compaction Requirements.** *Compaction for mixtures placed below the temperatures listed in 402.12, shall be controlled by ~~air voids density~~ determined from MSG of the plate samples ~~a mixture plate sample~~ and cores cut from the compacted pavement placed during a low temperature period. Samples shall be obtained in accordance with ITM 580. Acceptance will be based on a ~~minimum of one~~ plate sample and two cores. The Engineer will randomly select locations in accordance with ITM 802. The transverse core location will be located so that the edge of the core will be no closer than 75 mm (3 in.) from a confined edge or 150 mm (6 in.) from a non-confined edge of the course being placed.*

SECTION 402, BEGIN LINE 765, DELETE AS FOLLOWS:

*The Contractor, and the Engineer, shall mark the core to define the course to be tested. If the core indicates a course thickness of less than 2.0 times the maximum particle size, the core will be discarded and a core from a new random location will be selected for testing.*

SECTION 402, BEGIN LINE 775, DELETE AS FOLLOWS:

*The ~~percent air voids~~ density of a section for the mixture shall be expressed as:*

$$AV\% \text{ Density} = (1.0 - BSG/MSG) \times 100 \times BSG/MSG$$

where:

*AV% = ~~percent air voids~~  
 BSG = average bulk specific gravity  
 MSG = maximum specific gravity*

*The Engineer will determine the bulk specific gravity of the cores in accordance with AASHTO T 166. The maximum specific gravity will be determined in accordance with AASHTO T 209. Density Air voids shall not be greater less than 8.0% 92.0%. ~~Within one work day of coring operations, the Contractor shall clean, dry, refill, and compact the core holes with suitable HMA of similar or smaller size particles or other approved materials.~~*

*Within one work day of coring operations, the Contractor shall clean, dry, refill, and compact the core holes with suitable HMA of similar or smaller size particles.*

SECTION 402, BEGIN LINE 799, DELETE AND INSERT AS FOLLOWS:

**402.19 Method of Measurement.** *HMA mixtures will be measured by the megagram (ton) of the type specified, in accordance with 109.01(b). The ~~mass (weight) accepted for payment~~ measured quantity will be divided by the MAF to determine the ~~accepted pay~~ quantity.*

SECTION 404, BEGIN LINE 148, DELETE AS FOLLOWS:

**404.06 Preparation of Surface.** *Surfaces to be sealed shall be brought to proper section and grade, compacted, cleaned as required, and approved. ~~Aggregate surfaces to be sealed shall be primed in accordance with 406.~~*

SECTION 408, BEGIN LINE 212, DELETE AND INSERT AS FOLLOWS:

**408.02 Materials.** *Materials shall be in accordance with the following:*

*Asphalt Emulsion for  
 Crack Sealing, AE-90, AE-90S, AE-150 .....902.01(b)  
 Fine Aggregates, No. 23 or 24.....904  
 Sealant for Routed Cracks and Joints.....ASTM D 3405  
Joint Sealing Materials.....906.02*

SECTION 408, BEGIN LINE 221, DELETE AND INSERT AS FOLLOWS:

**408.03 Equipment.** *A distributor in accordance with 409.03 shall be used when crack sealing and an indirect-heat double boiler kettle with mechanical agitator shall be used when routing and ~~sealing~~ filling. Air compressors shall be capable of producing a minimum air pressure of 690 kPa (100 psi).*

SECTION 408, BEGIN LINE 226, INSERT AS FOLLOWS:

**408.04 Weather Limitations.** *Sealing or filling operations shall not be conducted on a wet surface, when the ambient temperature is below 4°C (40°F), or when other unsuitable conditions exist, unless approved by the Engineer.*

SECTION 408, BEGIN LINE 230, DELETE AND INSERT AS FOLLOWS:

**408.05 Routing and Filling Cracks and Joints.** *Cracks and joints shall be routed when specified, with a vertical-spindle router with carbide-tipped or diamond router bits to form a reservoir not exceeding 13 mm ~~x 13 mm~~ (0.5 in. ~~x 0.5 in.~~) wide with a minimum depth of 19 mm (0.75 in.), ~~when required.~~ The operation shall be coordinated such that routed materials do not encroach on pavement lanes carrying traffic and all routed materials are disposed of in accordance with 104.07. Cracks and joints shall be filled with asphalt rubber to within 7 mm (0.25 in.) of the surface in accordance with the manufacturer's recommendations.*

SECTION 408, BEGIN LINE 250, DELETE AND INSERT AS FOLLOWS:

**408.07 Method of Measurement.** *Sealing and filling of cracks and joints in asphalt pavements will be measured by the megagram (ton) of ~~asphalt~~ material used. Routing of cracks and joints will not be measured.*

SECTION 408, BEGIN LINE 257, DELETE AND INSERT AS FOLLOWS:

**408.08 Basis of Payment.** *Sealing and filling of cracks and joints in asphalt pavements will be paid for by the megagram (ton) of ~~asphalt~~ material used for the type specified.*

SECTION 410, BEGIN LINE 1, DELETE AND INSERT AS FOLLOWS:

**SECTION 410—Blank**

**SECTION 410 – QUALITY CONTROL/QUALITY ASSURANCE, QC/QA, HMA SURFACE – SMA PAVEMENT**

**410.01 Description.** *This work shall consist of one course of QC/QA HMA Surface – SMA mixture constructed on prepared foundations in accordance with 105.03.*

**410.02 Quality Control.** *The SMA mixture shall be supplied from a certified HMA plant in accordance with ITM 583; Certified Volumetric Hot Mix Asphalt Producer Program. The QCP shall be modified to include the requirements for the SMA mixtures. The SMA shall be transported and placed according to a Quality Control Plan, QCP, prepared and submitted by the Contractor in accordance with ITM 803; Contractor Quality Control Plans for Hot Mix Asphalt Pavements. The QCP shall be submitted to the Engineer at least 15 days prior to commencing SMA paving operations.*

**MATERIAL**

**410.03 Materials.** *Materials shall be in accordance with the following:*

<i>Asphalt Materials</i>	
<i>PG Binder, PG 76-22, PG 70-22 .....</i>	<i>902.01(a)</i>
<i>Coarse Aggregates, Class AS .....</i>	<i>904</i>
<i>Stabilizing Additive .....</i>	<i>AASHTO MP 8</i>
<i>Fine Aggregates (sand, mineral filler).....</i>	<i>904</i>

**410.04 Design Mix Formula.** *A design mix formula, DMF, shall be prepared in accordance with 410.05 and submitted in a format acceptable to the Engineer one week prior to use. The DMF shall state the maximum particle size in the mixture. The DMF shall state the calibration factor, test temperature and absorption factors to be used for the determination of binder content using the ignition oven in accordance with ITM 586, the binder content by extraction in accordance with ITM 571, and a Mixture Adjustment Factor (MAF). The DMF shall state the source, type, dosage rate of any stabilizing additives. Approval of the DMF will be based on the ESAL and mixture designation. A mixture number will be assigned by the Engineer. No mixture will be accepted until the DMF has been approved.*

*The ESAL category identified in the pay item correlates to the following ESAL ranges:*

<i>ESAL CATEGORY</i>	<i>ESAL</i>
<i>1</i>	<i>&lt; 300,000</i>
<i>2</i>	<i>300,000 to &lt; 3,000,000</i>
<i>3</i>	<i>3,000,000 to &lt; 10,000,000</i>
<i>4</i>	<i>10,000,000 to &lt; 30,000,000</i>
<i>5</i>	<i>≥ 30,000,000</i>

**410.05 SMA Mix Design.** *The DMF shall be determined for each mixture from a SMA mix design by a design laboratory selected from the Department’s list of Approved Mix Design Laboratories. A SMA mixture shall be designed in accordance with the respective AASHTO references as listed below.*

<i>Standard Practice for Designing</i>	
<i>Stone Matrix Asphalt (SMA) .....</i>	<i>AASHTO PP 41</i>
 <i>Standard Practice for Mixture Conditioning</i>	
<i>of Hot-Mix Asphalt (HMA) .....</i>	<i>AASHTO R 30</i>
 <i>Standard Specification for Designing</i>	
<i>Stone Matrix Asphalt (SMA) .....</i>	<i>AASHTO MP 8</i>
 <i>Determining the Plastic Limit and Plasticity</i>	
<i>Index of Soils.....</i>	<i>AASHTO T 90</i>

*Maximum Specific Gravity and Density of Bituminous Paving Mixtures* ..... AASHTO T 209

*Resistance of Compacted Asphalt Mixture to Moisture Induced Damage*..... AASHTO T 283

*Determination of Draindown Characteristics in Uncompacted Asphalt Mixtures*..... AASHTO T 305

*Method for Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor*..... AASHTO T 312

*Method for Viscosity Determination of Asphalt Binder Using Rotational Viscometer* ..... AASHTO T 316

The single percentage of aggregate passing each required sieve shall be within the limits of the following gradation table.

<i>SMA Gradation Control Limits (Percent Passing by Volume)</i>				
	<i>Mixture Designation</i>			
	<i>9.5 mm</i>		<i>12.5 mm</i>	
<i>Sieve Size</i>	<i>Lower</i>	<i>Upper</i>	<i>Lower</i>	<i>Upper</i>
<i>25.0 mm</i>				
<i>19.0 mm</i>			<i>100.0</i>	<i>100.0</i>
<i>12.5 mm</i>	<i>100.0</i>	<i>100.0</i>	<i>90.0</i>	<i>99.0</i>
<i>9.5 mm</i>	<i>70.0</i>	<i>95.0</i>	<i>50.0</i>	<i>85.0</i>
<i>4.75 mm</i>	<i>30.0</i>	<i>50.0</i>	<i>20.0</i>	<i>40.0</i>
<i>2.36 mm</i>	<i>20.0</i>	<i>30.0</i>	<i>16.0</i>	<i>28.0</i>
<i>1.18 mm</i>	---	<i>21.0</i>	---	---
<i>600 μm</i>	---	<i>18.0</i>	---	---
<i>300 μm</i>	---	<i>15.0</i>	---	---
<i>75 μm</i>	<i>8.0</i>	<i>12.0</i>	<i>8.0</i>	<i>11.0</i>

The optimum binder and aggregate gradation content shall produce 4.0% air voids. The maximum specific gravity of the uncompacted mixture shall be determined in accordance with AASHTO T 209. The percent draindown for SMA surface mixture shall not exceed 0.30% in accordance with AASHTO T 305.

The MAF equals the Gmm from the mixture design divided by the following: 2.465 for 9.5 mm mixtures and 2.500 for 12.5 mm mixtures. If the MAF calculation results in a value where  $0.980 \leq \text{MAF} \leq 1.020$ , then the MAF shall be considered to be 1.000. If the calculated MAF is outside of the above range, then the actual calculated value shall be used.

The mixture shall be tested for moisture susceptibility in accordance with AASHTO T 283 except that the loose mixture curing shall be replaced by mixture conditioning for 2 h in accordance with AASHTO R 30. The minimum tensile strength ratio, TSR, shall be 70%. The 150 mm (6 in.) mixture specimens shall be compacted to  $6.0 \pm 1.0\%$  air voids in accordance with AASHTO T 312. Specimens shall be prepared using freeze-thaw preconditioning. If anti-stripping additives are added to the mixture to be in accordance with the minimum TSR requirements, the dosage rate shall be submitted with the DMF.

The fine aggregate portion of the aggregate blend shall be non-plastic as determined in accordance with AASHTO T 90.

A change in the source or types of aggregates, change in source or type of stabilizing additives, or a change in the source of the specified binder shall require a new DMF. A new DMF shall be submitted to the District Materials and Tests Engineer for approval one week prior to use.

The specific gravity of SF and the Gsb of an aggregate blend containing SF may be adjusted once per contract upon notification by the SF source and approval by the District Materials and Tests Engineer. A new DMF is not required for this adjustment.

The mixture design compaction temperature for the specimens shall be  $150 \pm 5^{\circ}\text{C}$  ( $300 \pm 9^{\circ}\text{F}$ ).

<i>VOIDS IN MINERAL AGGREGATE (VMA) CRITERIA</i>	
<i>Mixture Designation</i>	<i>Minimum VMA, Percent</i>
<i>12.5 mm</i>	<i>17.0</i>
<i>9.5 mm</i>	<i>17.0</i>

**410.06 Recycled Materials.** Mainline surface shall not contain recycled materials.

**410.07 Lots and Sublots.** Lots will be defined as 2400 Mg (2400 t) of SMA surface mixture. Lots will be further sub-divided into sublots not to exceed 600 Mg (600 t) of SMA surface mixture. Partial sublots of 100 Mg (100 t) or less will be added to the previous subplot. Partial sublots greater than 100 Mg (100 t) constitute a full subplot.

**410.08 Job Mix Formula.** A job mix formula, JMF, shall be developed by a certified HMA producer in accordance with ITM 583. A JMF used for SMA mixture the current or previous calendar year will be allowed. The mixture compaction temperature shall be  $150 \pm 5^{\circ}\text{C}$  ( $300 \pm 9^{\circ}\text{F}$ ). The JMF for each mixture shall be submitted to the Engineer.

**410.09 Acceptance of Mixtures.** Acceptance of mixtures for binder content, moisture, and gradation for each lot will be based on tests performed by the Engineer. The Engineer will randomly select the location(s) within each subplot for sampling in accordance with the ITM 802.

Samples from each location shall be obtained from each subplot from the pavement in accordance with ITM 580. The second sample shall be located from the random sample by offsetting 0.3 m (1 ft) transversely towards the center of the mat and will be used for the moisture sample. The test results of the sublots will be averaged and shall meet the requirements for tolerances from the JMF for each sieve and binder content.

The maximum percent of moisture in the mixture shall not exceed 0.10 from plate samples.

The Engineer’s acceptance test results for each subplot will be available after the subplot and testing are complete. During the adjustment period the test results will be made available after testing is complete.

<i>ACCEPTANCE TOLERANCE FOR MIXTURES (%Percent Mass)</i>										
<i>MIXTURE</i>	<i>NUMBER OF TESTS</i>	<i>SIEVE SIZE</i>								
					<i>*12.5 mm</i>	<i>*9.5 mm</i>	<i>*4.75 mm</i>	<i>2.36 mm</i>	<i>600 μm</i>	<i>75 μm</i>
<i>SURFACE</i>	<i>1</i>							<i>8.0</i>	<i>4.0</i>	<i>2.5</i>
	<i>2</i>							<i>5.7</i>	<i>2.8</i>	<i>2.1</i>
	<i>3</i>							<i>4.6</i>	<i>2.3</i>	<i>1.8</i>
	<i>4</i>							<i>4.0</i>	<i>2.0</i>	<i>1.5</i>

\* The acceptance tolerance for this sieve shall be the applicable composition limits specified in 410.05.

<i>ACCEPTANCE TOLERANCE FOR BINDER</i>				
<i>Binder Content</i>	<i>Number of Tests</i>			
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
<i>% Binder</i>	<i>0.7</i>	<i>0.5</i>	<i>0.4</i>	<i>0.3</i>

Acceptance of mixtures for range will be determined using the results of subplot tests performed by the Engineer from each lot. If the range is not in accordance with the requirements, adjustment points will be assessed in accordance with 410.19(a).

<i>ACCEPTANCE TOLERANCE FOR RANGE (± Percent Mass)</i>		
<i>SIEVE SIZE &amp; BINDER CONTENT</i>	<i>PERCENTAGE POINTS</i>	
		<i>SURFACE</i>
<i>2.36 mm</i>		<i>12.0</i>
<i>600 μm</i>		<i>6.0</i>
<i>75 μm</i>		<i>2.0</i>
<i>% BINDER</i>		<i>1.0</i>

*Acceptance tolerances for binder content and gradation will be as set out above for the number of tests performed. The acceptance tolerance for range will be as set out above for lots of more than one subplot. The range of binder shall be the difference between the highest subplot binder content and the lowest subplot binder content in one lot. The range of gradation shall be the difference between the highest subplot percent passing and the lowest subplot percent passing each required sieve in one lot.*

*Single test values and averages will be reported to the nearest 0.1% except moisture will be reported to the nearest 0.01%. Rounding will be in accordance with 109.01(a).*

*Lot adjustment points will be assessed in accordance with 410.19(a) when the average or range for binder content or gradation are not met.*

*The Contractor may request an appeal of the Engineer's test results in accordance with 410.20.*

*A binder draindown test in accordance with AASHTO T 305 shall be completed once per lot in accordance with 410.07 and shall not exceed 0.30%.*

*Stabilizing additives incorporated into the mixture will be accepted on the basis of a type A certification for the specified material properties for each shipment of fibers. Stabilizing additives from different manufacturers and different types of additives shall not be intermixed.*

*In the event that an acceptance sample is not available to represent a subplot(s), all test results of the previous subplot will be used for acceptance. If the previous subplot is not available, the subsequent subplot will be used for acceptance.*

## **CONSTRUCTION REQUIREMENTS**

**410.10 General.** *Equipment for SMA operations shall be in accordance with 409.*

*Fuel oil, kerosene, or solvents shall not be transported in open containers on equipment. Cleaning of equipment and small tools shall not be accomplished on the pavement or shoulder areas.*

*Segregation, flushing or bleeding of SMA mixtures will not be permitted. Corrective action shall be taken to prevent continuation of these conditions. Segregated, flushed or bleeding of SMA mixtures shall be removed if directed. All areas showing an excess or deficiency of binder shall be removed and replaced.*

*All mixtures that become loose and broken, mixed with dirt, or is in any way defective shall be removed and replaced.*

**410.11 Preparation of Surfaces to be Overlaid.** *Milling of an existing pavement surface shall be in accordance with 202.05. Surfaces on which a mixture is placed shall be free from objectionable or foreign materials at the time of placement.*

*Milled asphalt surfaces and asphalt surfaces shall be tacked in accordance with 406. Contact surfaces of curbing, gutters, manholes, and other structures shall be tacked in accordance with 406.*

**410.12 Process Control.** *The Engineer and Contractor will jointly review the operations to ensure compliance with the QCP. Continuous violations of compliance with the QCP will result in suspension of paving operations.*

**410.13 Weather Limitations.** *SMA courses shall be placed when the ambient temperature and the temperature of the surface on which it is to be placed is 7°C (45°F) or above.*

**410.14 Spreading and Finishing.** *The mixture shall be placed upon an approved surface by means of a paver or other mechanical devices in accordance with 409.03. Mixtures in areas inaccessible to mechanical devices may be placed by other methods.*

*Prior to paving, both the planned quantity and lay rate shall be adjusted by multiplying by the MAF. When mixture is produced from more than one DMF or JMF for a given pay item, the MAF will be applied to the applicable portion of the mixture for each.*

*Planned SMA courses greater than 90 kg/m<sup>2</sup> (165 lb/syd) placed under traffic, shall be brought up even with each adjacent lane at the end of each work day. Planned SMA courses less than or equal to 90 kg/m<sup>2</sup> (165 lb/syd) shall be brought forward concurrently, within practical limits, limiting the work in one lane to not more than one work day of production before moving back to bring forward the adjacent lane.*

*Hydraulic extensions on the paver will not be permitted for continuous paving operations. Fixed extensions or extendable screeds shall be used on courses greater than the nominal width of the paver except in areas where the paving widths vary. Hydraulic extensions may be used in tapers and added lanes less than 75 m (250 ft) in length.*

*Automatic slope and grade controls will be required and shall be outlined in the QCP.*

*SMA mainline and SMA shoulders which are 2.4 m (8.0 ft) or more in width shall be placed with automatic paving equipment.*

*The rollers shall be operated to avoid shoving of the SMA and at speeds not to exceed 4.5 km/h (3 mph). Rollers shall be in accordance with 409.03 (d) 1, 2, or 6. Vibratory rollers meeting the requirements of 409.03(d)1 may be used but shall not be operated in vibratory mode, except the vibratory mode may be used on the first pass to the paver.*

*The finished thickness of any course shall be at least two times but not more than four times the maximum particle size as shown on the DMF.*

**410.15 Joints.** *Longitudinal joints in the surface shall be at the lane lines of the pavement.*

*Transverse joints shall be constructed by exposing a near vertical full depth face of the previous course. For areas inaccessible to rollers, other mechanical devices shall be used to achieve the required density.*

*If constructed under traffic, temporary transverse joints shall be feathered to provide a smooth transition to the driving surface.*

**410.16 Density.** *Acceptance will be based on lots and sublots in accordance with 410.07.*

*The Engineer's acceptance test results for each sublot will be available after the sublot and testing are complete.*

*Sublot and lot density values will be reported to the nearest 0.1%. Rounding will be in accordance with 109.01(a).*

*Density acceptance for all SMA mixtures shall be based on cores cut from the compacted pavement and analysis of pavement samples obtained in accordance with ITM 580. Acceptance will be based on lots and sublots in accordance with 410.07. The Engineer will randomly select two locations in accordance with ITM 802, within each sublot for coring. The transverse core location will be located so that the edge of the core will be no closer than 75 mm (3 in.) from a confined edge or 150 mm (6 in.) from a non-confined edge of the course being placed. The maximum specific gravity will be determined from the sample obtained in 410.09.*

*The Contractor shall obtain cores in the presence of the Engineer with a device that shall produce a uniform 150 mm (6 in.) diameter pavement sample. Surface courses shall be cored within one work day of placement. Damaged core(s) shall be discarded and replaced with a core from a location selected by adding 0.3 m (1.0 ft) to the longitudinal location of the damaged core using the same transverse offset.*

*The Contractor and the Engineer shall mark the core to define the course to be tested. If the core indicates a course thickness of less than 2.0 times the maximum particle size, the core will be discarded and a core from a new random location will be selected for testing.*

*The Engineer will take immediate possession of the cores. If the Engineer's cores are subsequently damaged, additional coring within a specific sublot or sublots will be the responsibility of the Department. Subsequent core locations will be determined by subtracting 0.3 m (1.0 ft) from the random location using the same transverse offset.*

The density of the mixture will be expressed as the percentage of maximum specific gravity (%MSG) obtained by dividing the average bulk specific gravity by the maximum specific gravity for the subplot, times 100. The Engineer will determine the BSG of the cores in accordance with AASHTO T 166. The maximum specific gravity will be determined in accordance with AASHTO T 209 from plant produced materials prepared in accordance with ITM 572. The target value for density of SMA mixtures of each subplot shall be 93.0%.

The densities of the sublots will be averaged to determine the density of the lot.

Within one work day of coring operations the Contractor shall clean, dry, and refill the core holes with SMA of similar or smaller size particles or other approved materials. The Contractor's plan for refilling core holes shall be outlined in the QCP.

**410.17 Shoulder Corrugations.** Shoulder corrugations shall be in accordance with 606.

**410.18 Pavement Smoothness.** The pavement smoothness will be evaluated and determined in accordance with 401.18.

**410.19 Adjustment Points.** When test results for mixture properties or density exceed the allowable tolerances, adjustment points will be assessed. The adjustment points will be used to calculate a quality assurance adjustment quantity ( $q$ ) for the lot. Quality assurance adjustment points for smoothness will be in accordance with 401.19(c).

The adjustment for mixture properties and density are calculated as follows.

$$q = (L \times U \times P/100)/MAF$$

where:

$q$  = quality assurance adjustment quantity

$L$  = lot quantity

$U$  = unit price for the material, \$/Mg (\$/TON)

$P$  = total adjustment points

The total quality assurance adjustments is to be calculated as follows:

$$Q = QS + \sum (qm + qd)$$

where:

$Q$  = total quality assurance adjustment quantity

$QS$  = quality assurance adjustment for smoothness as calculated in 401.19(c)

$qm$  = lot adjustments for mixtures

$qd$  = lot adjustments for density

If the total adjustment points for a lot are greater than 15, the pavement will be evaluated by the Materials and Tests Division. If the Contractor is not required to remove the mixture, quality assurance adjustments of the lot will be assessed or other corrective actions as determined by the Materials and Tests Division.

**(a) Mixture.** When test results for the mixture furnished exceed the allowable tolerances, adjustment points will be assessed as follows:

ADJUSTMENT POINTS FOR GRADATION									
Adjustment Points	SIEVE SIZE								
				12.5 mm	9.5 mm	4.75 mm	2.36 mm	600 Φm	75 Φm
For Each 0.1% up to 1.0% Out Of Tolerance				0.1	0.1	0.1	0.1	0.2	0.3
For Each 0.1% > 1.0% Out of Tolerance				0.1	0.1	0.1	0.2	0.3	0.6

Gradation adjustment points for the lot shall be the sum of points calculated for up to 1% out of tolerance and the points calculated for greater than 1% out of tolerance in accordance with 410.09.

Binder content adjustment points for the lot shall be two points for each 0.1% above the tolerance or four points for each 0.1% below the tolerance in accordance with 410.09.

When test results for the mixture furnished exceed the allowable range in accordance with 410.09, adjustment points will be assessed as follows:

ADJUSTMENT POINTS FOR RANGE	
Sieve Size and Binder Content	Adjustment Points (For Each 0.1% Out Of Range)
2.36 mm	0.1
600 μm	0.1
75 μm	0.1
% Binder	1.0

For mixtures produced during a certified HMA plant's adjustment period, adjustment points will not be assessed if the mixture produced is in accordance with the following.

1. The gradation complies with 410.05 with the allowable tolerance limits shown in 410.09.
2. The range for the binder content and gradation do not exceed the limits shown in 410.09.

3. The binder content is within the tolerance requirements of 410.09.

If the mixture is not in accordance with these requirements, adjustment points will be assessed in accordance with 410.09 for variations exceeding the requirements shown above.

**(b) Density.** When the density of the lot is outside the allowable tolerances, adjustment points will be assessed as follows:

<i>DENSITY</i>	
<i>Percentages are based on %MSG</i>	<i>Pay Adjustments– Percent</i>
<i>&gt; 97.0</i>	<i>Submitted to the Materials and Tests Division *</i>
<i>93.0 – 97.0</i>	<i>0.00</i>
<i>92.0 – 92.9</i>	<i>0.20 points for each 0.10 % below 93.0</i>
<i>91.0 – 91.9</i>	<i>2.00 + 0.40 points for each 0.10 % below 92.0</i>
<i>89.0 – 90.9</i>	<i>6.00 + 1.00 points for each 0.10 % below 91.0</i>
<i>≤89.0</i>	<i>Submitted to the Materials and Tests Division *</i>

\* Test results will be considered and adjudicated as a failed material in accordance with normal Department practice as listed in 105.03.

**410.20 Appeals.** If the QC test results do not agree with the acceptance test results, a request, along with the QC test results, may be made in writing for additional testing. The basis of the appeal shall include applicable QC test results showing acceptable quality results and shall be submitted within seven calendar days of receipt of the Department's written results for that subplot. Acceptable QC test results are defined as QC test results resulting in less pay adjustment to the contract than that determined by the Department. If an appeal is granted, appeal cores shall be taken within seven calendar days after written notification unless otherwise directed. Within one work day of appeal coring operations the Contractor shall clean, dry, and refill the core holes with SMA or HMA surface materials.

The results of the appeal cores will replace the initial test results for a subplot(s) or lot and be used as the basis for acceptance.

**(a) Mixture.** Upon approval for the additional testing, the Contractor shall take cores in accordance with ITM 580. The core location will be within 0.3 m (1.0 ft) longitudinally of the sample tested using the same transverse offset.

**(b) Density.** Additional core locations will be determined by adding 0.3 m (1.0 ft) longitudinally of the cores tested using the same transverse offset. Each subplot density will be calculated using the average bulk specific gravity of the cores obtained for that subplot and the average MSG of the lot.

**410.21 Method of Measurement.** SMA mixtures will be measured by the megagram (ton) of the type specified, in accordance with 109.01(b). The measured quantity will be divided by the MAF to determine the pay quantity.

**410.22 Basis of Payment.** *The accepted quantities for this work will be paid for at the contract unit price per megagram (ton) for QC/QA-HMA, of the type specified, – SMA, complete in place.*

*Payment for furnishing, calibrating, and operating the profilograph, and furnishing profile information will be made in accordance with 401.22.*

*Adjustments to the contract payment with respect to mixture, density, and smoothness for mixture produced will be included in a quality assurance adjustment pay item. The unit price for this pay item will be one dollar (\$1.00) and the quantity will be in units of dollars. The quantity is the total calculated in accordance with 410.19. An extra work order developed in accordance with 109.05 will be prepared to reflect contract adjustments.*

*Payment will be made under:*

<b>Pay Item</b>	<b>Metric Pay Unit Symbol (English Pay Unit Symbol)</b>
QC/QA HMA, _____, _____, _____, _____ mm – SMA .....	Mg (TON)
(ESAL <sup>(1)</sup> ) (PG <sup>(2)</sup> ) (Course <sup>(3)</sup> ) (Mix <sup>(4)</sup> )	
Quality Assurance Adjustment.....	DOL

*(1) ESAL Category as defined in 410.04*

*(2) Number represents the high temperature binder grade. Low temperature grades are –22.*

*(3) Surface,*

*(4) Mixture Designation*

*Preparation of surfaces to be overlaid shall be included in the cost of other pay items within this section.*

*Coring and refilling of the pavement holes shall be included in the cost of other pay items within this section.*

*No payments will be made for additional anti-stripping additives, appeal coring or related traffic control expenditures for coring operations.*

*Corrections for pavement smoothness shall be included in the cost of other pay items within this section.*

*The price for profilograph, HMA will be full compensation regardless of how often the profilograph is used or how many profilograms are produced.*

SECTION 610, BEGIN LINE 22, DELETE AND INSERT AS FOLLOWS:

**610.03 General Requirements.** ~~Except as otherwise herein provided, subgrade~~ *Subgrade for approaches shall be prepared in accordance with 207.04. Aggregate base shall be constructed in accordance with 301. HMA for approaches shall be constructed in accordance with 402. HMA mixture for approaches shall be HMA surface or intermediate, type A, B, ~~C,~~ or D in accordance with 402.04. A MAF in accordance with 402.04 will not apply.*

*Dense graded subbase shall be constructed in accordance with 302. PCCP for approaches shall be constructed in accordance with 502.*

SECTION 718, BEGIN LINE 155, DELETE AND INSERT AS FOLLOWS:

*The mixture for HMA for underdrains shall be Intermediate ~~€19.0~~ OG 19.0 mm in accordance with 401. An ESAL Category 5 in accordance with 401.04 and a PG Binder 76-22 shall be used. A MAF in accordance with 401.05 will not apply. Acceptance of the HMA for underdrains will be in accordance with 402.09.*

SECTION 718, BEGIN LINE 162, INSERT AS FOLLOWS:

**718.03 Pipe Installation.** *Trenches shall be excavated to the dimensions and grade shown on the plans. Pipes shall be secured to ensure that the required grade and horizontal alignment of the pipe are maintained. Perforated pipe shall be placed with the perforations down. The pipe sections shall be joined securely with the appropriate couplings, fittings, or bands. Aggregate for underdrains shall be placed in a manner which minimizes aggregate contamination. HMA for underdrains shall be placed and compacted separately from mainline mixtures. HMA for underdrains may be placed in one lift and shall be compacted with equipment in accordance with 409.03(d).*

SECTION 718, BEGIN LINE 172, INSERT AS FOLLOWS:

**718.04 Geotextile.** *Storage and handling of geotextiles shall be in accordance with the manufacturer's recommendations. Each geotextile roll shall be labeled or tagged. Damaged or defective geotextile shall be replaced as directed. The geotextile shall be placed loosely, but with no wrinkles or folds. The ends of subsequent rolls of geotextile shall be overlapped a minimum of 0.3 m (1.0 ft). The upstream geotextile shall overlap the downstream geotextile. Placement of aggregate shall proceed following placement of the geotextile. HMA for underdrains shall be placed and compacted separately from mainline mixtures. HMA for underdrains may be placed in one lift and shall be compacted with equipment in accordance with 409.03(d).*

#### CEMENTS

The Standard Specifications are revised as follows:

SECTION 702, BEGIN LINE 64, DELETE AND INSERT AS FOLLOWS:

The relative yield of the concrete shall be determined in accordance with ~~501.03(a)~~ 505. The concrete when produced shall provide a relative yield of  $1.00 \pm 0.02$ . When the relative yield is outside the tolerances, adjustments to the batch weights shall be made. The minimum amount of cement shall be used for the desired class of concrete. The cement content shall not be increased more than  $36 \text{ kg/m}^3$  (60 lb/cu yd). The relative yield of the concrete shall be maintained as stated above. If ~~portland pozzolan cement, type IP; or air-entrained portland pozzolan cement, type IP-A;~~ cements are to be used in the structural concrete, the cement content shall be increased by a multiplier of 1.06 times the minimum amount of cement required or the desired increased cement content for the specified class of concrete (i.e,  $1.06 \times 335 = 355$  kilograms per cubic meter ( $1.06 \times 564 = 598$  lb/cu yd) for class A concrete).

Fly ash from an approved source may be used as a partial replacement for portland cement. The substitution of fly ash for portland cement will not be permitted in conjunction with the use of blended portland cement ~~types, IP, IPA, IS, and ISA~~ nor ground granulated blast furnace slag. Mix designs will be based on using a maximum 20% cement reduction with a minimum 1.25 to 1 ash-to-cement replacement ratio by weight.

Ground granulated blast furnace slag from an approved source may be used as a partial replacement for portland cement. The substitution of ground granulated blast furnace slag for portland cement will not be permitted in conjunction with the use of blended portland cement ~~types, IP, IPA, IS, and ISA~~, nor fly ash. Mix designs will be based on using a maximum 30% cement substitution with a 1:1 slag-to-cement ratio, by weight.

~~Portland Blended portland~~ pozzolan cements, ~~type IP~~, fly ash, and ground granulated blast furnace slag used as a pozzolan may only be used in concrete bridge decks between April 1 and October 15 of the same calendar year.

CERTIFICATION OF TEMPORARY TRAFFIC CONTROL DEVICES

Category 1 Devices

The Contractor shall certify that the following temporary traffic control devices to be used do not exceed the maximum values shown in the table below, and are considered crashworthy at Test Level 3 in accordance with National Cooperative Highway Research Program Report No. 350.

Device	Composition	Maximum Mass (Weight)	Maximum Height
Single Piece Traffic cones	Rubber	9 kg (20 lb)	920 mm (36 in.)
	Plastic	9 kg (20 lb)	1220 mm (48 in.)
Tubular Markers	Rubber	6 kg (13 lb)	920 mm (36 in.)
	Plastic	6 kg (13 lb)	920 mm (36 in.)
Single Piece Drums	High Density Plastic	35 kg (77 lb)	920 mm (36 in.)
	Low Density Plastic	35 kg (77 lb)	920 mm (36 in.)
Delineators	Plastic, Fiberglass	N/A	1220 mm (48 in.)

No lights, signs, flags, or other auxiliary attachments are included in the mass (weight) of the devices listed above. Reflective sheeting or reflective buttons are included on delineators. Maximum masses (weights), including ballast, do not exceed the values shown in the table. "Single piece" refers to the construction of the body of the drum exclusive of a separate base, if any.

Type A or type C warning lights in accordance with the following specifications will be allowed on drums if they are firmly attached with vandal resistant 13 mm (1/2 in.) diameter by 95 mm (4 in.) cadmium plated steel bolt with nut and a 38 mm (1 1/2 in. high cup washer.

1. The mass (weight) shall be no more than 2.4 kg (5 lb).
2. The lens diameter shall be 180 to 200 mm (7 to 8 in.)
3. The height of the light shall be 270 to 340 mm (11 to 14 in.)

#### Category II Devices

Category II temporary traffic control devices include type III barricades, vertical panels, portable sign standards, and other light-weight traffic control devices.

Category II temporary traffic control devices shall be in accordance with the NCHRP Report 350, test level 3.

A form will be provided at the pre-construction conference for the Contractor to complete and return to the Engineer prior to the placement of category I or II traffic control devices.

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#### MAINTAINING TRAFFIC FOR MAINTENANCE OR RESURFACE WORK

The Standard Specifications are revised as follows:

SECTION 801, AFTER LINE 113, INSERT AS FOLLOWS:

*Traffic shall be maintained for maintenance activities or for HMA resurface work as shown on the plans or as described herein. The Contractor shall have an extra set of construction signs and an extra flashing arrow sign on the project site so that the taper may be moved forward without suspending the operations and clearing the work area. Additional traffic control devices shall be furnished for situations determined to be more complex, for protection in hazardous areas, and when traffic conditions warrant.*

*All nonfixed signs shall be removed at the completion of each day's operations. All lanes shall be open to normal traffic during hours other than daylight hours. If a traffic lane is directed to remain closed during hours other than daylight hours, traffic shall be maintained on the remaining lanes as shown on the plans.*

*All fixed signs shall remain in place until all temporary pavement markings have been removed. Work days will not be charged from the time of completion of other work until the markings have been removed.*

MAINTENANCE OF TRAFFIC

The Contractor shall minimize closures to through and turning lanes. All signs utilized for lane restrictions shall be removed upon the elimination of the restriction. The Contractor will minimize exposure of excavated areas to traffic and weather by performing curb removal, placement and backfill at only one (1) median island location at a time. Minor work activities such as finish grading of topsoil may take place concurrently at all islands.

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CASTING REMOVAL

The casting from the storm sewer catch basin to be abandoned in Island #4 shall be salvaged and become property of INDOT upon delivery.

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CURB REMOVAL AND GRADING

The Contractor shall saw cut through the entire thickness of the existing concrete pavement along the face of the existing integral curb prior to curb removal. Disposal of the concrete curb and all excavated material to the specified grade shall be the responsibility of the Contractor.

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TRAFFIC HAND-HOLE

Traffic signal hand-holes exist in each of the four (4) islands. The hand-holes shall not be disturbed and adjacent planting backfill shall be graded flush with the casting. If questions arise, contact John McGregor at (765) 361 - 5671 or Tim Watson at (765) 361 - 5645. If the hand-hole becomes disturbed or damaged during construction, the Contractor shall repair/replace the hand-hole at the Contractor's expense.

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CATCH BASIN PERPETUATION

The storm sewer catch basin located in Island #1 shall be perpetuated. The catch basin shall not be disturbed and adjacent planting backfill shall be graded flush with the casting. If the catch basin become disturbed or damaged during construction, the Contractor shall repair/replace the catch basin at the contractor's expense. The curb turn-out leading to the catch basin shall have a minimum thickness of four (4) inches.

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CURB INSTALLATION

Placement of new concrete curb shall begin as soon as possible following water installation at each island. New Concrete Curb Modified (Barrier) shall extend eight (8) inches above and ten (10) inches below (eighteen (18) inch total height) the existing roadway surface. Curb height shall not vary with variable pavement thicknesses.

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BACKFILL METHODS

Structure backfill materials shall be placed and compacted to a depth of five (5) inches. Top soil backfill materials shall be placed and compacted in separate five (5) inch lifts resulting in a total compacted depth of ten (10) inches.

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WORK COORDINATION

Prior to the start of work, the Contractor shall contact the City of Lafayette (Opal Kuhl (765) 476-4471) and provide a proposed work schedule to allow for the coordination of city water installation at each Island. The Contractor shall also notify the City of Lafayette upon completion of work at which point final backfilling and planting may commence.

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CURB REPAIR

Curb repair is intended for broken down curbing areas on the west side of US 52 south of National Drive. Curb repair will be paid for with undistributed quantities of the Curb, Concrete, Integral, Remove item and the Curb, Concrete, Modified item. These areas are to be repaired during lane closures for the replacement of the west side curbing north of National Drive. Upon completion of the Curb Repair (not Replacement), the Contractor is to notify INDOT Operations (Chris Hall (765) 361-5245) in order for bituminous backfill behind repaired curb to be scheduled. Saw-cutting of curb ends for repair shall be included in the Curb, Concrete, Modified item.

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LANE RESTRICTION SIGNS

A route or lane closure notice sign shall consist of a construction sign type A, in accordance with 801.04(a), which indicates route or lane closure. The sign shall be mounted for a maximum of 14 calendar days and a minimum of seven calendar days before the closure date shown on the sign. The sign shall be removed when the route or lane is closed.

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RESTRICTION TIME

The work shall be prosecuted such that all lanes are open to unrestricted traffic from 4:00 p.m. Friday until 6:00 a.m. Monday. A total of 30 calendar days will be allowed for lane closures. Lane closures must be left in place overnight from the time that the existing curb is removed, until the new curb is in place and backfilled a minimum of 12 inches.

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## AGGREGATES

The Supplements to the Standard Specifications are revised as follows:

SECTION 904, BEGIN LINE 453, DELETE AND INSERT AS FOLLOWS:

*Aggregates, except those used for precast concrete units or fine aggregates used for snow and ice abrasive, shall be supplied by a Certified Aggregate Producer in accordance with 917. Structure backfill may be obtained from a non-CAPP source in accordance with 211.02. SF for SMA mixtures shall also require the following.*

- (a) Specific gravity quality control tests shall be completed at a frequency of one test per 2000 Mg (ton) produced.*
- (b) Target bulk specific gravity shall be established using the average of the first four tests.*
- (c) Subsequent individual tests shall be within 0.050 of the target bulk specific gravity.*
- (d) Moving average of four consecutive tests shall be within 0.040 of the target bulk specific gravity.*
- (e) Tests outside these ranges shall require the material to be isolated from the approved stockpile until action has been taken to eliminate the cause of the nonconformity. Any nonconforming test shall be followed immediately by a corrective action. Corrective actions shall include, but are not limited to, investigation for assignable cause, correction of known assignable cause, and retesting.*
- (f) If it is determined that a new target is necessary, a request shall be made in writing to the District Materials and Tests Engineer to establish the new target.*

*Dolomite aggregates are defined as carbonate rock containing at least 10.3% elemental magnesium when tested in accordance with ITM 205.*

*Polish resistant aggregates are defined as those aggregates in accordance with ITM 214. Aggregates meeting these requirements will be maintained on the Department's list of approved Polish Resistant Aggregates.*

*Sandstone aggregates shall only be used in HMA surface or SMA surface mixtures. Sandstone aggregates are defined as a sedimentary rock composed of siliceous sandgrains containing quartz, chert, and quartzose rock fragments in a carbonate matrix or cemented with silica, calcite, or dolomite. The Materials and Tests Division will determine identification of sandstone.*

*Steel furnace (SF) slag shall only be used in aggregate shoulders, HMA surface or SMA surface mixtures, dumped riprap, and snow and ice abrasives.*

SECTION 904, BEGIN LINE 493a, INSERT AS FOLLOWS:

<i>Characteristic</i>	<i>PCC</i>	<i>HMA</i>	<i>SMA</i>
<i>Physical</i>			
<i>Organic Impurities, AASHTO T 21, lighter than or equal to, Color Standard (Note 1) .....</i>	<i>3</i>		
<i>Acid Insoluble, ITM 202 (Note 2) .....</i>		<i>40</i>	
<i>Soundness</i>			
<i>Freeze and Thaw, AASHTO T 103, Method A, % Max. (Note 3) .....</i>	<i>10.0%</i>	<i>10.0%</i>	<i>10.0%</i>
<i>Brine Freeze-and-Thaw, ITM 209, % Max. (Note 3) .....</i>	<i>12.0%</i>	<i>12.0%</i>	<i>12.0%</i>
<i>Sodium Sulfate Soundness, AASHTO T 104, % Max. (Note 3) .....</i>	<i>10.0%</i>	<i>10.0%</i>	<i>10.0%</i>

- NOTES: 1. *When subjected to the colorimetric test for organic impurities and a color darker than the standard is produced, it shall be tested for effect of organic impurities on strength of mortar in accordance with AASHTO T 71. If the relative strength at seven days is less than 95% it shall be rejected.*
2. *For ACBF or GBF slag sands, the minimum acid insoluble content shall be 25%. Acid insoluble requirements shall not apply to crushed limestone or dolomite sands.*
3. *AASHTO T 104 and ITM 209 may be run at the option of the Engineer, in-lieu of AASHTO T 103.*

SECTION 904, BEGIN LINE 493a, INSERT AS FOLLOWS:

<i>Characteristic</i>	<i>PCC</i>	<i>HMA</i>	<i>SMA</i>
<i>Physical</i>			
<i>Organic Impurities, AASHTO T 21, lighter than or equal to, Color Standard (Note 1) .....</i>	<i>3</i>		
<i>Acid Insoluble, ITM 202 (Note 2) .....</i>		<i>40</i>	
<i>Soundness</i>			
<i>Freeze and Thaw, AASHTO T 103, Method A, % Max. (Note 3) .....</i>	<i>10.0%</i>	<i>10.0%</i>	<i>10.0%</i>
<i>Brine Freeze-and-Thaw, ITM 209, % Max. (Note 3) .....</i>	<i>12.0%</i>	<i>12.0%</i>	<i>12.0%</i>
<i>Sodium Sulfate Soundness, AASHTO T 104, % Max. (Note 3) .....</i>	<i>10.0%</i>	<i>10.0%</i>	<i>10.0%</i>

- NOTES: 1. *When subjected to the colorimetric test for organic impurities and a color darker than the standard is produced, it shall be tested for effect of organic impurities on strength of mortar in accordance with AASHTO T 71. If the relative strength at seven days is less than 95% it shall be rejected.*
2. *For ACBF or GBF slag sands, the minimum acid insoluble content shall be 25%. Acid insoluble requirements shall not apply to crushed limestone or dolomite sands.*
3. *AASHTO T 104 and ITM 209 may be run at the option of the Engineer, in-lieu of AASHTO T 103.*

SECTION 904, BEGIN LINE 539, DELETE AND INSERT AS FOLLOWS:

**(c) For SMA Mixtures. Fine aggregate for SMA shall be limestone, dolomite, crushed gravel, SF, or ACBF. SF sand may be used only when the coarse aggregate is SF. Crushed gravels shall have a minimum fine aggregate angularity of 45 in accordance with AASHTO T 304 Method A. Fine aggregates shall be non-plastic in accordance with AASHTO T 90.**

**(e d) For Pneumatically Placed Mortar.** Fine aggregate shall be natural sand suitable for use with a pneumatic cement gun. Fine aggregate shall be size No. 15, or size PP in accordance with 904.02(g h), or an approved gradation from a CAPP source.

**(d e) Mortar Sand.** Fine aggregate for mortar shall consist of uniformly graded natural sand in accordance with gradation requirements of 904.02(g h) for size No. 15 or an approved gradation from a CAPP source.

**(e f) Blank Mineral Filler for SMA.** Mineral filler shall consist of dust produced by crushing stone, portland cement, or other inert mineral matter having similar characteristics. Mineral filler shall be in accordance with the gradation requirements of 904.02(h) for size No. 16. Mineral filler shall be in accordance with ITM 203 or from an ABF slag source. The sieve analysis of mineral filler shall be conducted in accordance with AASHTO T 37 except as noted in 904.06. Mineral filler shall be non-plastic in accordance with AASHTO T 90.

**(f g) Snow and Ice Abrasives.** Snow and ice abrasives shall be fine aggregates or cinders in accordance with the gradation requirements of 904.02(g h) for size S&I.

When steel slag is used as snow and ice abrasives, and payment is on a tonnage basis, the pay quantity shall be adjusted in accordance with 904.01.

**(g h) Sizes of Fine Aggregates.**

Sieve Sizes	SIZES (PERCENT PASSING)					
	23 Note 1	24 Note 1	15 Note 1	16	PP	S&I
9.5 mm (3/8 in.)	100	100				100
4.75 mm (No. 4)	95-100	95-100			100	
3.35 mm (No. 6)			100			
2.36 mm (No. 8)	80-100	70-100	90-100		85-95	
1.18 mm (No. 16)	50-85	40-80				
600 µm (No. 30)	25-60	20-60	50-75	100	50-65	
300 µm (No. 50)	5-30	7-40	15-40		15-25	0-30
180 µm (No. 80)				95-100		
150 µm (No. 100)	0-10	1-20	0-10		0-10	
75 µm (No. 200)	0-3	0-6	0-3	65-100		0-7

Note 1: The fine aggregate shall have not more than 45% retained between any 2 consecutive sieves.

**(h i) Sampling and Testing.** Sampling and testing shall be conducted in accordance with the following AASHTO and ITMs:

*Acid Insoluble Content*.....ITM 202  
*\*Amount of Material Finer than*  
    75 µm (No. 200) sieve..... AASHTO T 11  
*Brine Freeze-and-Thaw Soundness* .....ITM 209  
*Control Procedures for Classification of Aggregates* .....ITM 203  
*Determining the Plastic Limit and Plasticity Index*  
    *of Soils*..... AASHTO T 90  
*Mortar Strength* ..... AASHTO T 71  
*Organic Impurities*..... AASHTO T 21  
*Sampling Aggregates* ..... AASHTO T 2  
*Sampling Stockpiled Aggregates*.....ITM 207  
*\*Sieve Analysis of Aggregate*..... AASHTO T 27  
*\*Sieve Analysis of Mineral Filler* ..... AASHTO T 37  
*\*Soundness*..... AASHTO T 103, T 104  
*Specific Gravity and Absorption, Fine Aggregate*..... AASHTO T 84

*\*Except as noted in 904.06.*

SECTION 904, BEGIN LINE 589a, INSERT AS FOLLOWS:

Characteristic Classes	AP	AS	A	B	C	D	E	F
<i>Quality Requirements</i>								
<i>Freeze-and-Thaw Beam</i>	.060							
<i>Expansion, % Max. (Note 1) .....</i>								
<i>Los Angeles Abrasion, %, Max (Note 2) .....</i>	40.0	<u>30.0</u>	40.0	40.0	45.0	45.0	50.0	
<i>Sodium Sulfate Soundness, %, Max. (Note 3) .....</i>	12.0	<u>12.0</u>	12.0	12.0	16.0	16.0	20.0	25.0
<i>Brine Freeze-and-Thaw Soundness, % Max. (Note 4) .....</i>	30	<u>30</u>	30	30	40	40	50	60
<i>Absorption, %, Max.(Note 5) .....</i>	5.0	<u>5.0</u>	5.0	5.0	5.0			
<i>Additional Requirements</i>								
<i>Deleterious, %, Max.</i>								
<i>Clay Lumps and Friable Particles .....</i>	1.0	<u>1.0</u>	1.0	1.0	2.0	4.0		
<i>Non-Durable (Note 6) .....</i>	4.0	<u>4.0</u>	4.0	4.0	6.0	8.0		
<i>Coke .....</i>					(See Note 7)	(See Note 7)		
<i>Iron.....</i>	3.0	<u>3.0</u>	3.0	5.0	8.0	10.0		
<i>Chert (Note 8) .....</i>	1200		1200	1200	1120	1120	1120	
<i>Mass Per Cubic Meter for Slag, kg ...</i>								
<i>Weight Per Cubic Foot for Slag, (lbs), Min .....</i>	(75.0)		(75.0)	(75.0)	(70.0)	(70.0)	(70.0)	
<i>Crushed Particles, %, Min. (Note 9)</i>								
<i>Asphalt Seal Coats.....</i>			70.0	70.0				
<i>Compacted Aggregates .....</i>			20.0	20.0	20.0	20.0		

- NOTES: 1. Freeze-and-thaw beam expansion shall be tested and retested in accordance with ITM 210.
2. Los Angeles abrasion requirements shall not apply to BF.
3. Aggregates may, at the option of the Engineer, be subjected to 50 cycles of freezing and thawing in accordance with AASHTO T 103, Procedure A, and may be accepted, provided they do not have a loss greater than specified for Sodium Sulfate Soundness.
4. Brine freeze-and-thaw soundness requirements are subject to the conditions stated in Note 3.
5. Absorption requirements apply only to aggregates used in PCC and HMA mixtures except they shall not apply to BF. When crushed stone coarse aggregates from Category I sources consist of production from ledges whose absorptions differ by more than two percentage points, the absorption test will be performed every three months on each size of material proposed for use in PCC or HMA mixtures. Materials having absorption values between 5.0 and 6.0 that pass AP testing may be used in PCC. If variations in absorption preclude satisfactory production of PCC or HMA mixtures, independent stockpiles of materials will be sampled, tested, and approved prior to use.
6. Non-durable particles include soft particles as determined by ITM 206 and other particles which are structurally weak, such as soft sandstone, shale, limonite concretions, coal, weathered schist, cemented gravel, ocher, shells, wood, or other objectionable material. Determination of non-durable particles shall be made from the total mass (weight) of material retained on the 9.5 mm (3/8 in.) sieve. Scratch Hardness Test shall not apply to crushed stone coarse aggregate.
7. ACBF and SF coarse aggregate shall be free of objectionable amounts of coke, ~~and~~ iron, and lime agglomerates.
8. The bulk specific gravity of chert shall be based on the saturated surface dry condition. The amount of chert less than 2.45 bulk specific gravity shall be determined on the total mass (weight) of material retained on the 9.5 mm (3/8 in.) sieve for sizes 2 through 8, 43, 53, and 73, and on the total mass (weight) of material retained on the 4.75 mm (No. 4) sieve for sizes 9, 11, 12, and 91.
9. Crushed particle requirements apply to gravel coarse aggregates used in compacted aggregates, and seal coats except seal coats used on shoulders. Determination of crushed particles shall be made from the weight (mass) of material retained on the 4.75 mm (No. 4) sieve in accordance with ASTM D 5821.

SECTION 904, BEGIN LINE 618, DELETE AND INSERT AS FOLLOWS:

**(b) Coarse Aggregate Angularity for HMA and SMA.** The coarse aggregate angularity (CAA) value of the total blended aggregate material, including recycled materials, shall meet or exceed the minimum values for the appropriate ESAL category and position within the pavement structure as follows:

SECTION 904, AFTER LINE 623, INSERT AS FOLLOWS:

For SMA mixtures, the total blended aggregate shall be 100% one face and 95% two face crushed.

SECTION 904, BEGIN LINE 641, DELETE AND INSERT AS FOLLOWS:

**(d) Surface Aggregate Requirements for HMA and SMA.** The surface mixture aggregate selection shall be based on the ESAL category as follows:

Coarse Aggregate Type	Traffic ESAL		
	< 3,000,000	< 10,000,000	≥ 10,000,000
Air-Cooled Blast Furnace Slag (Note 1)	Yes	Yes	Yes
Steel Furnace Slag	Yes	Yes	Yes
Sandstone	Yes	Yes	Yes
Crushed Dolomite	Yes	Yes	Note 4 2
Polished Resistant Aggregates (Note 1)	Yes	Yes	Note 2
Crushed Stone	Yes	No	No
Gravel (Note 1)	Yes	No	No

Note 1. ACBF or Gravel may not be used in SMA mixtures.

Note 4. Polish resistant aggregates or crushed dolomite may be used for HMA mixtures when blended with ACBF or sandstone but cannot exceed 50% of the coarse aggregate by mass (weight), or cannot exceed 40% of the coarse aggregate by mass (weight) when blended with steel furnace slag. Polish resistant aggregates or crushed dolomite may not be used in SMA mixtures.

ADMIXTURES FOR USE IN CONCRETE

The Standard Specifications are revised as follows:

SECTION 912, DELETE LINES 61 THROUGH 264.

SECTION 912, AFTER LINE 265, INSERT AS FOLLOWS:

**912.03 Admixtures for Use in Concrete.** Admixtures for use in PCC shall be selected from the Department's list of approved Admixtures for PCC. An admixture may be added to the approved list by completing the requirements in ITM 806., Procedure D. Admixtures containing chloride added as an ingredient of manufacture are unacceptable.

**(a) Air Entraining Admixtures.** Air entraining admixtures are materials to be added to PCC mixtures at the mixer for the purpose of entraining air.

**(b) Chemical Admixtures for Concrete.** Chemical admixtures are materials to be added to PCC mixtures at the mixer for the purpose or purposes indicated below.

**1. Type A.** Type A is a water reducing admixture that reduces the quantity of mixing water required to produce concrete of a given consistency.

**2. Type B.** Type B is a retarding admixture that retards the setting of concrete.

**3. Type C.** Type C is a accelerating admixture that accelerates the setting and early strength development of concrete.

**4. Type D.** Type D is a water reducing and retarding admixture that reduces the quantity of mixing water required to produce concrete of a given consistency and retards the setting of concrete.

**5. Type E.** Type E is a water reducing and accelerating admixture that reduces the quantity of mixing water required to produce concrete of a given consistency and accelerates the setting and early strength development of concrete.

**6. Type F.** Type F is a high range water reducing admixture, HRWR, that reduces the quantity of mixing water required to produce concrete of a given consistency by 12% or greater.

**7. Type G.** Type G is a high range water reducing and retarding admixture, HRWRR, that reduces the quantity of mixing water required to produce concrete of a given consistency by 12% or greater and retards the setting of concrete.

**8. High Range Water Reducing Admixture System.** HRWR admixture system is a combination of admixtures that act as a type F admixture within a concrete mixture. The system consists of chemical admixtures and an air entraining admixture. One of the components shall be a type F admixture. Components shall be in accordance with 912.03 for their respective types.

**9. High Range Water Reducing and Retarding Admixture System.** HRWRR admixture system is a combination of admixtures that act as a type G admixture within a concrete mixture. The system consists of chemical admixtures and an air entraining admixture. One of the components shall be a type F or a type G admixture. One of the components shall retard the setting of the concrete. Components shall be in accordance with 912.03 for their respective types.

**(c) Test Report.** Testing shall be performed by a recognized laboratory in accordance with ITM 806.

1. Air entraining admixtures shall be in accordance with AASHTO M 154.
2. Chemical admixtures shall be in accordance with AASHTO M 194 for their respective types.

3. *Test reports shall not be more than five years old on January 1 of the approval year. New submittals of test reports more than five years old will be accepted, if all subsequent five year limited retest reports are submitted. Subsequent limited retest results shall comply with the dating and age requirements specified above and shall include the following tests as a minimum requirement for compliance.*
  - a. *infrared analysis, residue by oven drying, and specific gravity;*
  - b. *water content and time of setting;*
  - c. *flexural strength at three, seven, and 28 days;*
  - d. *relative durability.*

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REFLECTIVE SHEETING

The Standard Specifications are revised as follows:

SECTION 801, BEGIN LINE 35, INSERT AS FOLLOWS:

*The background of construction signs shall be reflective sheeting in accordance with 913.10(b)1. The sheeting type used for construction signs shall be the same for the entire project. Reflective sheeting for drums shall be in accordance with 913.10(b)1. Effective on project lettings after July 1, 2006, the background for all construction signs shall be fluorescent orange reflective sheeting.*

SECTION 913, AFTER LINE 443, DELETE AND INSERT AS FOLLOWS:

*Trim molding shall be of the same material and thickness as the panels to which it is attached.*

*Panel bolts, flat washers, and lock-nuts shall be in accordance with ASTM B 211M (ASTM B 211), alloy 2024-T4. Panel bolts shall be 10 by 19 mm (3/8 by 3/4 in.) standard hex head. Lock-nuts shall be standard hex head.*

**3. Demountable Letters, Numbers, and Symbols.** *Backing material for letters, numerals, and symbols shall be 1.0 mm (0.040 in.) thick aluminum sheets in accordance with ASTM B 209M (ASTM B 209), alloy 3003-H14. Borders shall be 0.8 mm (0.032 in.) thick aluminum sheet in accordance with ASTM B 209M (ASTM B 209), alloy 6061-T6.*

**(b) Sheeting Material.** *Only sheeting materials from the Department's list of approved Sign Sheeting Materials shall be used. Sheeting materials will be placed and maintained on the Department's approved list in accordance with ITM 806, procedure G.*

**(d) 1. Reflective Sheeting.** ~~Three types of reflective~~ *Reflective sheeting shall be used for signs, channelizing, and delineation devices shall be in accordance with AASHTO M 268. Enclosed lens (engineer grade) and encapsulated lens (high intensity) reflective sheeting shall be used on signs and delineators, and barricades. Type V reflective sheeting may be used on delineators. flexible encapsulated lens* ~~Reboundable~~ *reflective sheeting shall be used on plastic drums, flexible delineator posts, and other flexible channelizers.*

The color chromaticity specifications limits, and the minimum reflective intensity values for fluorescent yellow, fluorescent yellow green, and fluorescent orange reflective sheeting materials shall be in accordance with the following tables.

**COLOR SPECIFICATIONS LIMITS AND REFERENCE STANDARDS FOR FLUORESCENT REFLECTIVE SHEETING MATERIAL**

	Chromaticity Coordinates							
	1		2		3		4	
	x	y	x	y	x	y	x	y
Fluorescent Orange	0.583	0.416	0.535	0.400	0.595	0.351	0.645	0.355
Fluorescent Yellow	0.479	0.520	0.446	0.483	0.512	0.421	0.557	0.442
Fluorescent Yellow/Green	0.387	0.610	0.369	0.546	0.428	0.496	0.460	0.540

**DAYTIME LUMINANCE FACTORS FOR FLUORESCENT REFLECTIVE SHEETING MATERIAL**

Color	Luminance Factor Limits (Y)		
	Min	Max	YF
Fluorescent Orange	25	None	15
Fluorescent Yellow	45	None	20
Flourescent Yellow/Green	60	None	20

**MINIMUM REFLECTIVE INTENSITY VALUES FOR FLUORESCENT REFLECTIVE SHEETING MATERIAL**

Observation Angle	Entrance Angle	Fluorescent Orange	Fluorescent Yellow	Fluorescent Yellow/Green
0.2	-4.0	200	240	325
0.2	30.0	85	150	200
0.5	-4.0	80	165	175
0.5	30.0	32	75	70

### Utility Coordination Certification For Short-Term Project

Contract No. M-27762 Des No. 0300804

Project Description: Median Island Enhancements on US 52 from SR 26 to SR 38 in Lafayette, IN. in Tippecanoe County.

The undersigned certifies they have made a diligent effort, consistent with INDOT guidelines for coordination of short-term projects, to identify and show all known utilities within the limits of this contract. All known utility companies have been provided with plans or other information that clearly identifies the scope of this contract. Utility relocation plans and schedules, where provided, for all utilities expected to be in the way of construction in this contract have been reviewed, coordinated, and approved or forwarded to the Owner for approval. The "Existing Conditions of Utilities" statements included in this contract include utility names, contact persons' names and phone numbers, and relocation descriptions and schedules, where provided, for all utilities found to be within the limits of this right-of-way.

The Utility Coordinator is not responsible for utility companies who have failed to cooperate, respond, and/or provide information needed. Further, the Utility Coordinator does not guarantee or warrant in any way the accuracy of information supplied by utility companies.

UTILITY COORDINATOR

Signed

Date: 11/24/04

Printed

#### Waiver to use Short-Term Utility Coordination Process

Reason for Waiver:

going from design to build

The undersigned approves of the use of the Utility Coordination Process for Short-Term Project for this contract.

DISTRICT DEVELOPMENT ENGINEER

Signed

Date: Nov 4, 2004

Printed

STEPHEN A. ISENHOLLER