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Letting January 21, 2022

Notice to Bidders, Specifications and Proposal



**Contract No. 62K99
DUPAGE County
Section 2020-028-TS
Route FAP 338
Project HSIP-ZXKA(039)
District 1 Construction Funds**

Prepared by

Checked by

F

(Printed by authority of the State of Illinois)



- 1. TIME AND PLACE OF OPENING BIDS.** Electronic bids are to be submitted to the electronic bidding system (iCX-Integrated Contractors Exchange). All bids must be submitted to the iCX system prior to 12:00 p.m. January 21, 2022 at which time the bids will be publicly opened from the iCX SecureVault.
- 2. DESCRIPTION OF WORK.** The proposed improvement is identified and advertised for bids in the Invitation for Bids as:

**Contract No. 62K99
DUPAGE County
Section 2020-028-TS
Project HSIP-ZXKA(039)
Route FAP 338
District 1 Construction Funds**

(1,562-Ft) Intersection improvement and signal installation project including HMA surface removal, pavement widening, pavement resurfacing, and traffic signal installation in the City of West Chicago.

- 3. INSTRUCTIONS TO BIDDERS.** (a) This Notice, the invitation for bids, proposal and letter of award shall, together with all other documents in accordance with Article 101.09 of the Standard Specifications for Road and Bridge Construction, become part of the contract. Bidders are cautioned to read and examine carefully all documents, to make all required inspections, and to inquire or seek explanation of the same prior to submission of a bid.

(b) State law, and, if the work is to be paid wholly or in part with Federal-aid funds, Federal law requires the bidder to make various certifications as a part of the proposal and contract. By execution and submission of the proposal, the bidder makes the certification contained therein. A false or fraudulent certification shall, in addition to all other remedies provided by law, be a breach of contract and may result in termination of the contract.
- 4. AWARD CRITERIA AND REJECTION OF BIDS.** This contract will be awarded to the lowest responsive and responsible bidder considering conformity with the terms and conditions established by the Department in the rules, Invitation for Bids and contract documents. The issuance of plans and proposal forms for bidding based upon a prequalification rating shall not be the sole determinant of responsibility. The Department reserves the right to determine responsibility at the time of award, to reject any or all proposals, to re-advertise the proposed improvement, and to waive technicalities.

By Order of the
Illinois Department of Transportation

Omer Osman,
Acting Secretary

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2022

This index contains a listing of SUPPLEMENTAL SPECIFICATIONS and frequently used RECURRING SPECIAL PROVISIONS.

No ERRATA this year.

SUPPLEMENTAL SPECIFICATIONS

Std. Spec. Sec.

Page No.

No Supplemental Specifications this year.

RECURRING SPECIAL PROVISIONS

The following RECURRING SPECIAL PROVISIONS indicated by an "X" are applicable to this contract and are included by reference:

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STATE OF ILLINOIS

SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction," adopted January 1st, 2022, the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," and the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids, and the Supplemental Specifications and Recurring Special Provisions indicated on the Check Sheet included herein which apply to and govern the construction of FAP Route 338 (IL-59), Project HSIP-ZXKA (039), Section 2020-028-TS, Cook County, Contract No. 62K99 and in case of conflict with any part or parts of said Specifications, the said Special Provisions shall take precedence and shall govern.

FAP Route 338 (IL-59)
Project HSIP-ZXKA (039)
Section 2020-028-TS
Cook County
Contract No. 62K99

LOCATION OF PROJECT

This project is located at the intersection of IL-59 and Gary's Mill Road and begins approximately 200 feet south of the intersection and extends northerly to a point approximately 762 north of Gary's Mill Road, also on Gary's Mill Road project begins at the intersection and extends easterly to a point approximately 302 feet, centerline is within the City of West Chicago in DuPage County, Winfield Township for a total distance of 1,562 feet (0.296 mile).

DESCRIPTION OF PROJECT

This is an intersection improvement and signal installation project and the work to be performed under this contract consist of hot-mix asphalt surface removal, pavement widening with hot-mix asphalt base course, resurfacing with polymerized hot-mix asphalt surface course, placement of thermoplastic pavement marking, storm sewers, traffic signal installation and all incidental and collateral work necessary to complete the project as shown in the plans and as described herein.

TRAFFIC CONTROL PLAN (D1)

Effective: September 30, 1985

Revised: January 1, 2007

Traffic Control shall be according to the applicable sections of the Standard Specifications, the Supplemental Specifications, the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways", any special details and Highway Standards contained in the plans, and the Special Provisions contained herein.

Special attention is called to Article 107.09 of the Standard Specifications and the following Highway Standards, Details, Quality Standard for Work Zone Traffic Control Devices, Recurring Special Provisions and Special Provisions contained herein, relating to traffic control.

The Contractor shall contact the District One Bureau of Traffic at least 72 hours in advance of beginning work.

STANDARDS:

701001; 701006; 701011; 701101; 701106; 701301; 701311; 701426; 701501; 701601; 701602; 701606; 701701; & 701901

DETAILS:

TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS (TC-10)
TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW PLOW RESISTANT) (TC-11)
DISTRICT ONE TYPICAL PAVEMENT MARKINGS (TC-13)
TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) (TC-14)
PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING (TC-16)
ARTERIAL ROAD INFORMATION SIGN (TC-22)

SPECIAL PROVISIONS:

PAVEMENT AND SHOULDER RESURFACING (Recurring Spec. #14)
MAINTENANCE OF ROADWAYS
PUBLIC CONVENIENCE AND SAFETY (DIST 1)
KEEPING ARTERIAL ROADWAYS OPEN TO TRAFFIC (LANE CLOSURES ONLY)
TEMPORARY INFORMATION SIGNING
TEMPORARY PAVEMENT MARKING (BDE)
TRAFFIC CONTROL DEVICES – CONES (BDE)
AUTOMATED FLAGGER ASSISTANCE PROGRAM (BDE)
VEHICLE AND EQUIPMENT WARNING LIGHTS (BDE)
WORK ZONE TRAFFIC CONTROL DEVICES (BDE)

MAINTENANCE OF ROADWAYS (D1)

Effective: September 30, 1985

Revised: November 1, 1996

Beginning on the date that work begins on this project, the Contractor shall assume responsibility for normal maintenance of all existing roadways within the limits of the improvement. This normal maintenance shall include all repair work deemed necessary by the Engineer, but shall not include snow removal operations. Traffic control and protection for maintenance of roadways will be provided by the Contractor as required by the Engineer.

If items of work have not been provided in the contract, or otherwise specified for payment, such items, including the accompanying traffic control and protection required by the Engineer, will be paid for in accordance with Article 109.04 of the Standard Specifications.

STATUS OF UTILITIES (D1)

Effective: June 1, 2016

Revised: January 1, 2020

Utility companies and/or municipal owners located within the construction limits of this project have provided the following information regarding their facilities and the proposed improvements. The tables below contain a description of specific conflicts to be resolved and/or facilities which will require some action on the part of the Department's contractor to proceed with work. Each table entry includes an identification of the action necessary and, if applicable, the estimated duration required for the resolution.

UTILITIES TO BE ADJUSTED

Conflicts noted below have been identified by following the suggested staging plan included in the contract. The company has been notified of all conflicts and will be required to obtain the necessary permits to complete their work; in some instances, resolution will be a function of the construction staging. The responsible agency must relocate, or complete new installations as noted below; this work has been deemed necessary to be complete for the Department's contractor to then work in the stage under which the item has been listed.

Pre-Stage

STAGE / LOCATION	TYPE	DESCRIPTION	RESPONSIBLE AGENCY	DURATION OF TIME

Stage 1

STAGE / LOCATION	TYPE	DESCRIPTION	RESPONSIBLE AGENCY	DURATION OF TIME

Stage 2

STAGE / LOCATION	TYPE	DESCRIPTION	RESPONSIBLE AGENCY	DURATION OF TIME

No conflicts to be resolved (or if there are conflicts they are to be listed as noted above)

Pre-Stage: _____ Days Total Installation
 Stage 1: _____ Days Total Installation
 Stage 2: _____ Days Total Installation

The following contact information is what was used during the preparation of the plans as provided by the Agency/Company responsible for resolution of the conflict.

Agency/Company Responsible to Resolve Conflict	Name of contact	Phone	E-mail address

UTILITIES TO BE WATCHED AND PROTECTED

The areas of concern noted below have been identified by following the suggested staging plan included for the contract. The information provided is not a comprehensive list of all remaining utilities, but those which during coordination were identified as ones which might require the Department's contractor to take into consideration when making the determination of the means and methods that would be required to construct the proposed improvement. In some instances, the contractor will be responsible to notify the owner in advance of the work to take place so necessary staffing on the owner's part can be secured.

Pre-Stage

STAGE / LOCATION	TYPE	DESCRIPTION	OWNER

Stage 1

STAGE / LOCATION	TYPE	DESCRIPTION	OWNER

Stage 2

STAGE / LOCATION	TYPE	DESCRIPTION	OWNER

No facilities requiring extra consideration *(or listed as noted above)*

The following contact information is what was used during the preparation of the plans as provided by the owner of the facility.

Agency/Company Responsible to Resolve Conflict	Name of contact	Phone	E-mail address

The above represents the best information available to the Department and is included for the convenience of the bidder. The days required for conflict resolution should be considered in the bid as this information has also been factored into the timeline identified for the project when setting the completion date. The applicable portions of the Standard Specifications for Road and Bridge Construction shall apply.

Estimated duration of time provided above for the first conflicts identified will begin on the date of the executed contract regardless of the status of the utility relocations. The responsible agencies will be working toward resolving subsequent conflicts in conjunction with contractor activities in the number of days noted.

The estimated relocation duration must be part of the progress schedule submitted by the contractor. A utility kickoff meeting will be scheduled between the Department, the Department's contractor and the utility companies when necessary. The Department's contractor is responsible for contacting J.U.L.I.E. prior to all excavation work.

PUBLIC CONVENIENCE AND SAFETY (D1)

Effective: May 1, 2012
 Revised: July 15, 2012

Add the following to the end of the fourth paragraph of Article 107.09:

“If the holiday is on a Saturday or Sunday, and is legally observed on a Friday or Monday, the length of Holiday Period for Monday or Friday shall apply.”

Add the following sentence after the Holiday Period table in the fourth paragraph of Article 107.09:

“The Length of Holiday Period for Thanksgiving shall be from 5:00 AM the Wednesday prior to 11:59 PM the Sunday After”

Delete the fifth paragraph of Article 107.09 of the Standard Specifications:

“On weekends, excluding holidays, roadways with Average Daily Traffic of 25,000 or greater, all lanes shall be open to traffic from 3:00 P.M. Friday to midnight Sunday except where structure construction or major rehabilitation makes it impractical.”

ADJUSTMENTS AND RECONSTRUCTIONS (D1)

Effective: March 15, 2011

Revise the first paragraph of Article 602.04 to read:

“602.04 Concrete. Cast-in-place concrete for structures shall be constructed of Class SI concrete according to the applicable portions of Section 503. Cast-in-place concrete for pavement patching around adjustments and reconstructions shall be constructed of Class PP-1 concrete, unless otherwise noted in the plans, according to the applicable portions of Section 1020.”

Revise the third, fourth and fifth sentences of the second paragraph of Article 602.11(c) to read:

“Castings shall be set to the finished pavement elevation so that no subsequent adjustment will be necessary, and the space around the casting shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)b.”

Revise Article 603.05 to read:

“603.05 Replacement of Existing Flexible Pavement. After the castings have been adjusted, the surrounding space shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)b.”

Revise Article 603.06 to read:

“603.06 Replacement of Existing Rigid Pavement. After the castings have been adjusted, the pavement and HMA that was removed, shall be replaced with Class PP-1 concrete, unless otherwise noted in the plans, not less than 9 in. (225 mm) thick. The pavement may be opened to traffic according to Article 701.17(e)(3)b.

The surface of the Class PP concrete shall be constructed flush with the adjacent surface.”

Revise the first sentence of Article 603.07 to read:

“603.07 Protection Under Traffic. After the casting has been adjusted and the Class PP concrete has been placed, the work shall be protected by a barricade and two lights according to Article 701.17(e)(3)b.”

DRAINAGE AND INLET PROTECTION UNDER TRAFFIC (D1)

Effective: April 1, 2011

Revised: April 2, 2011

Add the following to Article 603.02 of the Standard Specifications:

- “(i) Temporary Hot-Mix Asphalt (HMA) Ramp (Note 1) 1030
- (j) Temporary Rubber Ramps (Note 2)

Note 1. The HMA shall have maximum aggregate size of 3/8 in. (95 mm).

Note 2. The rubber material shall be according to the following.

Property	Test Method	Requirement
Durometer Hardness, Shore A	ASTM D 2240	75 ±15
Tensile Strength, psi (kPa)	ASTM D 412	300 (2000) min
Elongation, percent	ASTM D 412	90 min
Specific Gravity	ASTM D 792	1.0 - 1.3
Brittleness, °F (°C)	ASTM D 746	-40 (-40)°

Revise Article 603.07 of the Standard Specifications to read:

“603.07 Protection Under Traffic. After the casting has been adjusted and the Class PP concrete has been placed, the work shall be protected by a barricade and two lights according to Article 701.17(e)(3)b.

When castings are under traffic before the final surfacing operation has been started, properly sized temporary ramps shall be placed around the drainage and/or utility castings according to the following methods.

- (a) Temporary Asphalt Ramps. Temporary hot-mix asphalt ramps shall be placed around the casting, flush with its surface and decreasing to a featheredge in a distance of 2 ft (600 mm) around the entire surface of the casting.
- (b) Temporary Rubber Ramps. Temporary rubber ramps shall only be used on roadways with permanent posted speeds of 40 mph or less and when the height of the casting to be protected meets the proper sizing requirements for the rubber ramps as shown below.

Dimension	Requirement
Inside Opening	Outside dimensions of casting + 1 in. (25 mm)
Thickness at inside edge	Height of casting \pm 1/4 in. (6 mm)
Thickness at outside edge	1/4 in. (6 mm) max.
Width, measured from inside opening to outside edge	8 1/2 in. (215 mm) min

Placement shall be according to the manufacturer's specifications.

Temporary ramps for castings shall remain in place until surfacing operations are undertaken within the immediate area of the structure. Prior to placing the surface course, the temporary ramp shall be removed. Excess material shall be disposed of according to Article 202.03."

CURB OR COMBINATION CURB AND GUTTER REMOVAL AND REPLACEMENT (D1)

Effective: November 1, 2020

Description. This work shall consist of the complete removal and replacement of curb or combination curb and gutter. Work shall be according to Sections 440 and 606 of the Standard Specifications, State Standard 606001, District Detail BD-24 and as directed by the Engineer except as modified herein.

Curb or combination curb and gutter removal and replacement shall match the type of the existing curb or combination curb and gutter. Types may be variable and are to meet existing dimensions and field conditions. Locations of removal and replacement shall be determined by the Resident Engineer at the time of construction.

Unsuitable material to be removed, as directed by the Engineer, shall be replaced with subbase granular material, type B or additional thickness of concrete. Suitable backfill material, when required, shall be replaced as directed by the Engineer.

Epoxy coated tie bars, #6 (20) - 24" (610) long at 24" (610) centers, shall be used except when adjacent to flexible pavement. Longitudinal bars, if encountered, are not to be replaced.

Hot-mix asphalt surface removal on the existing gutter flag, if encountered, shall be included in the removal of the curb and gutter.

Saw cuts shall be according to Article 440.03 of the Standard Specifications.

½" (13) preformed expansion joints shall be used at concrete sidewalks, driveways and medians.

Method of Measurement. Concrete curb removal and replacement, or combination concrete curb and gutter removal and replacement will be measured for payment in feet (meters) along the face of concrete curb. A minimum replacement length of 4 feet is required.

Basis of Payment. This item will be paid for at the contract unit price per foot (meter) for CURB REMOVAL AND REPLACEMENT or COMBINATION CURB AND GUTTER REMOVAL AND REPLACEMENT for lengths greater than 10 feet and CURB REMOVAL AND REPLACEMENT LESS THAN OR EQUAL TO 10 FEET or COMBINATION CURB AND GUTTER REMOVAL AND REPLACEMENT LESS THAN OR EQUAL TO 10 FEET for lengths less than or equal to 10 feet.

Where unsuitable material is encountered in the subgrade or subbase and its removal and replacement is required by the Engineer, such removal and replacement will be paid for according to Article 109.04.

Sidewalk removal, driveway pavement removal and median surface removal will be paid for according to Article 440.08 of the Standard Specifications.

Portland cement concrete sidewalk will be paid for according to Article 424.13 of the Standard Specifications.

Portland cement concrete driveway pavement will be paid for according to Article 423.11 of the Standard Specifications.

Hot-mix asphalt driveway will be paid for according to Article 355.11 and 406.14 of the Standard Specifications.

Concrete median surface will be paid for according to Article 606.15 of the Standard Specifications.

Topsoil will be paid for according to Article 211.08 of the Standard Specifications.

Sodding will be paid for according to Article 252.13 of the Standard Specifications. Fertilizer for the placement of sod is not required.

GROUND TIRE RUBBER (GTR) MODIFIED ASPHALT BINDER (D1)

Effective: June 26, 2006

Revised: April 1, 2016

Add the following to the end of article 1032.05 of the Standard Specifications:

“(c) Ground Tire Rubber (GTR) Modified Asphalt Binder. A quantity of 10.0 to 14.0 percent GTR (Note 1) shall be blended by dry unit weight with a PG 64-28 to make a GTR 70-28 or a PG 58-28 to make a GTR 64-28. The base PG 64-28 and PG 58-28 asphalt binders shall meet the requirements of Article 1032.05(a). Compatible polymers may be added during production. The GTR modified asphalt binder shall meet the requirements of the following table.

Test	Asphalt Grade GTR 70-28	Asphalt Grade GTR 64-28
Flash Point (C.O.C.), AASHTO T 48, °F (°C), min.	450 (232)	450 (232)
Rotational Viscosity, AASHTO T 316 @ 275 °F (135 °C), Poises, Pa·s, max.	30 (3)	30 (3)
Softening Point, AASHTO T 53, °F (°C), min.	135 (57)	130 (54)
Elastic Recovery, ASTM D 6084, Procedure A (sieve waived) @ 77 °F, (25 °C), aged, ss, 100 mm elongation, 5 cm/min., cut immediately, %, min.	65	65

Note 1. GTR shall be produced from processing automobile and/or light truck tires by the ambient grinding method. GTR shall not exceed 1/16 in. (2 mm) in any dimension and shall contain no free metal particles or other materials. A mineral powder (such as talc) meeting the requirements of AASHTO M 17 may be added, up to a maximum of four percent by weight of GTR to reduce sticking and caking of the GTR particles. When tested in accordance with Illinois modified AASHTO T 27, a 50 g sample of the GTR shall conform to the following gradation requirements:

Sieve Size	Percent Passing
No. 16 (1.18 mm)	100
No. 30 (600 µm)	95 ± 5
No. 50 (300 µm)	> 20

Add the following to the end of Note 1. of article 1030.03 of the Standard Specifications:

“A dedicated storage tank for the Ground Tire Rubber (GTR) modified asphalt binder shall be provided. This tank must be capable of providing continuous mechanical mixing throughout by continuous agitation and recirculation of the asphalt binder to provide a uniform mixture. The tank shall be heated and capable of maintaining the temperature of the asphalt binder at 300 °F to 350 °F (149 °C to 177 °C). The asphalt binder metering systems of dryer drum plants shall be calibrated with the actual GTR modified asphalt binder material with an accuracy of ± 0.40 percent.”

Revise 1030.02(c) of the Standard Specifications to read:

“(c) RAP Materials (Note 5)1031”

Add the following note to 1030.02 of the Standard Specifications:

Note 5. When using reclaimed asphalt pavement and/or reclaimed asphalt shingles, the maximum asphalt binder replacement percentage shall be according to the most recent special provision for recycled materials.

FRICTION AGGREGATE (D1)

Effective: January 1, 2011
Revised: November 1, 2019

Revise Article 1004.03(a) of the Standard Specifications to read:

“**1004.03 Coarse Aggregate for Hot-Mix Asphalt (HMA).** The aggregate shall be according to Article 1004.01 and the following.

(a) Description. The coarse aggregate for HMA shall be according to the following table.

Use	Mixture	Aggregates Allowed
Class A	Seal or Cover	<u>Allowed Alone or in Combination</u> ^{5/} : Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete
HMA Low ESAL	Stabilized Subbase Shoulders	or <u>Allowed Alone or in Combination</u> ^{5/} : Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{1/} Crushed Concrete
HMA High ESAL Low ESAL	Binder IL-19.0 or IL-19.0L SMA Binder	<u>Allowed Alone or in Combination</u> ^{5/ 6/} : Crushed Gravel Carbonate Crushed Stone ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Concrete ^{3/}
HMA High ESAL Low ESAL	C Surface and Binder IL-9.5 or IL-9.5L SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination</u> ^{5/} : Crushed Gravel Carbonate Crushed Stone ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{4/} Crushed Concrete ^{3/}

Use	Mixture	Aggregates Allowed	
HMA High ESAL	D Surface and Binder IL-9.5 SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination</u> ^{5/} :	
		Crushed Gravel Carbonate Crushed Stone (other than Limestone) ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{4/} Crushed Concrete ^{3/}	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		25% Limestone	Dolomite
50% Limestone	Any Mixture D aggregate other than Dolomite		
75% Limestone	Crushed Slag (ACBF) or Crushed Sandstone		
HMA High ESAL	E Surface IL-9.5 SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination</u> ^{5/ 6/} :	
		Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag No Limestone.	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		50% Dolomite ^{2/}	Any Mixture E aggregate
75% Dolomite ^{2/}	Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone		

Use	Mixture	Aggregates Allowed	
		75% Crushed Gravel ^{2/} or Concrete ^{3/}	Crushed Sandstone, Crystalline Crushed Stone, Crushed Slag (ACBF), or Crushed Steel Slag
HMA High ESAL	F Surface IL-9.5 SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination</u> ^{5/ 6/} :	
		Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag No Limestone.	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		50% Crushed Gravel ^{2/} , Concrete ^{3/} , or Dolomite ^{2/}	Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone

- 1/ Crushed steel slag allowed in shoulder surface only.
- 2/ Carbonate crushed stone (limestone) and/or crushed gravel shall not be used in SMA Ndesign 80. In SMA Ndesign 50, carbonate crushed stone shall not be blended with any of the other aggregates allowed alone in Ndesign 50 SMA binder or Ndesign 50 SMA surface.
- 3/ Crushed concrete will not be permitted in SMA mixes.
- 4/ Crushed steel slag shall not be used as leveling binder.
- 5/ When combinations of aggregates are used, the blend percent measurements shall be by volume.”
- 6/ Combining different types of aggregate will not be permitted in SMA Ndesign 80.”

HOT-MIX ASPHALT – MIXTURE DESIGN VERIFICATION AND PRODUCTION (MODIFIED FOR I-FIT) (D1)

Effective: January 1, 2019
 Revised: July 1, 2021

Description. This special provision requires the Illinois Flexibility Index Test (I-FIT) be used during mixture design verification and production testing for all hot-mix asphalt (HMA) mixtures.

Mixture Design. Add the following to the list of referenced standards in Article 1030.04 of the Standard Specifications:

“Illinois Modified AASHTO TP 124 Determining the Fracture Potential of Asphalt Mixtures Using the Illinois Flexibility Index Test (I-FIT)”

Revise Article 1030.04(d) of the Standard Specifications to read:

“(d) Verification Testing. During mixture design, prepared samples shall be submitted to the District laboratory for verification testing. The required testing, and number and size of prepared samples submitted, shall be according to the following tables.

High ESAL – Required Samples for Verification Testing	
Mixture	Hamburg Wheel and I-FIT Testing ^{1/2/}
Binder	total of 3 - 160 mm tall bricks
Surface	total of 4 - 160 mm tall bricks ^{3/}

Low ESAL – Required Samples for Verification Testing	
Mixture	I-FIT Testing ^{1/2/}
Binder	1 - 160 mm tall brick
Surface	2 - 160 mm tall bricks ^{3/}

- 1/ The compacted gyratory bricks for Hamburg wheel and I-FIT testing shall be 7.5 ± 0.5 percent air voids.
- 2/ If the Contractor does not possess the equipment to prepare the 160 mm tall brick(s), twice as many 115 mm tall compacted gyratory bricks will be acceptable.
- 3/ The additional surface mixture brick tested for I-FIT long term aging will be for the Department’s informational purposes only.

New and renewal mix designs shall meet the following requirements for verification testing.

- (1) Hamburg Wheel Test. The maximum allowable rut depth shall be 0.5 in. (12.5 mm). The minimum number of wheel passes at the 0.5 in. (12.5 mm) rut depth criteria shall be based on the high temperature binder grade of the mix as specified in the mix requirements table of the plans.

Illinois Modified AASHTO T 324 Requirements ^{1/}	
PG Grade	Minimum Number of Wheel Passes
PG 58-xx (or lower)	5,000
PG 64-xx	7,500
PG 70-xx	15,000 ^{2/}
PG 76-xx (or higher)	20,000 ^{2/}

1/ When produced at temperatures of 275 ± 5 °F (135 ± 3 °C) or below, loose warm mix asphalt shall be oven aged at 270 ± 5 °F (132 ± 3 °C) for two hours prior to gyratory compaction of Hamburg wheel specimens.

2/ For IL-4.75 binder course, the minimum number of wheel passes shall be reduced by 5,000.

- (2) Tensile Strength. Tensile strength testing shall be according to the Illinois Modified AASHTO T 283 procedure. The minimum allowable conditioned tensile strength shall be 60 psi (415 kPa) for non-polymer modified performance graded (PG) asphalt binder and 80 psi (550 kPa) for polymer modified PG asphalt binder, except polymer modified PG XX-28 or lower asphalt binders which shall have a minimum tensile strength of 70 psi (483 kPa). The maximum allowable unconditioned tensile strength shall be 200 psi (1380 kPa).

- (3) I-FIT Flexibility Index (FI). The minimum FI shall be as follows.

Illinois Modified AASHTO TP 124	
Mixture	Short Term Aging, Minimum FI
HMA ^{1/}	8.0
SMA	16.0
IL-4.75	12.0

1/ All mix designs, except for SMA and IL-4.75 mixtures.

If a mix fails the Department's verification testing, the Contractor shall make necessary changes to the mix and provide passing Hamburg wheel, tensile strength, and I-FIT test results from a private lab. The Department will verify the passing results."

Delete paragraph six, seven and eight of Article 1030.06(a).

Add the following to the end of Article 1030.06(a) of the Standard Specifications to read:

“Mixture sampled to represent the test strip shall include approximately 60 lb (27 kg) of additional material for the Department to conduct Hamburg wheel testing and approximately 80 lb (36 kg) of additional material for the Department to conduct I-FIT testing. Within two working days after sampling, the Contractor shall deliver prepared samples to the District laboratory for verification testing. The required number and size of prepared samples submitted for the Hamburg wheel and I-FIT testing shall be according to the “High ESAL - Required Samples for Verification Testing” table in Article 1030.04(d) above.

Mixture sampled during production for Hamburg wheel and I-FIT will be tested by the Department. The Hamburg wheel and I-FIT results shall meet the requirements specified in Article 1030.04(d) above.

Upon notification by the Engineer of a failing Hamburg wheel or I-FIT test and prior to restarting production, the Contractor shall make necessary adjustments approved by the Engineer to the mixture production and submit another mixture sample for the Department to conduct Hamburg wheel and I-FIT testing. Prior produced material may be paved out provided all other mixture criteria is being met. Upon consecutive failing Hamburg wheel and I-FIT tests, no additional mixture shall be produced until the Engineer receives passing Hamburg wheel and I-FIT test results.

The Department may conduct additional Hamburg wheel and I-FIT testing on production material as determined by the Engineer.”

Add the following to the end of Article 1030.06(b) of the Standard Specifications:

“I-FIT testing will be performed for Low ESAL mixtures (excluding Class D patches, pavement patching and incidental HMA) during mixture production. Within two working days after sampling, the Contractor shall deliver prepared samples to the District laboratory for verification testing. The required number and size of prepared samples submitted for the I-FIT testing shall be according to the “Low ESAL - Required Samples for Verification Testing” table in Article 1030.04(d) above.”

HOT-MIX ASPHALT BINDER AND SURFACE COURSE (D1)

Effective: November 1, 2019

Revised: November 1, 2020

Description. This work shall consist of constructing a hot-mix asphalt (HMA) binder and/or surface course on a prepared base. Work shall be according to Sections 406 and 1030 of the Standard Specifications, except as modified herein.

Materials. Revise Article 1004.03(c) to read:

“ (c) Gradation. The coarse aggregate gradations shall be as listed in the following table.

Use	Size/Application	Gradation No.
Class A-1, A-2, & A-3	3/8 in. (10 mm) Seal	CA 16 or CA 20
Class A-1	1/2 in. (13 mm) Seal	CA 15
Class A-2 & A-3	Cover Coat	CA 14
HMA High ESAL	IL-19.0; Stabilized Subbase IL-19.0	CA 11 ^{1/}
	SMA 12.5 ^{2/}	CA 13 ^{4/} , CA 14, or CA 16
	SMA 9.5 ^{2/}	CA 13 ^{3/4/} or CA 16 ^{3/}
	IL-9.5	CA 16, CM 13 ^{4/}
	IL-9.5FG	CA 16
HMA Low ESAL	IL-19.0L	CA 11 ^{1/}
	IL-9.5L	CA 16

1/ CA 16 or CA 13 may be blended with the CA 11.

2/ The coarse aggregates used shall be capable of being combined with stone sand, slag sand, or steel slag sand meeting the FA/FM 20 gradation and mineral filler to meet the approved mix design and the mix requirements noted herein.

3/ The specified coarse aggregate gradations may be blended.

4/ CA 13 shall be 100 percent passing the 1/2 in. (12.5mm) sieve.”

Revise Article 1004.03(e) of the Supplemental Specifications to read:

“(e) Absorption. For SMA the coarse aggregate shall also have water absorption ≤ 2.0 percent.”

HMA Nomenclature. Revise the “High ESAL” portion of the table in Article 1030.01 to read:

“High ESAL	Binder Courses	IL-19.0, IL-9.5, IL-9.5FG, IL-4.75, SMA 12.5, Stabilized Subbase IL-19.0
	Surface Courses	IL-9.5, IL-9.5FG, SMA 12.5, SMA 9.5”

Revise Article 1030.02 of the Standard Specifications and Supplemental Specifications to read:

“**1030.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Coarse Aggregate	1004.03
(b) Fine Aggregate	1003.03
(c) RAP Material	1031
(d) Mineral Filler	1011
(e) Hydrated Lime	1012.01
(f) Slaked Quicklime (Note 1)	
(g) Performance Graded Asphalt Binder (Note 2)	1032
(h) Fibers (Note 3)	
(i) Warm Mix Asphalt (WMA) Technologies (Note 4)	

Note 1. Slaked quicklime shall be according to ASTM C 5.

Note 2. The asphalt binder shall be an SBS PG 76-28 when the SMA is used on a full-depth asphalt pavement and SBS PG 76-22 when used as an overlay, except where modified herein. The asphalt binder shall be a SBS PG 76-22 for IL-4.75, except where modified herein. The elastic recovery shall be a minimum of 80.

Note 3. A stabilizing additive such as cellulose or mineral fiber shall be added to the SMA mixture according to Illinois Modified AASHTO M 325. The stabilizing additive shall meet the Fiber Quality Requirements listed in Illinois Modified AASHTO M 325. Prior to approval and use of fibers, the Contractor shall submit a notarized certification by the producer of these materials stating they meet these requirements. Reclaimed Asphalt Shingles (RAS) may be used in Stone Matrix Asphalt (SMA) mixtures designed with an SBA polymer modifier as a fiber additive if the mix design with RAS included meets AASHTO T305 requirements. The RAS shall be from a certified source that produces either Type I or Type 2. Material shall meet requirements noted herein and the actual dosage rate will be determined by the Engineer.

Note 4. Warm mix additives or foaming processes shall be selected from the Department’s Qualified Producer List, “Technologies for the Production of Warm Mix Asphalt (WMA).”

Mixture Design. Revise Article 1030.04(a)(1) of the Standard Specifications and the Supplemental Specifications to read:

High ESAL, MIXTURE COMPOSITION (% PASSING) ^{1/}										
Sieve Size	IL-19.0 mm		SMA 12.5		SMA 9.5		IL-9.5mm		IL-4.75 mm	
	min	max	min	max	min	max	min	max	min	max
1 1/2 in (37.5 mm)										
1 in. (25 mm)		100								
3/4 in. (19 mm)	90	100		100						
1/2 in. (12.5 mm)	75	89	80	100		100		100		100
3/8 in. (9.5 mm)				65	90	100	90	100		100
#4 (4.75 mm)	40	60	20	30	36	50	34	69	90	100
#8 (2.36 mm)	20	42	16	24 ^{4/}	16	32 ^{4/}	34 ^{5/}	52 ^{2/}	70	90
#16 (1.18 mm)	15	30					10	32	50	65
#30 (600 μm)			12	16	12	18				
#50 (300 μm)	6	15					4	15	15	30
#100 (150 μm)	4	9					3	10	10	18
#200 (75 μm)	3	6	7.0	9.0 ^{3/}	7.5	9.5 ^{3/}	4	6	7	9 ^{3/}
#635 (20 μm)			≤ 3.0		≤ 3.0					
Ratio Dust/Asphalt Binder		1.0		1.5		1.5		1.0		1.0

1/ Based on percent of total aggregate weight.

2/ The mixture composition shall not exceed 44 percent passing the #8 (2.36 mm) sieve for surface courses with N_{design} = 90.

3/ Additional minus No. 200 (0.075 mm) material required by the mix design shall be mineral filler, unless otherwise approved by the Engineer.

4/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted above the percentage stated on the table.

5/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted below 34 percent.

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

“(1) High ESAL Mixtures. The target value for the air voids of the HMA shall be 4.0 percent, for IL-4.75 it shall be 3.5 percent and for Stabilized Subbase it shall be 3.0 percent at the design number of gyrations. The voids in the mineral aggregate (VMA) and voids filled with asphalt binder (VFA) of the HMA design shall be based on the nominal maximum size of the aggregate in the mix and shall conform to the following requirements.

VOLUMETRIC REQUIREMENTS High ESAL				
Ndesign	Voids in the Mineral Aggregate (VMA), % minimum			Voids Filled with Asphalt Binder (VFA), %
	IL-19.0; Stabilized Subbase IL- 19.0	IL-9.5	IL-4.75 ^{1/}	
50	13.5	15.0	18.5	65 – 78 ^{2/}
70			65 - 75	
90				

1/ Maximum draindown for IL-4.75 shall be 0.3 percent.

2/ VFA for IL-4.75 shall be 72-85 percent.”

Revise the table in Article 1030.04(b)(3) to read:

“VOLUMETRIC REQUIREMENTS, SMA 12.5 ^{1/} and SMA 9.5 ^{1/}			
Ndesign	Design Air Voids Target %	Voids in the Mineral Aggregate (VMA), % min.	Voids Filled with Asphalt (VFA), %
80 ^{4/}	3.5	17.0 ^{2/}	75 - 83
		16.0 ^{3/}	

1/ Maximum draindown shall be 0.3 percent. The draindown shall be determined at the JMF asphalt binder content at the mixing temperature plus 30 °F.

2/ Applies when specific gravity of coarse aggregate is ≥ 2.760 .

- 3/ Applies when specific gravity of coarse aggregate is < 2.760.
- 4/ Blending of different types of aggregate will not be permitted.
For surface course, the coarse aggregate can be crushed steel slag, crystalline crushed stone or crushed sandstone. For binder course, coarse aggregate shall be crushed stone (dolomite), crushed gravel, crystalline crushed stone, or crushed sandstone.

Add to the end of Article 1030.05 (d) (2) a. of the Standard Specifications:

“During production, the Contractor shall test SMA mixtures for draindown according to AASHTO T305 at a frequency of 1 per day of production.”

Revise the last paragraph of Article 1102.01 (a) (5) of the Standard Specifications to read:

“IL-4.75 and Stone Matrix Asphalt (SMA) mixtures which contain aggregate having absorptions greater than or equal to 2.0 percent, or which contain steel slag sand, shall have minimum surge bin storage plus haul time of 1.5 hours.”

Quality Control/Quality Assurance (QC/QA). Revise the third paragraph of Article 1030.05(d)(3) to read:

“If the Contractor and Engineer agree the nuclear density test method is not appropriate for the mixture, cores shall be taken at random locations determined according to the QC/QA document "Determination of Random Density Test Site Locations". Core densities shall be determined using the Illinois Modified AASHTO T 166 or T 275 procedure.”

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

“Longitudinal joint density testing shall be performed at each random density test location. Longitudinal joint testing shall be located at a distance equal to the lift thickness or a minimum of 4 in. (100 mm), from each pavement edge (i.e. for a 5 in. (125 mm) lift the near edge of the density gauge or core barrel shall be within 5 in. (125 mm) from the edge of pavement). Longitudinal joint density testing shall be performed using either a correlated nuclear gauge or cores.

- a. Confined Edge. Each confined edge density shall be represented by a one-minute nuclear density reading or a core density and shall be included in the average of density readings or core densities taken across the mat which represents the Individual Test.

- b. Unconfined Edge. Each unconfined edge joint density shall be represented by an average of three one-minute density readings or a single core density at the given density test location and shall meet the density requirements specified herein. The three one-minute readings shall be spaced 10 ft (3 m) apart longitudinally along the unconfined pavement edge and centered at the random density test location.

When a longitudinal joint sealant (LJS) is applied, longitudinal joint density testing will not be required on the joint(s) sealed.”

Revise the second table in Article 1030.05(d)(4) and its notes to read:

“DENSITY CONTROL LIMITS			
Mixture Composition	Parameter	Individual Test (includes confined edges)	Unconfined Edge Joint Density, minimum
IL-4.75	Ndesign = 50	93.0 – 97.4 % ^{1/}	91.0%
IL-9.5FG	Ndesign = 50 - 90	93.0 – 97.4 %	91.0%
IL-9.5	Ndesign = 90	92.0 – 96.0 %	90.0%
IL-9.5, IL-9.5L,	Ndesign < 90	92.5 – 97.4 %	90.0%
IL-19.0	Ndesign = 90	93.0 – 96.0 %	90.0%
IL-19.0, IL-19.0L	Ndesign < 90	93.0 ^{2/} – 97.4 %	90.0%
SMA	Ndesign = 80	93.5 – 97.4 %	91.0%

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

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

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

“(h) Oscillatory Roller. The oscillatory roller shall be self-propelled and provide a smooth operation when starting, stopping, or reversing directions. The oscillatory roller shall be able to operate in a mode that will provide tangential impact force with or without vertical impact force by using at least one drum. The oscillatory roller shall be equipped with water tanks and sprinkling devices, or other approved methods, which shall be used to wet the drums to prevent material pickup. The drum(s) amplitude and frequency of the tangential and vertical impact force shall be approximately the same in each direction and meet the following requirements:

- (1) The minimum diameter of the drum(s) shall be 42 in. (1070 mm);
- (2) The minimum length of the drum(s) shall be 57 in. (1480 mm);

- (3) The minimum unit static force on the drum(s) shall be 125 lb/in. (22 N/m); and
- (4) The minimum force on the oscillatory drum shall be 18,000 lb (80 kN)."

Construction Requirements.

Add the following to Article 406.03 of the Standard Specifications:

"(j) Oscillatory Roller 1101.01"

Revise the third paragraph of Article 406.05(a) to read:

"All depressions of 1 in. (25 mm) or more in the surface of the existing pavement shall be filled with binder. At locations where heavy disintegration and deep spalling exists, the area shall be cleaned of all loose and unsound material, tacked, and filled with binder (hand method)."

Revise Article 406.05(c) to read.

"(c) Binder (Hand Method). Binder placed other than with a finishing machine will be designated as binder (hand method) and shall be compacted with a roller to the satisfaction of the Engineer. Hand tamping will be permitted when approved by the Engineer."

Revise the special conditions for mixture IL-4.75 in Article 406.06(b)(2)e. to read:

"e. The mixture shall be overlaid within 5 days of being placed."

Revise Article 406.06(d) to read:

"(d) Lift Thickness. The minimum compacted lift thickness for HMA binder and surface courses shall be as follows.

MINIMUM COMPACTED LIFT THICKNESS	
Mixture Composition	Thickness, in. (mm)
IL-4.75	3/4 (19) - over HMA surfaces ^{1/} 1 (25) - over PCC surfaces ^{1/}
IL-9.5FG	1 1/4 (32)
IL-9.5, IL-9.5L	1 1/2 (38)
SMA 9.5	1 3/4 (45)
SMA 12.5	2 (51)
IL-19.0, IL-19.0L	2 1/4 (57)

1/ The maximum compacted lift thickness for mixture IL-4.75 shall be 1 1/4 in. (32 mm)."

Revise Table 1 and Note 3/ of Table 1 in Article 406.07(a) of the Standard Specifications to read:

"TABLE 1 - MINIMUM ROLLER REQUIREMENTS FOR HMA				
	Breakdown Roller (one of the following)	Intermediate Roller	Final Roller (one or more of the following)	Density Requirement
Binder and Surface ^{1/}	V _D , P ^{3/} , T _B , 3W, O _T , O _B	P ^{3/} , O _T , O _B	V _S , T _B , T _F , O _T	As specified in Articles: 1030.05(d)(3), (d)(4), and (d)(7).
IL-4.75 and SMA ^{4/ 5/}	T _B , 3W, O _T	- -	T _F , 3W, O _T	
Bridge Decks ^{2/}	T _B	- -	T _F	As specified in Articles 582.05 and 582.06.

3/ A vibratory roller (V_D) or oscillatory roller (O_T or O_B) may be used in lieu of the pneumatic-tired roller on mixtures containing polymer modified asphalt binder.

5/ The Contractor shall provide two steel-wheeled tandem (T_B) or three-wheel (3W) rollers for breakdown, except one of the (T_B) or (3W) rollers shall be 84 inches (2.14 m) wide and a weight of 315 pound per linear inch (PLI) (5.63 kg/mm). 3W, T_B and T_F rollers shall be a minimum of 280 lb/in. (50 N/mm). The 3W and T_B rollers shall be operated at a uniform speed not to exceed 3 mph (5 km/h), with the drive roll for T_B rollers nearest the paver and maintain an effective rolling distance of not more than 150 ft (45 m) behind the paver."

Add the following to EQUIPMENT DEFINITION in Article 406.07(a) contained in the Errata of the Supplemental Specifications:

O_T - Oscillatory roller, tangential impact mode. Maximum speed is 3.0 mph (4.8 km/h) or 264 ft/min (80 m/min).

O_B - Oscillatory roller, tangential and vertical impact mode, operated at a speed to produce not less than 10 vertical impacts/ft (30 impacts/m)."

Delete last sentence of the second paragraph of Article 1102.01(a) (4) b. 2.

Add to the end of Article 1102.01 (a) (4) b. 2.:

“As an option, collected dust (baghouse) may be used in lieu of manufactured mineral filler according to the following:

(a.) Sufficient collected dust (baghouse) is available for production of the SMA mix for the entire project.

(b.) A mix design was prepared based on collected dust (baghouse).

Production Testing. Revise first paragraph of Article 1030.06(a) of the Standard Specifications to read:

“(a) High ESAL Mixtures. A test strip of 300 ton (275 metric tons), except for SMA mixtures it will be 400 ton (363 metric ton), will be required for each mixture on each contract at the beginning of HMA production for each construction year according to the Manual of Test Procedures for Materials “Hot Mix Asphalt Test Strip Procedures”. At the request of the Producer, the Engineer may waive the test strip if previous construction during the current construction year has demonstrated the constructability of the mix using Department test results.”

Method of Measurement:

Add the following after the fourth paragraph of Article 406.13 (b):

“The plan quantities of SMA mixtures shall be adjusted using the actual approved binder and surface Mix Design’s G_{mb}.”

Basis of Payment. Replace the second through the fifth paragraphs of Article 406.14 with the following:

“HMA binder and surface courses will be paid for at the contract unit price per ton (metric ton) for MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS; HOT-MIX ASPHALT BINDER COURSE (HAND METHOD), of the N_{design} specified; HOT-MIX ASPHALT BINDER COURSE, of the mixture composition and N_{design} specified; HOT-MIX ASPHALT SURFACE COURSE, of the mixture composition, friction aggregate, and N_{design} specified; POLYMERIZED HOT-MIX ASPHALT BINDER COURSE (HAND METHOD), of the N_{design} specified; POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, of the mixture composition and N_{design} specified; POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, of the mixture composition, friction aggregate, and N_{design} specified; POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, STONE MATRIX ASPHALT, of the mixture composition and N_{design} specified; POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, STONE MATRIX ASPHALT, of the mixture composition, friction aggregate, and N_{design} specified.”

CLEANING EXISTING DRAINAGE STRUCTURES (D1)

Effective: September 30, 1985

Revised: December 1, 2011

All existing storm sewers, pipe culverts, manholes, catch basins and inlets shall be considered as drainage structures insofar as the interpretation of this Special Provision is concerned. When specified for payment, the location of drainage structures to be cleaned will be shown on the plans.

All existing drainage structures which are to be adjusted or reconstructed shall be cleaned according to Article 602.15 of the Standard Specifications. This work will be paid for according to accordance with Article 602.16 of the Standard Specifications.

All other existing drainage structures which are specified to be cleaned on the plans will be cleaned according to Article 602.15 of the Standard Specifications.

Basis of Payment. This work will be paid for at the contract unit price each for DRAINAGE STRUCTURES TO BE CLEANED, and at the contract unit price per foot (meter) for STORM SEWERS TO BE CLEANED, of the diameter specified.

AGGREGATE SUBGRADE IMPROVEMENT (D1)

Effective: February 22, 2012

Revised: April 1, 2016

Add the following Section to the Standard Specifications:

“SECTION 303. AGGREGATE SUBGRADE IMPROVEMENT

303.01 Description. This work shall consist of constructing an aggregate subgrade improvement.

303.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Coarse Aggregate	1004.07
(b) Reclaimed Asphalt Pavement (RAP) (Notes 1, 2 and 3)	1031

Note 1. Crushed RAP, from either full depth or single lift removal, may be mechanically blended with aggregate gradation CS 01 but shall not exceed 40 percent by weight of the total product. The top size of the Coarse RAP shall be less than 4 in. (100 mm) and well graded.

Note 2. RAP having 100 percent passing the 1 1/2 in (37.5 mm) sieve and being well graded, may be used as capping aggregate in the top 3 in. (75 mm) when aggregate gradation CS 01 is used in lower lifts. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders. The final product shall not contain more than 40 percent by weight of RAP.

Note 3. The RAP used for aggregate subgrade improvement shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications".

303.03 Equipment. The vibratory machine shall be according to Article 1101.01, or as approved by the Engineer. The calibration for the mechanical feeders shall have an accuracy of ± 2.0 percent of the actual quantity of material delivered.

303.04 Soil Preparation. The stability of the soil shall be according to the Department's Subgrade Stability Manual for the aggregate thickness specified.

303.05 Placing Aggregate. The maximum nominal lift thickness of aggregate gradation CS 01 shall be 24 in. (600 mm).

303.06 Capping Aggregate. The top surface of the aggregate subgrade shall consist of a minimum 3 in. (75 mm) of aggregate gradations CA 06 or CA 10. When Reclaimed Asphalt Pavement (RAP) is used, it shall be crushed and screened where 100 percent is passing the 1 1/2 in. (37.5 mm) sieve and being well graded. RAP that has been fractionated to size will not be permitted for use in capping. Capping aggregate will not be required when the aggregate subgrade improvement is used as a cubic yard pay item for undercut applications. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders.

303.07 Compaction. All aggregate lifts shall be compacted to the satisfaction of the Engineer. If the moisture content of the material is such that compaction cannot be obtained, sufficient water shall be added so that satisfactory compaction can be obtained.

303.08 Finishing and Maintenance of Aggregate Subgrade Improvement. The aggregate subgrade improvement shall be finished to the lines, grades, and cross sections shown on the plans, or as directed by the Engineer. The aggregate subgrade improvement shall be maintained in a smooth and compacted condition.

303.09 Method of Measurement. This work will be measured for payment according to Article 311.08.

303.10 Basis of Payment. This work will be paid for at the contract unit price per cubic yard (cubic meter) for AGGREGATE SUBGRADE IMPROVEMENT or at the contract unit price per square yard (square meter) for AGGREGATE SUBGRADE IMPROVEMENT, of the thickness specified.

Add the following to Section 1004 of the Standard Specifications:

“1004.07 Coarse Aggregate for Aggregate Subgrade Improvement. The aggregate shall be according to Article 1004.01 and the following.

- (a) Description. The coarse aggregate shall be crushed gravel, crushed stone, or crushed concrete. The top 12 inches of the aggregate subgrade improvement shall be 3 inches of capping material and 9 inches of crushed gravel, crushed stone or crushed concrete. In applications where greater than 36 inches of subgrade material is required, rounded gravel, meeting the CS01 gradation, may be used beginning at a depth of 12 inches below the bottom of pavement.
- (b) Quality. The coarse aggregate shall consist of sound durable particles reasonably free of deleterious materials. Non-mechanically blended RAP may be allowed up to a maximum of 5.0 percent.
- (c) Gradation.
 - (1) The coarse aggregate gradation for total subgrade thicknesses of 12 in. (300 mm) or greater shall be CS 01.

COARSE AGGREGATE SUBGRADE GRADATIONS					
Grad No.	Sieve Size and Percent Passing				
	8"	6"	4"	2"	#4
CS 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20

COARSE AGGREGATE SUBGRADE GRADATIONS (Metric)					
Grad No.	Sieve Size and Percent Passing				
	200 mm	150 mm	100 mm	50 mm	4.75 mm
CS 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20

- (2) The 3 in. (75 mm) capping aggregate shall be gradation CA 6 or CA 10.

EMBANKMENT II (D1)

Effective: March 1, 2011

Revised: November 1, 2013

Description. This work shall be according to Section 205 of the Standard Specifications except for the following.

Material. Reclaimed asphalt shall not be used within the ground water table or as a fill if ground water is present. The RAP used shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications". Gradation deleterious count shall not exceed 10% of total RAP and 5% of other by total weight.

CONSTRUCTION REQUIREMENTS

Samples. Embankment material shall be sampled and tested before use. The contractor shall identify embankment sources, and provide equipment as the Engineer requires, for the collection of samples from those sources. Samples will be furnished to the Geotechnical Engineer a minimum of three weeks prior to use in order that laboratory tests for compaction can be performed. Embankment material placement cannot begin until tests are completed.

Placing Material. In addition to Article 202.03, broken concrete, reclaimed asphalt with no expansive aggregate, or uncontaminated dirt and sand generated from construction or demolition activities shall be placed in 6 inches (150 mm) lifts and disked with the underlying lift until a uniform homogenous material is formed. This process also applies to the overlaying lifts. The disk must have a minimum blade diameter of 24 inches (600 mm).

When embankments are to be constructed on hillsides or existing slopes that are steeper than 3H:1V, steps shall be keyed into the existing slope by stepping and benching as shown in the plans or as directed by the Engineer.

Compaction. Soils classification for moisture content control will be determined by the Soils Inspector using visual field examination techniques and the IDH Textural Classification Chart.

When tested for density in place each lift shall have a maximum moisture content as follows.

- a) A maximum of 110 percent of the optimum moisture for all forms of clay soils.
- b) A maximum of 105 percent of the optimum moisture for all forms of clay loam soils.

Stability. The requirement for embankment stability in article 205.04 will be measured with a Dynamic Cone Penetrometer (DCP) according to the test method in the IDOT Geotechnical Manual. The penetration rate must be equal or less than 1.5 inches (38 mm) per blow.

Basis of Payment. This work will not be paid separately but will be considered as included in the various items of excavation.

KEEPING ARTERIAL ROADWAYS OPEN TO TRAFFIC (LANE CLOSURES ONLY)

Effective: January 22, 2003

Revised: August 10, 2017

The Contractor shall provide the necessary traffic control devices to warn the public and to delineate the work zone as required in these Special Provisions, the Standard Specifications, the State Standards, and the District Details.

Arterial lane closures shall be in accordance with the Standard Specifications, Highway Standards, District Details, and the direction of the Engineer. The Contractor shall request and gain approval from the Engineer seventy-two (72) hours in advance of all long-term (24 hrs. or longer) lane closures.

Arterial lane closures not shown in the staging plans will not be permitted during **peak traffic volume hours**.

Peak traffic volume hours are defined as weekdays (Monday through Friday) from **6:00 AM to 8:30 AM and 4:30 PM to 6:00 PM**.

Private vehicles shall not be parked in the work zone. Contractor's equipment and/or vehicles shall not be parked on the shoulders or in the median during non-working hours. The parking of equipment and/or vehicles on State right-of-way will only be permitted at locations approved by the Engineer in accordance with Articles 701.08 and 701.11 of the Standard Specifications.

Should the Contractor fail to completely open and keep open all the traffic lanes to traffic in accordance with the limitations specified above, the Contractor shall be liable to the Department for the amount of:

One lane or ramp blocked = \$ 1000 / 15 mins

Two lanes blocked = \$ 2500 / 15 mins

Not as a penalty but as liquidated and ascertained damages for each and every 15 minute interval or a portion thereof that a lane is blocked outside the allowable time limitations. Such damages may be deducted by the Department from any monies due the Contractor. These damages shall apply during the contract time and during any extensions of the contract time.

TEMPORARY INFORMATION SIGNING

Effective: November 13, 1996

Revised: January 29, 2020

Description.

This work shall consist of furnishing, installing, maintaining, relocating for various states of construction and eventually removing temporary informational signs. Included in this item may be ground mount signs, skid mount signs, truss mount signs, bridge mount signs, and overlay sign panels which cover portions of existing signs.

Materials.

Materials shall be according to the following Articles of Section 1000 - Materials:

	<u>Item</u>	<u>Article/Section</u>
a.)	Sign Base (Note 1)	1090
b.)	Sign Face (Note 2)	1091
c.)	Sign Legends	1091
d.)	Sign Supports	1093
e.)	Overlay Panels (Note 3)	1090.02

Note 1. The Contractor may use 5/8 inch (16 mm) instead of 3/4 inch (19 mm) thick plywood.

Note 2. The sign face material shall be in accordance with the Department's Fabrication of Highway Signs Policy.

Note 3. The overlay panels shall be 0.08 inch (2 mm) thick.

GENERAL CONSTRUCTION REQUIREMENTS

Installation.

The sign sizes and legend sizes shall be verified by the Contractor prior to fabrication.

Signs which are placed along the roadway and/or within the construction zone shall be installed according to the requirements of Article 701.14 and Article 720.04. The signs shall be 7 ft (2.1 m) above the near edge of the pavement and shall be a minimum of 2 ft (600 mm) beyond the edge of the paved shoulder. A minimum of two (2) posts shall be used.

The attachment of temporary signs to existing bridges, sign structures or sign panels shall be approved by the Engineer. Any damage to the existing signs and/or structures due to the Contractor's operations shall be repaired or signs replaced, as determined by the Engineer, at the Contractor's expense.

Method of Measurement.

This work shall be measured for payment in square feet (square meters) edge to edge (horizontally and vertically).

All hardware, posts or skids, supports, bases for ground mounted signs, connections, which are required for mounting these signs will be included as part of this pay item.

Basis Of Payment.

This work shall be paid for at the contract unit price per square foot (square meter) for TEMPORARY INFORMATION SIGNING.

SELECTIVE CLEARING

Description. This work shall consist of extensive removal and disposal of shrubs, brush, fallen trees and limbs, debris (including rocks, bottles, etc.) and selected trees up to six (6) inches in diameter. Selective clearing shall include removal of typical amounts of litter and debris encountered during tree removal operations. All trees and shrubs to be saved shall be carefully protected as provided by Article 201.05 of the Standard Specifications. Locations for selective clearing and vegetation to be saved shall be designated by the Roadside Development Unit. Contractor shall contact a representative of the Roadside Development Unit at (847) 705-4171 at least 2 weeks prior to work.

Damages to existing vegetation to remain, such as broken limbs, or other plantings or roadside appurtenances caused by the Contractor's tree removal or trimming operations shall be repaired at the Contractor's expense to the satisfaction of the Engineer.

The undesirable trees and brush (i.e. Tree of Heaven, Callery Pear, Siberian Elm, European Buckthorn, Mulberry, Ash, Russian Olive, Eurasian Honeysuckle, etc.) shall be cut flush with the ground. All stumps shall be cut flat with no sharp points, and less than two (2) inches of surrounding grade.

All stumps shall be treated with an approved resprout herbicide mixed with a marking dye within twenty-four (24) hours of the tree being cut to prevent regrowth from those stumps. Resprout herbicide shall be included in the cost of SELECTIVE CLEARING.

All herbicides shall be applied according to the manufacturer's label specifications. Contractor's personnel applying the resprout herbicide shall have a valid pesticide applicator license issued by the Illinois Department of Agriculture.

Branches on remaining trees shall be pruned off up to 6 feet from the ground.

All cleared areas shall be graded, trimmed, smoothed, finished uniformly, and left ready to be seeded and blanketed to the satisfaction of the Engineer with equipment approved by the Engineer. The ground shall be relatively free of rocks over 1 ½ inch diameter, slash, and sticks or other foreign material which will prevent the close contact of the mulch or blanket. Disposal of material shall be done in accordance with Article 202.03.

Damage to the turf, such as ruts or wheel tracks more than 2 inches (50 MM) in depth, caused by the selective clearing operation shall be repaired at the Contractor's expense.

Method of Measurement. Selective clearing will be measured in units of 1,000 square feet. The unit price shall include the cost of all material, equipment, labor, disposal and incidental items required to complete the work as specified herein and to the satisfaction of the Engineer.

If the inspection discloses any work as being unsatisfactory, the Engineer will give the Contractor the necessary instructions for correction of same, and the Contractor shall immediately comply with such instructions and correct the unsatisfactory work. Areas not meeting the satisfaction of the Engineer shall not be measured for payment. Plan quantities are estimates only. Actual quantities will be measured in place. Agreement to plan quantities will not be allowed.

Basis of Payment: This work will be paid for at the contract unit price per unit for SELECTIVE CLEARING. Payment for selective clearing shall include the cost of all minor grading, debris removal and disposal, trimming, pruning, smoothing, finishing, labor, materials, tools and equipment required to complete the work as specified herein and to the satisfaction of the engineer.

SEEDING, CLASS 4A (MODIFIED)

This work shall consist of preparing the seed bed, placing the seed, and other materials required in the seeding operation in areas as shown in the plans.

All work, materials and equipment shall conform to Section 250 and 1081 of the Standard Specifications except as modified herein.

The Class 4A (Modified) seed mixture shall be supplied in pounds of Pure Live Seed. All native seed species will be local genotype and verified that original seed collection source must originate from a radius of 200 miles from the project site. Fertilizer is not required.

Article 250.07 Seeding Mixtures – Add the following to Table 1:

<u>CLASS – TYPE</u>	<u>SEEDS</u>	<u>PURE LIVE SEED LB/ACRE</u>
4A (Modified) Low Profile Native Grass		9.0
	Bouteloua curtipendula (Side Oats Grama)	4.0
	Andropogon scoparius (Little Bluestem)	5.0
Temporary Cover		30 (lb/acre)
	Spring: Avena sativa (Annual Oats)	25.0
	Elymus canadensis (Canada Wild Rye)	3.0
	Fall: Triticum aestivum (Winter Wheat)	9.0
	Elymus canadensis (Canada Wild Rye)	3.0

Variation in the Class 3, 4, 5, or 6 seed quantities or varieties may be allowed in the event of a crop failure or other unforeseen conditions. Quantities of proposed substitutions shall be determined by seed count. The Contractor shall provide for the approval of the Engineer a written description of the proposed changes to the Class 3, 4, 5, or 6 Mixture(s), the reasons for the change, and the name of the seed suppliers who were contacted in an effort to obtain the specified species. Adjustments will be made at no cost to the contract. Approval of substitutes shall in no way waive any requirements of the contract

Seeding Time:

Seeding shall be completed between October 15 to March 15 but not when raining or when the ground is covered with snow unless prior written approval is received from Engineer. No seed shall be sown when the ground is not in proper condition for seeding. Seeding done outside of this time frame will not be measured for payment unless approved in writing by Engineer in advance.

The Contractor shall schedule work so that final grade is achieved during the specified seeding times. Any seeding installed on or after March 1 must be incorporated into the soil surface, but no deeper than ¼ inch, such as by rangeland type seed drill, harrow, hand rake, or other method approved by the Engineer.

Bagging, Transporting, and Storing Seed:

Seed mixtures of the specified classes shall be thoroughly mixed, labeled and bagged by the supplier. Purity and germination tests no older than twelve months old must be submitted for all seed supplied to verify quantities of bulk seed required to achieve LB PLS specified.

Seed shall be thoroughly mixed, labeled and bagged by the supplier. Seed shall be bagged, transported, and stored in such a manner to protect it from damage and to maintain the viability of the seed. All seed mixtures shall be brought to the site in clearly labeled and unopened bags.

Seed shall be adequately protected from rain, temperature extremes, rodents, insects, and other such factors that could adversely affect seed viability during transport or while being stored prior to planting. Bags of seed that are leaking, wet, moldy, or otherwise damaged shall be rejected and promptly removed from the site of work. Prior to application, the Engineer must approve the seed mix in the bags on site.

Layout of Seeding:

The Contractor shall be responsible for filed verifying the acreage of the area(s) to be seeded. The amount of seed ordered shall match the area(s) to be seeded during the pending planting season. A minimum of 30 days shall be allowed for seed acquisition, testing, and inspection.

The Contractor shall demarcate all areas to be seeded and estimate quantities of each area to determine the quantity of seed necessary to achieve the specified seed rate per acre. The Contractor shall delineate the perimeter of the seedbed with wooden lathe. The wooden lathe shall remain in place. The contractor shall provide a minimum of seven calendar days' notice to the Engineer to allow for review and approval of seeding layout.

Inspection:

The Engineer must witness the delivery of seed with original labels attached in the field. A bag ticket must be affixed to each bag of seed upon delivery and shall not be removed until the Engineer has reviewed and accepted each bag of seed. The label shall bear the dealer's guarantee of mixture and year grown, purity and germination, and date of test.

Seed Bed Preparation:

All area(s) to be seeded must be properly prepared prior to planting seed.

Bare earth seeding refers to sowing seed upon soils with no existing vegetative cover. In areas with existing vegetation, the vegetation shall be eradicated as specified or as directed by the Engineer. Seed bed preparation shall not be started until all requirements of Section 212 have been completed. The area to be seeded shall be worked to a minimum depth of 3 in. (75 mm) with a disk, tiller, box rake, or other equipment approved by the Engineer. In areas with heavy soils, tilling or power raking will be required to achieve the proper depth. All soil clods shall be reduced to a size not larger than ½ in. (13 mm) in the largest dimension to create a friable, pulverized topsoil surface suitable for seeding. Dragging the soil surface with the blade of a loader or dozer will not be an acceptable method of seed bed preparation. The prepared surface shall be relatively free of weeds, stones, roots, sticks, debris, rills, gullies, crusting, caking, and compaction. No seed shall be sown until the seed bed has been approved by the Engineer.

Seeding Methods:

No seed shall be sown when wind gusts exceed 25 miles per hour or when the ground is not in a proper condition for seeding, nor shall any seed be sown until the purity test has been completed for the seeds to be used, and said tests show that the seed meets the noxious weed seed requirements. All equipment shall be approved by the Engineer prior to being used. Prior to starting work, seeders shall be calibrated and adjusted to sow seeds at the required seeding rate. Equipment shall be operated in a manner to ensure complete coverage of the entire area to be seeded. The Engineer shall be notified 48 hours prior to beginning the seeding operations so that the Engineer may determine by trial runs that a calibration of the seeder will provide uniform distribution at the specified rate per acre.

Seeding Classes 3, 4, 5, and 6 shall be sown with a broadcast seeder or a rangeland type seed drill.

Hand broadcasting and other methods of sowing seed will be allowed in special circumstances as approved by the Engineer. Special circumstances include but are not necessarily limited to steep slopes (over 1:3 (V:H)), inaccessible areas, wet areas, or other unique situations where the use of the specified equipment is not possible.

Method of Measurement:

SEEDING, CLASS 4A (MODIFIED) will be measured for payment in acres of surface area of seeding for the seed mix type specified.

Basis of Payment: SEEDING, CLASS 4A (MODIFIED) shall be paid at the Contract unit price per acre. Payment shall be in full for seed, planting, and furnishing all labor to complete the work as set forth above.

HANDHOLES

Effective: January 01, 2002

Revised: July 1, 2018

814.01TS

Description.

Add the following to Section 814 of the Standard Specifications:

All conduits shall enter the handhole at a depth of 30 inches (762 mm) except for the conduits for detector loops when the handhole is less than 5 feet (1.52 m) from the detector loop. All conduit ends should be sealed with a waterproof sealant to prevent the entrance of contaminants into the handhole.

Steel cable hooks shall be coated with hot-dipped galvanization in accordance with AASHTO Specification M111. Hooks shall be a minimum of 1/2 inch (13 mm) diameter with two 90 degree bends and extend into the handhole at least 6 inches (152 mm). Hooks shall be placed a minimum of 12 inches (305 mm) below the lid or lower if additional space is required.

Precast round handholes shall not be used unless called out on the plans.

The cover of the handhole frame shall be labeled "Traffic Signals" with legible raised letters. Only handholes serving IDOT traffic signal equipment shall have this label. Handhole covers for Red Light Running Cameras shall be labeled "RLRC".

Revise the third paragraph of Article 814.03 of the Standard Specifications to read:

"Handholes shall be constructed as shown on the plans and shall be cast-in-place, or precast concrete units. Heavy duty handholes shall be either cast-in-place or precast concrete units."

Add the following to Article 814.03 of the Standard Specifications:

"(c) Precast Concrete. Precast concrete handholes shall be fabricated according to Article 1042.17. Where a handhole is contiguous to a sidewalk, preformed joint filler of 1/2 inch (13 mm) thickness shall be placed between the handhole and the sidewalk."

Cast-In-Place Handholes.

All cast-in-place handholes shall be concrete, with inside dimensions of 21-1/2 inches (546 mm) minimum. Frames and lid openings shall match this dimension.

For grounding purposes the handhole frame shall have provisions for a 7/16 inch (11 mm) diameter stainless steel bolt cast into the frame. The covers shall have a stainless steel threaded stint extended from the eye hook assembly for the purpose of attaching the grounding conductor to the handhole cover.

The minimum wall thickness for heavy duty hand holes shall be 12 inches (305mm).

Precast Round Handholes.

All precast handholes shall be concrete, with inside dimensions of 30 inches (762mm) diameter. Frames and covers shall have a minimum opening of 26 inches (660mm) and no larger than the inside diameter of the handhole.

For grounding purposes the handhole frame shall have provisions for a 7/16 inch (11 mm) diameter stainless steel bolt cast into the frame. For the purpose of attaching the grounding conductor to the handhole cover, the covers shall either have a 7/16 inch (11 mm) diameter stainless steel bolt cast into the cover or a stainless steel threaded stint extended from an eye hook assembly. A hole may be drilled for the bolt if one cannot be cast into the frame or cover. The head of the bolt shall be flush or lower than the top surface of the cover.

The minimum wall thickness for precast heavy duty hand holes shall be 6 inches (152 mm).

Precast round handholes shall be only produced by an approved precast vendor.

Materials.

Add the following to Section 1042 of the Standard Specifications:

“1042.17 Precast Concrete Handholes. Precast concrete handholes shall be according to Articles 1042.03(a)(c)(d)(e).”

MAINTENANCE OF EXISTING TRAFFIC SIGNAL AND FLASHING BEACON INSTALLATION

Effective: May 22, 2002

Revised: July 1, 2015

850.01TS

General.

1. Full maintenance responsibility shall start as soon as the Contractor begins any physical work on the Contract or any portion thereof. If Contract work is started prior to a traffic signal inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection.
2. The Contractor shall have electricians with IMSA Level II certification on staff to provide signal maintenance. A copy of the certification shall be immediately available upon request of the Engineer.
3. This item shall include maintenance of all traffic signal equipment and other connected and related equipment such as flashing beacons, emergency vehicle pre-emption equipment, master controllers, uninterruptable power supply (UPS and batteries), PTZ cameras, vehicle detection, handholes, lighted signs, telephone service installations, communication cables, conduits to adjacent intersections, and other traffic signal equipment.
4. Regional transit, County and other agencies may also have equipment connected to existing traffic signal or peripheral equipment such as PTZ cameras, switches, transit signal priority (TSP and BRT) servers, radios and other devices that shall be included with traffic signal maintenance at no additional cost to the contract.
5. Maintenance shall not include Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, or peripheral equipment. This equipment is operated and maintained by the local municipality and should be de-activated while on contractor maintenance.
6. The energy charges for the operation of the traffic signal installation shall be paid for by the Contractor.

Maintenance.

1. The Contractor shall check all controllers every two (2) weeks, which will include visually inspecting all timing intervals, relays, detectors, and pre-emption equipment to ensure that they are functioning properly. The Contractor shall check signal system communications and phone lines to assure proper operation. This item includes, as routine maintenance, all portions of emergency vehicle pre-emption equipment. The Contractor shall maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs. Prior to the traffic signal maintenance transfer, the contractor shall supply a detailed maintenance schedule that includes dates, locations, names of electricians providing the required checks and inspections along with any other information requested by the Engineer.
2. The Contractor is advised that the existing and/or span wire traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shut down the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.
3. The Contractor shall provide immediate corrective action when any part or parts of the system fail to function properly. Two far side heads facing each approach shall be considered the minimum acceptable signal operation pending permanent repairs. When repairs at a signalized intersection require that the controller be disconnected or otherwise removed from normal operation, and power is available, the Contractor shall place the traffic signal installation on flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer. The Contractor shall be required to place stop signs (R1-1-36) at each approach of the intersection as a temporary means of regulating traffic. When the signals operate in flash, the Contractor shall furnish and equip all their vehicles assigned to the maintenance of traffic signal installations with a sufficient number of stop signs as specified herein. The Contractor shall maintain a sufficient number of spare stop signs in stock at all times to replace stop signs which may be damaged or stolen.
4. The Contractor shall provide the Engineer with 2 (two) 24 hour telephone numbers for the maintenance of the traffic signal installation and for emergency calls by the Engineer.
5. Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of the Standard Specifications and these special provisions.

6. The Contractor shall respond to all emergency calls from the Department or others within one (1) hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the contract. The Contractor may institute action to recover damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the traffic signal installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the State's Electrical Maintenance Contractor perform the maintenance work. The Contractor shall be responsible for all of the State's Electrical Maintenance Contractor's costs and liquidated damages of \$1000 per day per occurrence. The State's Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The Contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor. The Contractor shall allow the Electrical Maintenance Contractor to make reviews of the Existing Traffic Signal Installation that has been transferred to the Contractor for Maintenance.
7. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.
8. Equipment included in this item that is damaged or not operating properly from any cause shall be replaced with new equipment meeting current District One traffic signal specifications and provided by the Contractor at no additional cost to the Contract and/or owner of the traffic signal system, all as approved by the Engineer. Final replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices outside the controller cabinet shall not be allowed.
9. Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, and peripheral equipment, damaged or not operating properly from any cause, shall be the responsibility of the municipality or the Automatic Traffic Enforcement Company per Permit agreement.
10. The Contractor shall be responsible to clear snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment.

11. The Contractor shall maintain the traffic signal in normal operation during short or long term loss of utility or battery back-up power at critical locations designated by the Engineer. Critical locations may include traffic signals interconnected to railroad warning devices, expressway ramps, intersection with an SRA route, critical corridors or other locations identified by the Engineer. Temporary power to the traffic signal must meet applicable NEC and OSHA guidelines and may include portable generators and/or replacement batteries. Temporary power to critical locations shall not be paid for separately but shall be included in the contract.

12. Temporary replacement of damaged or knockdown of a mast arm pole assembly shall require construction of a full or partial span wire signal installation or other method approved by the Engineer to assure signal heads are located overhead and over traveled pavement. Temporary replacement of mast arm mount signals with post mount signals will not be permitted.

Basis of Payment.

This work will be paid for at the contract unit price per each for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION. Each intersection will be paid for separately. Maintenance of a standalone and or not connected flashing beacon shall be paid for at the contract unit price for MAINTENANCE OF EXISTING FLASHING BEACON INSTALLATION. Each flashing beacon will be paid for separately.

MAST ARM SIGN PANELS

Effective: May 22, 2002

Revised: July 1, 2015

720.01TS

Add the following to Article 720.02 of the Standard Specifications:

Sign stiffening channel systems shall be aluminum and meet the requirements of ASTM 6261-T5. Sign mounting banding, buckles and buckle straps shall be manufactured from AISI 201 stainless steel.

TRAFFIC SIGNAL GENERAL REQUIREMENTS

Effective: May 22, 2002

Revised: March 25, 2016

800.01TS

These Traffic Signal Special Provisions and the "District One Standard Traffic Signal Design Details" supplement the requirements of the State of Illinois "Standard Specifications for Road and Bridge Construction." The intent of these Special Provisions is to prescribe the materials and construction methods commonly used for traffic signal installations.

- All material furnished shall be new unless otherwise noted herein.
- Traffic signal construction and maintenance work shall be performed by personnel holding current IMSA Traffic Signal Technician Level II certification. A copy of the certification shall be immediately available upon request of the Engineer.
- The work to be done under this contract consists of furnishing, installing and maintaining all traffic signal work and items as specified in the Plans and as specified herein in a manner acceptable and approved by the Engineer.

Definitions of Terms.

Add the following to Section 101 of the Standard Specifications:

101.56 Vendor. Company that sells a particular type of product directly to the contractor or the Equipment Supplier.

101.57 Equipment supplier. Company that supplies, represents and provides technical support for IDOT District One approved traffic signal controllers and other related equipment. The Equipment Supplier shall be located within IDOT District One and shall:

- Be full service with on-site facilities to assemble, test and trouble-shoot traffic signal controllers and cabinet assemblies.
- Maintain an inventory of IDOT District One approved controllers and cabinets.
- Be staffed with permanent sales and technical personnel able to provide traffic signal controller and cabinet expertise and support.
- Technical staff shall hold current IMSA Traffic Signal Technician Level III certification and shall attend traffic signal turn-ons and inspections with a minimum 14 calendar day notice.

Submittals.

Revise Article 801.05 of the Standard Specifications to read:

All material approval requests shall be submitted electronically through the District's SharePoint System unless directed otherwise by the Engineer. Electronic material submittals shall follow the District's Traffic Operations Construction Submittals guidelines. General requirements include:

1. All material approval requests shall be made prior to or no later than the date of the preconstruction meeting. A list of major traffic signal items can be found in Article 801.05. Material or equipment which is similar or identical shall be the product of the same manufacturer, unless necessary for system continuity. Traffic signal materials and equipment shall bear the U.L. label whenever such labeling is available.
2. Product data and shop drawings shall be assembled by pay item. Only the top sheet of each pay item submittal will be stamped by the Department with the review status, except shop drawings for mast arm pole assemblies and the like will be stamped with the review status on each sheet.
3. Original manufacturer published product data and shop drawing sheets with legible dimensions and details shall be submitted for review.
4. When hard copy submittals are necessary, four complete copies of the manufacturer's descriptive literatures and technical data for the traffic signal materials shall be submitted. For hard copy or electronic submittals, the descriptive literature and technical data shall be adequate for determining whether the materials meet the requirements of the plans and specifications. If the literature contains more than one item, the Contractor shall indicate which item or items will be furnished.
5. When hard copy submittals are necessary for structural elements, four complete copies of the shop drawings for the mast arm assemblies and poles, and the combination mast arm assemblies and poles showing, in detail, the fabrication thereof and the certified mill analyses of the materials used in the fabrication, anchor rods, and reinforcing materials shall be submitted.
6. Partial or incomplete submittals will be returned without review.
7. Certain non-standard mast arm poles and special structural elements will require additional review from IDOT's Central Office. Examples include ornamental/decorative, non-standard length mast arm pole assemblies and monotube structures. The Contractor shall account for the additional review time in his schedule.
8. The contract number or permit number, project location/limits and corresponding pay code number must be on each sheet of correspondence, catalog cuts and mast arm poles and assemblies drawings.
9. Where certifications and/or warranties are specified, the information submitted for approval shall include certifications and warranties. Certifications involving inspections, and/or tests of material shall be complete with all test data, dates, and times.

10. After the Engineer reviews the submittals for conformance with the design concept of the project, the Engineer will stamp the drawings indicating their status as 'Approved', 'Approved-As-Noted', 'Disapproved', or 'Incomplete'. Since the Engineer's review is for conformance with the design concept only, it is the Contractor's responsibility to coordinate the various items into a working system as specified. The Contractor shall not be relieved from responsibility for errors or omissions in the shop, working, layout drawings, or other documents by the Department's approval thereof. The Contractor must still be in full compliance with contract and specification requirements.
11. The Contractor shall secure approved materials in a timely manner to assure construction schedules are not delayed.
12. All submitted items reviewed and marked 'APPROVED AS NOTED', 'DISAPPROVED', or 'INCOMPLETE' are to be resubmitted in their entirety, unless otherwise indicated within the submittal comments, with a disposition of previous comments to verify contract compliance at no additional cost to the contract.
13. Exceptions to and deviations from the requirements of the Contract Documents will not be allowed. It is the Contractor's responsibility to note any deviations from Contract requirements at the time of submittal and to make any requests for deviations in writing to the Engineer. In general, substitutions will not be acceptable. Requests for substitutions must demonstrate that the proposed substitution is superior to the material or equipment required by the Contract Documents. No exceptions, deviations or substitutions will be permitted without the approval of the Engineer.
14. Contractor shall not order major equipment such as mast arm assemblies prior to Engineer approval of the Contractor marked proposed traffic signal equipment locations to assure proper placement of contract required traffic signal displays, push buttons and other facilities. Field adjustments may require changes in proposed mast arm length and other coordination.

Marking Proposed Locations.

Revise "Marking Proposed Locations for Highway Lighting System" of Article 801.09 to read "Marking Proposed Locations for Highway Lighting System and Traffic Signals."

Add the following to Article 801.09 of the Standard Specifications:

It shall be the contractor's responsibility to verify all dimensions and conditions existing in the field prior to ordering materials and beginning construction. This shall include locating the mast arm foundations and verifying the mast arms lengths.

Inspection of Electrical Systems.

Add the following to Article 801.10 of the Standard Specifications:

- (c) All cabinets including temporary traffic signal cabinets shall be assembled by an approved equipment supplier in District One. The Department reserves the right to request any controller and cabinet to be tested at the equipment supplier's facility prior to field installation, at no extra cost to this contract.

Maintenance and Responsibility.

Revise Article 801.11 of the Standard Specifications to read:

- a. Existing traffic signal installations and/or any electrical facilities at all or various locations may be altered or reconstructed totally or partially as part of the work on this Contract. The Contractor is hereby advised that all traffic control equipment, presently installed at these locations, may be the property of the State of Illinois, Department of Transportation, Division of Highways, County, Private Developer, Municipality or Transit Agency in which they are located. Once the Contractor has begun any work on any portion of the project, all traffic signals within the limits of this contract or those which have the item "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," shall become the full responsibility of the Contractor. The Contractor shall supply the Engineer, Area Traffic Signal Maintenance and Operations Engineer, IDOT ComCenter and the Department's Electrical Maintenance Contractor with two 24-hour emergency contact names and telephone numbers.
- b. Automatic Traffic Enforcement equipment such as red lighting running and railroad crossing camera systems are owned and operated by others and the Contractor shall not be responsible for maintaining this equipment.
- c. Regional transit, County and other agencies may also have equipment connected to existing traffic signal or peripheral equipment such as PTZ cameras, switches, transit signal priority (TSP and BRT) servers and other devices that shall be included with traffic signal maintenance at no additional cost to the contract.
- d. When the project has a pay item for "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," the Contractor must notify both the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 and the Department's Electrical Maintenance Contractor, of their intent to begin any physical construction work on the Contract or any portion thereof. This notification must be made a minimum of seven (7) working days prior to the start of construction to allow sufficient time for inspection of the existing traffic signal installation(s) and transfer of maintenance to the Contractor. The Department will attempt to full-fill the Contractor's inspection date request(s), however workload and other conditions may prevent the Department from accommodating specific dates or times. The Contractor shall not be entitled to any other compensation if the requested inspection date(s) cannot be scheduled by the Department. If work is started prior to an inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection. The Contractor will become responsible for repairing or replacing all equipment that is not operating properly or is damaged at no cost to the owner of the traffic signal. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted.

- e. The Contractor is advised that the existing and/or temporary traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shut down the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.
- f. The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals and other equipment noted herein. Any inquiry, complaint or request by the Department, the Department's Electrical Maintenance Contractor or the public, shall be investigated and repairs begun within one hour. Failure to provide this service will result in liquidated damages of \$1000 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of \$1000 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. The Department may inspect any signaling device on the Department's highway system at any time without notification.
- g. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.
- h. The Contractor shall be responsible to clear snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment.
- i. The Contractor shall maintain the traffic signal in normal operation during short or long term loss of utility or battery back-up power at critical locations designated by the Engineer. Critical locations may include traffic signals interconnected to railroad warning devices, expressway ramps, intersection with an SRA route, critical corridors or other locations identified by the Engineer. Temporary power to the traffic signal must meet applicable NEC and OSHA guidelines and may include portable generators and/or replacement batteries. Temporary power to critical locations shall not be for separately but shall be included in the contract.

Damage to Traffic Signal System.

Add the following to Article 801.12(b) of the Standard Specifications to read:

Any traffic signal control equipment damaged or not operating properly from any cause shall be replaced with new equipment meeting current District One traffic signal specifications and provided by the Contractor at no additional cost to the Contract and/or owner of the traffic signal system, all as approved by the Engineer. Final replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices are only allowed at the bases of post and mast arms.

Temporary replacement of damaged or knockdown of a mast arm pole assembly shall require construction of a full or partial span wire signal installation or other method approved by the Engineer to assure signal heads are located overhead and over traveled pavement. Temporary replacement of mast arm mount signals with post mount signals will not be permitted.

Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, and peripheral equipment, damaged or not operating properly from any cause, shall be the responsibility of the municipality or the Automatic Traffic Enforcement company per Permit agreement.

Traffic Signal Inspection (TURN-ON).

Revise Article 801.15(b) of the Standard Specifications to read:

It is the intent to have all electric work completed and equipment field tested by the Equipment Supplier prior to the Department's "turn-on" field inspection. If in the event the Engineer determines work is not complete and the inspection will require more than two (2) hours to complete, the inspection shall be canceled and the Contractor will be required to reschedule at another date. The maintenance of the traffic signals will not be accepted until all punch list work is corrected and re-inspected.

When the road is open to traffic, except as otherwise provided in Section 850 of the Standard Specifications, the Contractor may request a turn-on and inspection of the completed traffic signal installation at each separate location. This request must be made to the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 a minimum of seven (7) working days prior to the time of the requested inspection. The Department will attempt to full-fill the Contractor's turn-on and inspection date request(s), however workload and other conditions may prevent the Department from accommodating specific dates or times. The Contractor shall not be entitled to any other compensation if the requested turn-on and inspection date(s) cannot be scheduled by the Department. The Department will not grant a field inspection until written or electronic notification is provided from the Contractor that the equipment has been field tested and the intersection is operating according to Contract requirements. The Contractor must invite local fire department personnel to the turn-on when Emergency Vehicle Preemption (EVP) is included in the project. When the contract includes the item RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM, OPTIMIZE TRAFFIC SIGNAL SYSTEM, or TEMPORARY TRAFFIC SIGNAL TIMINGS, the Contractor must notify the SCAT Consultant of the turn-on/detour implementation schedule, as well as stage changes and phase changes during construction.

The Contractor must have all traffic signal work completed and the electrical service installation connected by the utility company prior to requesting an inspection and turn-on of the traffic signal installation. The Contractor shall be responsible to provide a police officer to assist with traffic control at the time of testing.

The Contractor shall provide a representative from the control equipment vendor's office who is knowledgeable of the cabinet design and controller functions to attend the traffic signal inspection for both permanent and temporary traffic signal turn-ons.

Upon demonstration that the signals are operating and all work is completed in accordance with the Contract and to the satisfaction of the Engineer, the Engineer will then allow the signals to be placed in continuous operation. The Agency that is responsible for the maintenance of each traffic signal installation will assume the maintenance upon successful completion of this inspection.

The District requires the following Final Project Documentation from the Contractor at traffic signal turn-ons in electronic format in addition to hard copies where noted. A CD/DVD shall be submitted with separate folders corresponding to each numbered title below. The CD/DVD shall be labelled with date, project location, company and contract or permit number. Record Drawings, Inventory and Material Approvals shall be submitted prior to traffic signal turn-on for review by the Department as described here-in.

Final Project Documentation:

1. Record Drawings. Signal plans of record with field revisions marked in red ink. One hard copy set of 11"x17" record drawings shall also be provided.
2. Inventory. Inventory of new and existing traffic signal equipment including cabinet types and devices within cabinets in an Excel spread sheet format. One hard copy shall also be provided.
3. Pictures. Digital pictures of a minimum 12M pixels of each intersection approach showing all traffic signal displays and equipment. Pictures shall include controller cabinet equipment in enough detail to clearly identify manufacture and model of major equipment.
4. Field Testing. Written notification from the Contractor and the equipment vendor of satisfactory field testing with corresponding material performance measurements, such as for detector loops and fiber optic systems (see Article 801.13). One hard copy of all contract required performance measurement testing shall also be provided.
5. Materials Approval. The material approval letter. A hard copy shall also be provided.
6. Manuals. Operation and service manuals of the signal controller and associated control equipment. One hard copy shall also be provided.
7. Cabinet Wiring Diagram and Cable Logs. Five (5) hard copies 11" x 17" of the cabinet wiring diagrams shall be provided along with electronic pdf and dgn files of the cabinet wiring diagram. Five hard copies of the cable logs and electronic excel files shall be provided with cable #, number of conductors and spares, connected device/signal head and intersection location.

8. Controller Programming Settings. The traffic signal controller's timings; backup timings; coordination splits, offsets, and cycles; TBC Time of Day, Week and Year Programs; Traffic Responsive Program, Detector Phase Assignment, Type and Detector Switching; and any other functions programmable from the keyboard. The controller manufacturer shall also supply a printed form, not to exceed 11" x 17" for recording that data noted above. The form shall include a location, date, manufacturer's name, controller model and software version. The form shall be approved by the Engineer and a minimum of three (3) copies must be furnished at each turn-on. The manufacturer must provide all programming information used within the controller at the time of turn-on.
9. Warrantees and Guarantees. All manufacturer and contractor warrantees and guarantees required by Article 801.14.
10. GPS coordinate of traffic signal equipment as describe in the Record Drawings section herein.

Acceptance of the traffic signal equipment by the Department shall be based upon inspection results at the traffic signal "turn on", completeness of the required documentation and successful operation during a minimum 72 hour "burn-in" period following activation of the traffic signal. If approved, traffic signal acceptance shall be verbal at the "turn on" inspection followed by written correspondence from the Engineer. The Contractor shall be responsible for all traffic signal equipment and associated maintenance thereof until Departmental acceptance is granted.

All equipment and/or parts to keep the traffic signal installation operating shall be furnished by the Contractor. No spare traffic signal equipment is available from the Department.

All punch list work shall be completed within two (2) weeks after the final inspection. The Contractor shall notify the Electrical Maintenance Contractor to inspect all punch list work. Failure to meet these time constraints shall result in liquidated damage charges of \$500 per month per incident.

All cost of work and materials required to comply with the above requirements shall be included in the pay item bid prices, under which the subject materials and signal equipment are paid, and no additional compensation will be allowed. Materials and signal equipment not complying with the above requirements shall be subject to removal and disposal at the Contractor's expense.

Record Drawings.

The requirements listed for Electrical Installation shall apply for Traffic Signal Installations in Article 801.16. Revise the 2nd paragraph of Article 801.16 of the Standard Specifications to read:

"When the work is complete, and seven days before the request for a final inspection, the reduced-size set of contract drawings, stamped "RECORD DRAWINGS", shall be submitted to the Engineer for review and approval and shall be stamped with the date and the signature of the Contractor's supervising Engineer or electrician. The record drawings shall be submitted in PDF format on CDROM as well as hardcopy for review and approval. If the contract consists of multiple intersections, each intersection shall be saved as an individual PDF file with TS# and location name in its file name.

In addition to the record drawings, copies of the final catalog cuts which have been Approved or Approved as Noted shall be submitted in PDF format along with the record drawings. The PDF files shall clearly indicate the pay item either by filename or PDF Table of Contents referencing the respective pay item number for multi-item PDF files. Specific part or model numbers of items which have been selected shall be clearly visible.”

As part of the record drawings, the Contractor shall inventory all traffic signal equipment, new or existing, on the project and record information in an Excel spreadsheet. The inventory shall include equipment type, model numbers, software manufacturer and version and quantities.

Add the following to Article 801.16 of the Standard Specifications:

“In addition to the specified record drawings, the Contractor shall record GPS coordinates of the following traffic signal components being installed, modified or being affected in other ways by this contract:

- All Mast Arm Poles and Posts
- Traffic Signal Wood Poles
- Rail Road Bungalow
- UPS
- Handholes
- Conduit roadway crossings
- Controller Cabinets
- Communication Cabinets
- Electric Service Disconnect locations
- CCTV Camera installations
- Fiber Optic Splice Locations
- Conduit Crossings

Datum to be used shall be North American 1983.

Data shall be provided electronically and in print form. The electronic format shall be compatible with MS Excel. Latitude and Longitude shall be in decimal degrees with a minimum of 6 decimal places. Each coordinate shall have the following information:

- File shall be named: TSXXX-YY-MM-DD (i.e. TS22157_15-01-01)
- Each intersection shall have its own file
- Row 1 should have the location name (i.e. IL 31 @ Klausen)
- Row 2 is blank
- Row 3 is the headers for the columns
- Row 4 starts the data
- Column A (Date) – should be in the following format: MM/DD/YYYY
- Column B (Item) – as shown in the table below
- Column C (Description) – as shown in the table below
- Column D and E (GPS Data) – should be in decimal form, per the IDOT special provisions

Examples:

Date	Item	Description	Latitude	Longitude
01/01/2015	MP (Mast Arm Pole)	NEQ, NB, Dual, Combination Pole	41.580493	-87.793378
01/01/2015	HH (Handhole)	Heavy Duty, Fiber, Intersection, Double	41.558532	-87.792571
01/01/2015	ES (Electrical Service)	Ground mount, Pole mount	41.765532	-87.543571
01/01/2015	CC (Controller Cabinet)		41.602248	-87.794053
01/01/2015	RSC (Rigid Steel Crossing)	IL 31 east side crossing south leg to center HH at Klausen	41.611111	-87.790222
01/01/2015	PTZ (PTZ)	NEQ extension pole	41.593434	-87.769876
01/01/2015	POST (Post)		41.651848	-87.762053
01/01/2015	MCC (Master Controller Cabinet)		41.584593	-87.793378
01/01/2015	COMC (Communication Cabinet)		41.584600	-87.793432
01/01/2015	BBS (Battery Backup System)		41.558532	-87.792571
01/01/2015	CNCR (Conduit Crossing)	4-inch IL 31 n/o of Klausen	41.588888	-87.794440

Prior to the collection of data, the contractor shall provide a sample data collection of at least six data points of known locations to be reviewed and verified by the Engineer to be accurate within 1 foot. Upon verification, data collection can begin. Data collection can be made as construction progresses, or can be collected after all items are installed. If the data is unacceptable the contractor shall make corrections to the data collection equipment and or process and submit the data for review and approval as specified.

Accuracy. Data collected is to be mapping grade. A handheld mapping grade GPS device shall be used for the data collection. The receiver shall support differential correction and data shall have a minimum 1 foot accuracy after post processing.

GPS receivers integrated into cellular communication devices, recreational and automotive GPS devices are not acceptable.

The GPS shall be the product of an established major GPS manufacturer having been in the business for a minimum of 6 years.”

Delete the last sentence of the 3rd paragraph of Article 801.16.

Locating Underground Facilities.

Revise Section 803 to the Standard Specifications to read:

IDOT traffic signal facilities are not part of any of the one-call locating service such as J.U.L.I.E or Digger. If this Contract requires the services of an Electrical Contractor, the Contractor shall be responsible at his/her own expense for locating existing IDOT electrical facilities prior to performing any work. If this Contract does not require the services of an Electrical Contractor, the Contractor may request one free locate for existing IDOT electrical facilities from the District One Electrical Maintenance Contractor prior to the start of any work. Additional requests may be at the expense of the Contractor. The location of underground traffic facilities does not relieve the Contractor of their responsibility to repair any facilities damaged during construction at their expense.

The exact location of all utilities shall be field verified by the Contractor before the installation of any components of the traffic signal system. For locations of utilities, locally owned equipment, and leased enforcement camera system facilities, the local Counties or Municipalities may need to be contacted: in the City of Chicago contact Digger at (312) 744-7000 and for all other locations contact J.U.L.I.E. at 1-800-892-0123 or 811.

Restoration of Work Area.

Add the following article to Section 801 of the Standard Specifications:

801.17 Restoration of work area. Restoration of the traffic signal work area shall be included in the related pay items such as foundation, conduit, handhole, underground raceways, etc. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded. All brick pavers disturbed in the work area shall be restored to their original configuration as directed by the Engineer. All damaged brick pavers shall be replaced with a comparable material approved by the Engineer. Restoration of the work area shall be included in the contract without any extra compensation allowed to the Contractor.

Bagging Signal Heads.

Light tan colored traffic and pedestrian signal reusable covers shall be used to cover dark/un-energized signal sections and visors. Covers shall be made of outdoor fabric with urethane coating for repelling water, have elastic fully sewn around the cover ends for a tight fit over the visor, and have a minimum of two straps with buckles to secure the cover to the backplate. A center mesh strip allows viewing without removal for signal status testing purposes. Covers shall include a message indicating the signal is not in service.

RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM

Effective: May 22, 2002

Revised: July 1, 2015

800.03TS

Description.

This work shall consist of re-optimizing a closed loop traffic signal system according to the following Levels of work.

LEVEL I applies when improvements are made to an existing signalized intersection within an existing closed loop traffic signal system. The purpose of this work is to integrate the improvements to the subject intersection into the signal system while minimizing the impacts to the existing system operation. This type of work would be commonly associated with the addition of signal phases, pedestrian phases, or improvements that do not affect the capacity at an intersection.

LEVEL II applies when improvements are made to an existing signalized intersection within an existing closed loop traffic signal system and detailed analysis of the intersection operation is desired by the engineer, or when a new signalized or existing signalized intersection is being added to an existing system, but optimization of the entire system is not required. The purpose of this work is to optimize the subject intersection, while integrating it into the existing signal system with limited impact to the system operations. This item also includes an evaluation of the overall system operation, including the traffic responsive program.

For the purposes of re-optimization work, an intersection shall include all traffic movements operated by the subject controller and cabinet.

After the signal improvements are completed, the signal shall be re-optimized as specified by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for District One of the Illinois Department of Transportation. The Contractor shall contact the Traffic Signal Engineer at (847) 705-4424 for a listing of approved Consultants. Traffic signal system optimization work, including fine-tuning adjustments of the optimized system, shall follow the requirements stated in the most recent IDOT District 1 SCAT Guidelines, except as note herein.

A listing of existing signal equipment, interconnect information, phasing data, and timing patterns may be obtained from the Department, if available and as appropriate. The existing SCAT Report is available for review at the District One office and if the Consultant provides blank computer discs, copies of computer simulation files for the existing optimized system and a timing database will be made for the Consultant. The Consultant shall confer with the Traffic Signal Engineer prior to optimizing the system to determine if any extraordinary conditions exist that would affect traffic flows in the vicinity of the system, in which case, the Consultant may be instructed to wait until the conditions return to normal or to follow specific instructions regarding the optimization.

(a) LEVEL I Re-Optimization

1. The following tasks are associated with LEVEL I Re-Optimization.
 - a. Appropriate signal timings shall be developed for the subject intersection and existing timings shall be utilized for the rest of the intersections in the system.
 - b. Proposed signal timing plan for the modified intersection(s) shall be forwarded to IDOT for review prior to implementation.
 - c. Consultant shall conduct on-site implementation of the timings at the turn-on and make fine-tuning adjustments to the timings of the subject intersection in the field to alleviate observed adverse operating conditions and to enhance operations. The consultant shall respond to IDOT comments and public complaints for a minimum period of 60 days from date of timing plan implementation.
2. The following deliverables shall be provided for LEVEL I Re-Optimization.
 - a. Consultant shall furnish to IDOT a cover letter describing the extent of the re-optimization work performed.
 - b. Consultant shall furnish an updated intersection graphic display for the subject intersection to IDOT and to IDOT's Traffic Signal Maintenance Contractor.

(b) LEVEL II Re-Optimization

1. In addition to the requirements described in the LEVEL I Re-Optimization above, the following tasks are associated with LEVEL II Re-Optimization.
 - a. Traffic counts shall be taken at the subject intersection(s) after the traffic signals are approved for operation by the Area Traffic Signal Operations Engineer. Manual turning movement counts shall be conducted from 6:30 a.m. to 9:30 a.m., 11:00 a.m. to 1:00 p.m., and 3:30 p.m. to 6:30 p.m. on a typical weekday from midday Monday to midday Friday and on a Saturday and/or Sunday, as directed by the Engineer, to account for special traffic generators such as shopping centers, educational institutes and special event facilities. The turning movement counts shall identify cars, and single-unit, multi-unit heavy vehicles, and transit buses.
 - b. As necessary, the intersection(s) shall be re-addressed and all system detectors reassigned in the master controller according to the current standard of District One.
 - c. Traffic responsive program operation shall be evaluated to verify proper pattern selection and lack of oscillation and a report of the operation shall be provided to IDOT.
2. The following deliverables shall be provided for LEVEL II Re-Optimization.
 - a. Consultant shall furnish to IDOT one (1) copy of a technical memorandum for the optimized system. The technical memorandum shall include the following elements:
 - (1) Brief description of the project
 - (2) Printed copies of the analysis output from Synchro (or other appropriate, approved optimization software file)
 - (3) Printed copies of the traffic counts conducted at the subject intersection

- b. Consultant shall furnish to IDOT two (2) CDs for the optimized system. The CDs shall include the following elements:
- (1) Electronic copy of the technical memorandum in PDF format
 - (2) Revised Synchro files (or other appropriate, approved optimization software file) including the new signal and the rest of the signals in the closed loop system
 - (3) Traffic counts conducted at the subject intersection(s)
 - (4) New or updated intersection(s) graphic display file for the subject intersection(s)
 - (5) The CD shall be labeled with the IDOT system number and master location, as well as the submittal date and the consultant logo. The CD case shall include a clearly readable label displaying the same information securely affixed to the side and front.

Basis of Payment.

This work shall be paid for at the contract unit price each for RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM – LEVEL I or RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM – LEVEL II, which price shall be payment in full for performing all work described herein per intersection. Following completion of the timings and submittal of specified deliverables, 100 percent of the bid price will be paid. Each intersection will be paid for separately.

SERVICE INSTALLATION (TRAFFIC SIGNALS)

Effective: May 22, 2002

Revised: June 15, 2016

805.01TS

Revise Section 805 of the Standard Specifications to read:

Description.

This work shall consist of all materials and labor required to install, modify, or extend the electric service installation. All installations shall meet the requirements of the “District One Standard Traffic Signal Design Details”.

General.

The electric service installation shall be the electric service disconnecting means and it shall be identified as suitable for use as service equipment.

The electric utility contact information is noted on the plans and represents the current information at the time of contract preparation. The Contractor must request in writing for service and/or service modification within 10 days of contract award and must follow-up with the electric utility to assure all necessary documents and payment are received by the utility. The Contractor shall forward copies of all correspondence between the contractor and utility company to the Engineer and Area Traffic Signal Maintenance and Operations Engineer. The service agreement and sketch shall be submitted for signature to the IDOT’s Traffic Operations Programs Engineer.

Materials.

- a. General. The completed control panel shall be constructed in accordance with UL Std. 508A, Industrial Control Panel, and carry the UL label. Wire terminations shall be UL listed.
- b. Enclosures.
 1. Pole Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 4X, unfinished single door design, fabricated from minimum 0.080-inch (2.03 mm) thick Type 5052 H-32 aluminum. Seams shall be continuous welded and ground smooth. Stainless steel screws and clamps shall secure the cover and assure a watertight seal. The cover shall be removable by pulling the continuous stainless steel hinge pin. The cabinet shall have an oil-resistant gasket and a lock kit shall be provided with an internal O-ring in the locking mechanism assuring a watertight and dust-tight seal. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 14-inches (350 mm) high, 9-inches (225 mm) wide and 8-inches (200 mm) in depth is required. The cabinet shall be channel mounted to a wooden utility pole using assemblies recommended by the vendor.
 2. Ground Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 3R unfinished single door design with back panel. The cabinet shall be fabricated from Type 5052 H-32 aluminum with the frame and door 0.125-inch (3.175 mm) thick, the top 0.250-inch (6.350 mm) thick and the bottom 0.500-inch (12.70 mm) thick. Seams shall be continuous welded and ground smooth. The door and door opening shall be double flanged. The door shall be approximately 80% of the front surface, with a full length tamperproof stainless steel .075-inch (1.91 mm) thick hinge bolted to the cabinet with stainless steel carriage bolts and nylocks nuts. The locking mechanism shall be slam-latch type with a keyhole cover. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 40-inches (1000 mm) high, 16-inches (400 mm) wide and 15-inches (375 mm) in depth is required. The cabinet shall be mounted upon a square Type A concrete foundation as indicated on the plans. The foundation is paid for separately.
 3. All enclosures shall include a green external power indicator LED light with circuitry as shown in the Electrical Service-Panel Diagram detail sheet. For pole mounted service enclosures, the power indicator light shall be mounted as shown in the detail. For ground mounted enclosures, the power indicator light shall be mounted on the side of the enclosure most visible from the major roadway.

- c. Electric Utility Meter Housing and Riser. The electric meter housing and meter socket shall be supplied and installed by the contractor. The contractor is to coordinate the work to be performed and the materials required with the utility company to make the final connection at the power source. Electric utility required risers, weather/service head and any other materials necessary for connection shall also be included in the pay item. Materials shall be in accordance with the electric utility's requirements. For ground-mounted service, the electric utility meter housing shall be mounted to the enclosure. The meter shall be supplied by the utility company. Metered service shall not be used unless specified in the plans.
- d. Surge Protector. Overvoltage protection, with LED indicator, shall be provided for the 120 volt load circuit by the means MOV and thermal fusing technology. The response time shall be <5n seconds and operate within a range of -40C to +85C. The surge protector shall be UL 1449 Listed.
- e. Circuit Breakers. Circuit breakers shall be standard UL listed molded case, thermal-magnetic bolt-on type circuit breakers with trip free indicating handles. 120 volt circuit breakers shall have an interrupting rating of not less than 65,000 rms symmetrical amperes. Unless otherwise indicated, the main disconnect circuit breaker for the traffic signal controller shall be rated 60 amperes, 120 V and the auxiliary circuit breakers shall be rated 10 amperes, 120 V.
- f. Fuses, Fuseholders and Power Indicating Light. Fuses shall be small-dimensional cylindrical fuses of the dual element time-delay type. The fuses shall be rated for 600 V AC and shall have a UL listed interrupting rating of not less than 10,000 rms symmetrical amperes at rated voltage. The power indicating light shall be LED type with a green colored lens and shall be energized when electric utility power is present.
- g. Ground and Neutral Bus Bars. A single copper ground and neutral bus bar, mounted on the equipment panel shall be provided. Ground and neutral conductors shall be separated on the bus bar. Compression lugs, plus 2 spare lugs, shall be sized to accommodate the cables with the heads of the connector screws painted green for ground connections and white for neutral connections.
- h. Utility Services Connection. The Contractor shall notify the Utility Company marketing representative a minimum of 30 working days prior to the anticipated date of hook-up. This 30 day advance notification will begin only after the Utility Company marketing representative has received service charge payments from the Contractor. Prior to contacting the Utility Company marketing representative for service connection, the service installation controller cabinet and cable must be installed for inspection by the Utility Company.
- i. Ground Rod. Ground rods shall be copper-clad steel, a minimum of 10 feet (3.0m) in length, and 3/4 inch (20mm) in diameter. Ground rod resistance measurements to ground shall be 25 ohms or less. If necessary additional rods shall be installed to meet resistance requirements at no additional cost to the contract.

Installation.

- a. General. The Contractor shall confirm the orientation of the traffic service installation and its door side with the engineer, prior to installation. All conduit entrances into the service installation shall be sealed with a pliable waterproof material.
- b. Pole Mounted. Brackets designed for pole mounting shall be used. All mounting hardware shall be stainless steel. Mounting height shall be as noted on the plans or as directed by the Engineer.
- c. Ground Mounted. The service installation shall be mounted plumb and level on the foundation and fastened to the anchor bolts with hot-dipped galvanized or stainless steel nuts and washers. The space between the bottom of the enclosure and the top of the foundation shall be caulked at the base with silicone.

Basis of Payment.

The service installation shall be paid for at the contract unit price each for SERVICE INSTALLATION of the type specified which shall be payment in full for furnishing and installing the service installation complete. The CONCRETE FOUNDATION, TYPE A, which includes the ground rod, shall be paid for separately. SERVICE INSTALLATION, POLE MOUNTED shall include the 3/4 inch (20mm) grounding conduit, ground rod, and pole mount assembly. Any charges by the utility companies shall be approved by the engineer and paid for as an addition to the contract according to Article 109.05 of the Standard Specifications.

GROUNDING OF TRAFFIC SIGNAL SYSTEMS

Effective: May 22, 2002

Revised: July 1, 2015

806.01TS

Revise Section 806 of the Standard Specifications to read:

General.

All traffic signal systems, equipment and appurtenances shall be properly grounded in strict conformance with the NEC. This work shall be in accordance with IDOT's District One Traffic Signal Design Details.

The grounding electrode system shall include a ground rod installed with each traffic signal controller concrete foundation and all mast arm and post concrete foundations. An additional ground rod will be required at locations where measured resistance exceeds 25 ohms. Ground rods are included in the applicable concrete foundation or service installation pay item and will not be paid for separately.

Testing shall be according to Article 801.13 (a) (4) and (5).

- (a) The grounded conductor (neutral conductor) shall be white color coded. This conductor shall be bonded to the equipment grounding conductor only at the Electric Service Installation. All power cables shall include one neutral conductor of the same size.
- (b) The equipment grounding conductor shall be green color coded. The following is in addition to Article 801.04 of the Standard Specifications.
 - 1. Equipment grounding conductors shall be bonded to the grounded conductor (neutral conductor) only at the Electric Service Installation. The equipment grounding conductor is paid for separately and shall be continuous. The Earth shall not be used as the equipment grounding conductor.
 - 2. Equipment grounding conductors shall be bonded, using a UL Listed grounding connector, to all traffic signal mast arm poles, traffic signal posts, pedestrian posts, pull boxes, handhole frames and covers, conduits, and other metallic enclosures throughout the traffic signal wiring system, except where noted herein. Bonding shall be made with a splice and pigtail connection, using a sized compression type copper sleeve, sealant tape, and heat-shrinkable cap. A UL listed electrical joint compound shall be applied to all conductors' terminations, connector threads and contact points. Conduit grounding bushings shall be installed at all conduit terminations including spare or empty conduits.
 - 3. All metallic and non-metallic raceways shall have a continuous equipment grounding conductor, except raceways containing only detector loop lead-in circuits, circuits under 50 volts and/or fiber optic cable will not be required to include an equipment grounding conductor.
 - 4. Individual conductor splices in handholes shall be soldered and sealed with heat shrink. When necessary to maintain effective equipment grounding, a full cable heat shrink shall be provided over individual conductor heat shrinks.
- (c) The grounding electrode conductor shall be similar to the equipment grounding conductor in color coding (green) and size. The grounding electrode conductor is used to connect the ground rod to the equipment grounding conductor and is bonded to ground rods via exothermic welding, UL listed pressure connectors, and UL listed clamps .

COILABLE NON-METALLIC CONDUIT

Effective: May 22, 2002

Revised: July 1, 2015

810.01TS

Description.

This work shall consist of furnishing and installing empty coilable non-metallic conduit (CNC).

General.

The CNC installation shall be in accordance with Sections 810 and 811 of the Standard Specifications except for the following:

Add the following to Article 810.03 of the Standard Specifications:

CNC meeting the requirements of NEC Article 353 shall be used for detector loop raceways to the handholes.

Add the following to Article 811.03 of the Standard Specifications:

On temporary traffic signal installations with detector loops, CNC meeting the requirements of NEC Article 353 shall be used for detector loop raceways from the saw-cut to 10 feet (3m) up the wood pole, unless otherwise shown on the plans

Basis of Payment.

All installations of CNC for loop detection shall be included in the contract and not paid for separately.

UNDERGROUND RACEWAYS

Effective: May 22, 2002

Revised: July 1, 2015

810.02TS

Revise Article 810.04 of the Standard Specifications to read:

“Installation. All underground conduits shall have a minimum depth of 30-inches (700 mm) below the finished grade.”

Add the following to Article 810.04 of the Standard Specifications:

“All metal conduit installed underground shall be Rigid Steel Conduit unless otherwise indicated on the plans.”

Add the following to Article 810.04 of the Standard Specifications:

“All raceways which extend outside of a structure or duct bank but are not terminated in a cabinet, junction box, pull box, handhole, post, pole, or pedestal shall extend a minimum of 300 mm (12”) or the length shown on the plans beyond the structure or duct bank. The end of this extension shall be capped and sealed with a cap designed for the conduit to be capped.

The ends of rigid metal conduit to be capped shall be threaded, the threads protected with full galvanizing, and capped with a threaded galvanized steel cap.

The ends of rigid nonmetallic conduit and coilable nonmetallic conduit shall be capped with a rigid PVC cap of not less than 3 mm (0.125”) thick. The cap shall be sealed to the conduit using a room-temperature-vulcanizing (RTV) sealant compatible with the material of both the cap and the conduit. A washer or similar metal ring shall be glued to the inside center of the cap with epoxy, and the pull cord shall be tied to this ring.”

ROD AND CLEAN EXISTING CONDUIT

Effective: January 1, 2015

Revised: July 1, 2015

810.03TS

Description.

This work shall consist of inserting a duct rod or electrical fish rod or tape of sufficient length and rigidity into an electrical conduit opening in one electrical handhole, and pushing the said rod through the conduit to emerge at the next or subsequent handhole in the conduit system at the location(s) shown on the plans. The duct rod may be inserted and removed by any standard construction method which causes no damage to the conduit. The size of the conduit may vary, but there shall be no differentiation in cost for the size of the conduit.

The conduit which is to be rodded and cleaned may exist with various amounts of standing water in the handholes to drain the conduit and to afford compatible working conditions for the installation of the duct rods and/or cables. Pumping of handholes shall be included with the work of rodding and cleaning of the conduit.

Any handhole which, in the opinion of the Engineer contains excessive debris, dirt or other materials to the extent that conduit rodding and cleaning is not feasible, shall be cleaned at the Engineer's order and payment approval as a separate pay item.

Prior to removal of the duct rod, a duct cleaning attachment such as a properly sized wire brush or cleaning mandrel shall be attached to the duct rod, which by removal of the duct rod shall be pulled through the conduit to remove sand, grit, or other light obstructions from the duct to provide a clean, clear passage for the installation of cable. Whenever the installation of cables is not performed as an adjunct to or immediately following the cleaning of the duct, a light weight pulling line such as a 1/8" polyethylene line or conduit measuring tape shall be placed and shall remain in the conduit to facilitate future work. When great difficulty of either inserting the duct rod or removal of the cleaning mandrel is encountered, the duct may require further cleaning by use of a compressed air gun, or a low pressure water hose. In the case of a broken conduit, the conduit must be excavated and repaired. The existence and location of breaks in the conduit may be determined by rodding, but the excavation and repair work required will be paid for separately.

This work shall be measured per lineal foot for each conduit cleaned. Measurements shall be made from point to point horizontally. No vertical rises shall count in the measurement.

Basis of Payment.

This work shall be paid for at the contract unit price per lineal foot for ROD AND CLEAN EXISTING CONDUIT for the installation of new electric cables in existing conduits. Such price shall include the furnishing of all necessary tools, equipment, and materials required to prepare a conduit for the installation of cable.

FIBER OPTIC TRACER CABLE

Effective: May 22, 2002

Revised: July 1, 2015

817.02TS

The cable shall meet the requirements of Section 817 of the Standard Specifications, except for the following:

Add the following to Article 817.03 of the Standard Specifications:

In order to trace the fiber optic cable after installation, the tracer cable shall be installed in the same conduit as the fiber optic cable in locations shown on the plans. The tracer cable shall be continuous, extended into the controller cabinet and terminated on a barrier type terminal strip mounted on the side wall of the controller cabinet. The barrier type terminal strip and tracer cable shall be clearly marked and identified. All tracer cable splices shall be kept to a minimum and shall incorporate maximum lengths of cable supplied by the manufacturer. The tracer cable will be allowed to be spliced at handholes only. The tracer cable splice shall use a Western Union Splice soldered with resin core flux and shall be soldered using a soldering iron. Blow torches or other devices which oxidize copper cable shall not be allowed for soldering operations. All exposed surfaces of the solder shall be smooth. The splice shall be covered with a black shrink tube meeting UL 224 guidelines, Type V and rated 600V, minimum length 4 inches (100 mm) and with a minimum 1 inch (25 mm) coverage over the XLP insulation, underwater grade.

Add the following to Article 817.05 of the Standard Specifications:

Basis of Payment.

The tracer cable shall be paid for separately as ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C per foot (meter), which price shall include all associated labor and material for installation.

FULL-ACTUATED CONTROLLER AND CABINET

Effective: January 1, 2002

Revised: November 1, 2020

857.02TS

Description.

This work shall consist of furnishing and installing a traffic actuated solid state digital controller in the controller cabinet of the type specified, meeting the requirements of Section 857 of the Standard Specifications, as modified herein, including malfunction management unit, load switches and flasher relays, with all necessary connections for proper operation.

If the intersection is part of an existing system and/or when specified in the plans, this work shall consist of furnishing and installing a(n) " _____ " brand traffic actuated solid state controller.

Materials.

Add the following to Article 857.02 of the Standard Specifications:

For installation as a stand-alone traffic signal, connected to a closed loop system or integrated into an advance traffic management system (ATMS), controllers shall be Econolite Cobalt (Graphics Edition) or Eagle/Siemens M60 unless specified otherwise on the plans or elsewhere on these specifications. Only controllers supplied by one of the District One approved closed loop equipment suppliers will be allowed. Unless specified otherwise on the plans or these specifications, the controller shall be of the most recent model and software version supplied by the equipment supplier at the time of the traffic signal TURN-ON. A removable controller data key shall also be provided. Individual load switches shall be provided for each vehicle, pedestrian, and right turn over lap phase. The controller shall prevent phases from being skipped during program changes and after all preemption events and shall inhibit simultaneous display of circular yellow and yellow arrow indications.

For integration into an ATMS such as Centrats, Tactics, or TransSuite, the controller shall have the latest version of NTCIP software installed. For operation prior to integration into an ATMS, the controller shall maintain existing close loop management communications.

Add the following to Article 1074.03 of the Standard Specifications:

- (a) (6) Cabinets shall be designed for NEMA TS2 Type 1 operation. All cabinets shall be pre-wired for a minimum of eight (8) phases of vehicular, four (4) phases of pedestrian and four (4) phases of overlap operation.
- (b) (1) Revise "conflict monitor" to read "Malfunction Management Unit"
- (b) (5) Cabinets – Provide 1/8" (3.2 mm) thick unpainted aluminum alloy 5052-H32. The surface shall be smooth, free of marks and scratches. All external hardware shall be stainless steel.
- (b) (6) Controller Harness – Provide a TS2 Type 2 "A" wired harness in addition to the TS2 Type 1 harness.
- (b) (7) Surge Protection – Shall be a 120VAC Single phase Modular filter Plug-in type, supplied from an approved vendor.

- (b) (8) BIU – shall be secured by mechanical means.
- (b) (9) Transfer Relays – Solid state or mechanical flash relays are acceptable.
- (b) (10) Switch Guards – All switches shall be guarded.
- (b) (11) Heating – One (1) 200 watt, thermostatically-controlled, electric heater.
- (b) (12) Lighting – One (1) LED Panel shall be placed inside the cabinet top panel and one (1) LED Panel shall be placed on each side of the pull-out drawer/shelf assembly located beneath the controller support shelf. The LED Panels shall be controlled by a door switch. The LED Panels shall be provided from an approved vendor.
- (b) (13) The cabinet shall be equipped with a pull-out drawer/shelf assembly. A 1 ½ inch (38mm) deep drawer shall be provided in the cabinet, mounted directly beneath the controller support shelf. The drawer shall have a hinged top cover and shall be capable of accommodating one (1) complete set of cabinet prints and manuals. This drawer shall support 50 lbs. (23 kg) in weight when fully extended. The drawer shall open and close smoothly. Drawer dimensions shall make maximum use of available depth offered by the controller shelf and be a minimum of 18 inches (610mm) wide.
- (b) (14) Plan & Wiring Diagrams – 12” x 15” (305mm x 406mm) moisture sealed container attached to door.
- (b) (15) Detector Racks – Fully wired and labeled for four (4) channels of emergency vehicle pre-emption and sixteen channels (16) of vehicular operation.
- (b) (16) Field Wiring Labels – All field wiring shall be labeled.
- (b) (17) Field Wiring Termination – Approved channel lugs required.
- (b) (18) Power Panel – Provide a nonconductive shield.
- (b) (19) Circuit Breaker – The circuit breaker shall be sized for the proposed load but shall not be rated less than 30 amps.
- (b) (20) Police Door – Provide wiring and termination for plug in manual phase advance switch.

Basis of Payment.

This work will be paid for at the contract unit price each for FULL-ACTUATED CONTROLLER AND TYPE IV CABINET; FULL-ACTUATED CONTROLLER AND TYPE V CABINET; FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET; FULL-ACTUATED CONTROLLER AND TYPE SUPER R CABINET; FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL; FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL; FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET (SPECIAL); FULL-ACTUATED CONTROLLER AND TYPE SUPER R CABINET (SPECIAL).

UNINTERRUPTABLE POWER SUPPLY, SPECIAL

Effective: January 1, 2013

Revised: May 19, 2016

862.01TS

This work shall be in accordance with section 862 of the Standard Specification except as modified herein

Add the following to Article 862.01 of the Standard Specifications:

The UPS shall have the power capacity to provide normal operation of a signalized intersection that utilizes all LED type signal head optics, for a minimum of 6 (six) hours.

Add the following to Article 862.02 of the Standard Specifications:

Materials shall be according to Article 1074.04 as modified in UNINTERRUPTABLE POWER SUPPLY, SPECIAL.

Add the following to Article 862.03 of the Standard Specifications:

The UPS shall additionally include, but not be limited to, a battery cabinet, where applicable. For Super-P (Type IV) and Super-R (Type V) cabinets, the battery cabinet is integrated to the traffic signal cabinet, and shall be included in the cost for the traffic signal cabinet of the size and type indicated on the plans.

The UPS shall provide reliable emergency power to the traffic signals in the event of a power failure or interruption.

Revise Article 862.04 of the Standard Specifications to read:

Installation.

When a UPS is installed at an existing traffic signal cabinet, the UPS cabinet shall partially rest on the lip of the existing controller cabinet foundation and be secured to the existing controller cabinet by means of at least four (4) stainless steel bolts. The UPS cabinet shall be completely enclosed with the bottom and back constructed of the same material as the cabinet.

When a UPS is installed at a new signal cabinet and foundation, it shall be mounted as shown on the plans.

At locations where UPS is installed and an Emergency Vehicle Priority System is in use, any existing incandescent confirmation beacons shall be replaced with LED lamps in accordance with the District One Emergency Vehicle Priority System specification at no additional cost to the contract. A concrete apron shall be provided and be in accordance with Articles 424 and 202 of the Standard Specifications. The concrete apron shall also, follow the District 1 Standard Traffic Signal Design Detail, Type D for Ground Mounted Controller Cabinet and UPS Battery Cabinet.

This item shall include any required modifications to an existing traffic signal controller as a result of the addition of the UPS including the addition of alarms.

Materials.

Revise Article 1074.04(a)(1) of the Standard Specifications to read:

The UPS shall be line interactive or double conversion and provide voltage regulation and power conditioning when utilizing utility power. The UPS shall be sized appropriately for the intersection(s) normal traffic signal operating load. The UPS must be able to maintain the intersection's normal operating load plus 20 percent (20%) of the intersection's normal operating load. When installed at a railroad-interconnected intersection the UPS must maintain the railroad pre-emption load, plus 20 percent (20%) of the railroad preemption-operating load. The total connected traffic signal load shall not exceed the published ratings for the UPS.

The UPS shall provide a minimum of 6 (six) hours of normal operation run-time for signalized intersections with LED type signal head optics at 77 °F (25 °C) (minimum 1000 W active output capacity, with 86 percent minimum inverter efficiency).

Revise the first paragraph of Article 1074.04(a)(3) of the Standard Specifications to read:

The UPS shall have a minimum of four (4) sets of normally open (NO) and normally closed (NC) single-pole double-throw (SPDT) relay contact closures, available on a panel mounted terminal block or locking circular connectors, rated at a minimum 120 V/1 A, and labeled so as to identify each contact according to the plans.

Revise Article 1074.04(a)(10) of the Standard Specifications to read:

The UPS shall be compatible with the District's approved traffic controller assemblies utilizing NEMA TS 1 or NEMA TS 2 controllers and cabinet components for full time operation.

Revise Article 1074.04(a)(17) of the Standard Specifications to read:

When the intersection is in battery backup mode, the UPS shall bypass all internal cabinet lights, ventilation fans, cabinet heaters, service receptacles, luminaires, any lighted street name signs, any automated enforcement equipment and any other devices directed by the Engineer.

Revise Article 1074.04(b)(2)b of the Standard Specifications to read:

Batteries, inverter/charger and power transfer relay shall be housed in a separate NEMA Type 3R cabinet. The cabinet shall be Aluminum alloy, 5052-H32, 0.125-inch thick and have a natural mill finish.

Revise Article 1074.04(b)(2)c of the Standard Specifications to read:

No more than three batteries shall be mounted on individual shelves for a cabinet housing six batteries and no more than four batteries per shelf for a cabinet housing eight batteries.

Revise Article 1074.04(b)(2)e of the Standard Specifications to read:

The battery cabinet housing shall have the following nominal outside dimensions: a width of 25 in. (785 mm), a depth of 16 in. (440 mm), and a height of 41 to 48 in. (1.1 to 1.3 m). Clearance between shelves shall be a minimum of 10 in. (250 mm).

End of paragraph 1074.04(b)(2)e

The door shall be equipped with a two position doorstop, one a 90° and one at 120°.

Revise Article 1074.04(b)(2)g of the Standard Specifications to read:

The door shall open to the entire cabinet, have a neoprene gasket, an Aluminum continuous piano hinge with stainless steel pin, and a three point locking system. The cabinet shall be provided with a main door lock which shall operate with a traffic industry conventional No. 2 key. Provisions for padlocking the door shall be provided.

Add the following to Article 1074.04(b)(2) of the Standard Specifications:

j. The battery cabinet shall have provisions for an external generator connection.

Add the following to Article 1074.04(c) of the Standard Specifications:

- (8) The UPS shall include a tip or kill switch installed in the battery cabinet, which shall completely disconnect power from the UPS when the switch is manually activated.
- (9) The UPS shall include standard RS-232 and internal Ethernet interface.
- (10) The UPS shall incorporate a flanged electric generator inlet for charging the batteries and operating the UPS. The generator connector shall be male type, twist-lock, rated as 15A, 125VAC with a NEMA L5-15P configuration and weatherproof lift cover plate. Access to the generator inlet shall be from a secured weatherproof lift cover plate or behind a locked battery cabinet police panel.
- (11) The bypass switch shall include an internal power transfer relay that allows removal of the battery back-up unit, while the traffic signal is connected to utility power, without impacting normal traffic signal operation.

Revise Article 1074.04(d)(3) of the Standard Specifications to read:

All batteries supplied in the UPS shall be either gel cell or AGM type, deep cycle, completely sealed, prismatic lead calcium based, silver alloy, valve regulated lead acid (VRLA) requiring no maintenance. All batteries in a UPS installation shall be the same type; mixing of gel cell and AGM types within a UPS installation is not permitted.

Revise Article 1074.04(d)(4) of the Standard Specifications to read:

Batteries shall be certified by the manufacturer to operate over a temperature range of -13 to 160 °F (-25 to + 71 °C) for gel cell batteries and -40 to 140 °F (-40 to + 60 °C) for AGM type batteries.

Add the following to Article 1074.04(d) of the Standard Specifications:

- (9) The UPS shall consist of an even number of batteries that are capable of maintaining normal operation of the signalized intersection for a minimum of 6 (six) hours. Calculations shall be provided showing the number of batteries of the type supplied that are needed to satisfy this requirement. A minimum of four batteries shall be provided.
- (10) Battery Heater mats shall be provided, when gel cell type batteries are supplied.

Add the following to the Article 1074.04 of the Standard Specifications:

- (e) Warranty. The warranty for an uninterruptable power supply (UPS) and batteries (full replacement) shall cover a minimum of 5 years from date the equipment is placed in operation.
- (f) Installation. Bypass switch shall completely disconnect the traffic signal cabinet from the utility provider.
- (g) The UPS shall be set-up to run the traffic signal continuously, without going to a red flashing condition, when switched to battery power unless otherwise directed by the Engineer. The Contractor shall confirm set-up with the Engineer. The continuous operation mode when switched to battery may require modification to unit connections and these modifications are included in the unit price for this item.

Revise Article 862.05 of the Standard Specifications to read:

Basis of Payment.

This work will be paid for at the contract unit price per each for UNINTERRUPTABLE POWER SUPPLY, SPECIAL or UNINTERRUPTABLE POWER SUPPLY AND CABINET, SPECIAL. Replacement of Emergency Vehicle Priority System confirmation beacons and any required modifications to the traffic signal controller shall be included in the cost of the UNINTERRUPTABLE POWER SUPPLY, SPECIAL or UNINTERRUPTABLE POWER SUPPLY AND CABINET, SPECIAL item. The concrete apron and earth excavation required shall be included in the cost of the UNINTERRUPTABLE POWER SUPPLY AND CABINET, SPECIAL item.

FIBER OPTIC CABLE

Effective: May 22, 2002

Revised: July 1, 2015

871.01TS

Add the following to Article 871.01 of the Standard Specifications:

The Fiber Optic cable shall be installed in conduit or as specified on the plans.

Add the following to Article 871.02 of the Standard Specifications:

The control cabinet distribution enclosure shall be 24 Port Fiber Wall Enclosure, unless otherwise indicated on plans. The fiber optic cable shall provide twelve fibers per tube for the amount of fibers called for in the Fiber Optic Cable pay item in the Contract. Fiber Optic cable may be gel filled or have an approved water blocking tape.

Add the following to Article 871.04 of the Standard Specifications:

A minimum of six multimode fibers from each cable shall be terminated with approved mechanical connectors at the distribution enclosure. Fibers not being used shall be labeled "spare." Fibers not attached to the distribution enclosure shall be capped.. A minimum of 13.0 feet (4m) of extra cable length shall be provided for controller cabinets. The controller cabinet extra cable length shall be stored as directed by the Engineer.

Add the following to Article 871.06 of the Standard Specifications:

The distribution enclosure and all connectors will be included in the cost of the fiber optic cable.

Testing shall be in accordance with Article 801.13(d). Electronic files of OTDR signature traces shall be provided in the Final project documentation with certification from the Contractor that attenuation of each fiber does not exceed 3.5 dB/km nominal at 850nm for multimode fiber and 0.4 bd/km nominal at 1300nm for single mode fiber.

ELECTRIC CABLE

Effective: May 22, 2002

Revised: July 1, 2015

873.01TS

Delete "or stranded, and No. 12 or" from the last sentence of Article 1076.04 (a) of the Standard Specifications.

Add the following to the Article 1076.04(d) of the Standard Specifications:

Service cable may be single or multiple conductor cable.

EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C

Effective: January 1, 2013

Revised: July 1, 2015

873.03TS

This work shall consist of furnishing and installing lead-in cable for light detectors installed at existing and/or proposed traffic signal installations as part of an emergency vehicle priority system. The work includes installation of the lead-in cables in existing and/or new conduit. The electric cable shall be shielded and have (3) stranded conductors, colored blue, orange, and yellow with a stranded tinned copper drain wire. The cable shall meet the requirements of the vendor of the Emergency Vehicle Priority System Equipment.

Basis of Payment.

This work will be paid for at the contract unit price per foot for EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C, which price shall be payment in full for furnishing, installing and making all electrical connections necessary for proper operations.

TRAFFIC SIGNAL POST

Effective: May 22, 2002

Revised: July 14, 2021

875.01TS

Revise Article 1077.01 (c) of the Standard Specifications to read:

- (c) Anchor Rods. The anchor rods shall be a minimum of 5/8 in. in diameter and 16 in. long and shall be according to Article 1006.09. The anchor rods shall be threaded approximately 6 in. at one end and have a bend at the other end. The first 12 in. at the threaded end shall be galvanized. One each galvanized nut and trapezoidal washer shall be furnished with each anchor rod. The washer shall be properly sized to fully engage and sit flush on all sides of the slot of the base plate.

Revise the first sentence of Article 1077.01 (d) of the Standard Specifications to read:

All posts shall be steel and bases shall be cast iron. All posts and bases shall be hot dipped galvanized according to AASHTO M 111. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with 851.01TS TRAFFIC SIGNAL PAINTING Special Provisions.

MAST ARM ASSEMBLY AND POLE

Effective: May 22, 2002

Revised: July 01, 2015

877.01TS

Revise the second sentence of Article 1077.03 (a)(3) of the Standard Specifications to read:

Traffic signal mast arms shall be one piece construction, unless otherwise approved by the Engineer.

Add the following to Article 1077.03 (a)(3) of the Standard Specifications:

If the Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with 851.01TS TRAFFIC SIGNAL PAINTING Special Provisions.

CONCRETE FOUNDATIONS

Effective: May 22, 2002

Revised: November 01, 2018

878.01TS

Add the following to Article 878.03 of the Standard Specifications:

All anchor bolts shall be according to Article 1006.09, with all anchor bolts hot dipped galvanized a minimum of 12 in. at the threaded end.

No foundation is to be poured until the Resident Engineer gives his/her approval as to the depth of the foundation.

Add the following to the first paragraph of Article 878.05 of the Standard Specifications:

The concrete apron in front of the cabinet and UPS shall be included in this pay item.

LIGHT EMITTING DIODE (LED) SIGNAL HEAD AND OPTICALLY PROGRAMMED LED SIGNAL HEAD

Effective: May 22, 2002

Revised: July 1, 2015

880.01TS

Materials.

Add the following to Section 1078 of the Standard Specifications:

1. LED modules proposed for use and not previously approved by IDOT District One will require independent testing for compliance to current VTCSH-ITE standards for the product and be Intertek ETL Verified. This would include modules from new vendors and new models from IDOT District One approved vendors.

2. The proposed independent testing facility shall be approved by IDOT District One. Independent testing must include a minimum of two (2) randomly selected modules of each type of module (i.e. ball, arrow, pedestrian, etc.) used in the District and include as a minimum Luminous Intensity and Chromaticity tests. However, complete module performance verification testing may be required by the Engineer to assure the accuracy of the vendor's published data and previous test results. An IDOT representative will select sample modules from the local warehouse and mark the modules for testing. Independent test results shall meet current ITE standards and vendor's published data. Any module failures shall require retesting of the module type. All costs associated with the selection of sample modules, testing, reporting, and retesting, if applicable, shall be the responsibility of the LED module vendor and not be a cost to this contract.
3. All signal heads shall provide 12" (300 mm) displays with glossy yellow or black polycarbonate housings. All head housings shall be the same color (yellow or black) at the intersection. For new signalized intersections and existing signalized intersections where all signals heads are being replaced, the proposed head housings shall be black. Where only selected heads are being replaced, the proposed head housing color (yellow or black) shall match existing head housings. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on. Post top mounting collars are required on all posts, and shall be constructed of the same material as the brackets.
4. The LED signal modules shall be replaced or repaired if an LED signal module fails to function as intended due to workmanship or material defects within the first 7 years from the date of traffic signal TURN-ON. LED signal modules which exhibit luminous intensities less than the minimum values specified in Table 1 of the ITE Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Circular Signal Supplement (June 27, 2005) [VTSCH], or applicable successor ITE specifications, or show signs of entrance of moisture or contaminants within the first 7 years of the date of traffic signal TURN-ON shall be replaced or repaired. The vendor's written warranty for the LED signal modules shall be dated, signed by a vendor's representative and included in the product submittal to the State.

(a) Physical and Mechanical Requirements

1. Modules can be manufactured under this specification for the following faces:
 - a. 12 inch (300 mm) circular, multi-section
 - b. 12 inch (300 mm) arrow, multi-section
2. The maximum weight of a module shall be 4 lbs. (1.8 kg).
3. Each module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.

5. The lens of the module shall be tinted with a wavelength-matched color to reduce sun phantom effect and enhance on/off contrast. The tinting shall be uniform across the lens face. Polymeric lens shall provide a surface coating or chemical surface treatment applied to provide abrasion resistance. The lens of the module shall be integral to the unit, convex with a smooth outer surface and made of plastic. The lens shall have a textured surface to reduce glare.
6. The use of tinting or other materials to enhance ON/OFF contrasts shall not affect chromaticity and shall be uniform across the face of the lens.
7. Each module shall have a symbol of the type of module (i.e. circle, arrow, etc.) in the color of the module. The symbol shall be 1 inch (25.4 mm) in diameter. Additionally, the color shall be written out in 1/2 inch (12.7mm) letters next to the symbol.

(b) Photometric Requirements

4. The LEDs utilized in the modules shall be AlInGaP technology for red and InGaN for green and amber indications, and shall be the ultra bright type rated for 100,000 hours of continuous operation from -40 °C to +74 °C.

(c) Electrical

1. Maximum power consumption for LED modules is per Table 2.
2. Operating voltage of the modules shall be 120 VAC. All parameters shall be measured at this voltage.
3. The modules shall be operationally compatible with currently used controller assemblies (solid state load switches, flashers, and conflict monitors).
4. When a current of 20 mA AC (or less) is applied to the unit, the voltage read across the two leads shall be 15 VAC or less.
5. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.
6. LED arrows shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

(d) Retrofit Traffic Signal Module

1. The following specification requirements apply to the Retrofit module only. All general specifications apply unless specifically superseded in this section.
2. Retrofit modules can be manufactured under this specification for the following faces:
 - a. 12 inch (300 mm) circular, multi-section
 - b. 12 inch (300 mm) arrow, multi-section
3. Each Retrofit module shall be designed to be installed in the doorframe of a standard traffic signal housing. The Retrofit module shall be sealed in the doorframe with a one-piece EPDM (ethylene propylene rubber) gasket.
4. The maximum weight of a Retrofit module shall be 4 lbs. (1.8 kg).
5. Each Retrofit module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.
6. Electrical conductors for modules, including Retrofit modules, shall be 39.4 inches (1m) in length, with quick disconnect terminals attached.
7. The lens of the Retrofit module shall be integral to the unit, shall be convex with a smooth outer surface and made of plastic or of glass.

(e) The following specification requirements apply to the 12 inch (300 mm) arrow module only. All general specifications apply unless specifically superseded in this section.

1. The arrow module shall meet specifications stated in Section 9.01 of the Equipment and Material Standards of the Institute of Transportation Engineers (November 1998) [ITE Standards], Chapter 2 (Vehicle Traffic Control Signal Heads) or applicable successor ITE specifications for arrow indications.
2. The LEDs arrow indication shall be a solid display with a minimum of three (3) outlining rows of LEDs and at least one (1) fill row of LEDs.

(f) The following specification requirement applies to the 12 inch (300 mm) programmed visibility (PV) module only. All general specifications apply unless specifically superseded in this section.

1. The LED module shall be a module designed and constructed to be installed in a programmed visibility (PV) signal housing without modification to the housing.

Basis of Payment.

Add the following to the first paragraph of Article 880.04 of the Standard Specifications:

The price shall include furnishing the equipment described above, all mounting hardware and installing them in satisfactory operating condition.

Revise the second paragraph of Article 880.04 of the Standard Specifications to read:

If the work consists of retrofitting an existing polycarbonate traffic signal head with light emitting diodes (LEDs), it will be paid for as a SIGNAL HEAD, LED, RETROFIT, of the type specified, and of the particular kind of material, when specified. Price shall be payment in full for removal of the existing module, furnishing the equipment described above including LED modules, all mounting hardware, and installing them in satisfactory operating condition. The type specified will indicate the number of signal faces, the number of signal sections in each signal face and the method of mounting.

TRAFFIC SIGNAL BACKPLATE

Effective: May 22, 2002

Revised: July 1, 2021

882.01TS

Delete 1st sentence of Article 1078.03 of the Standard Specifications and add “All backplates shall be louvered, formed ABS plastic or composite aluminum”.

Delete first sentence of the second paragraph of Article 1078.03 of the Standard Specifications and add “The backplate shall be composed of one or two piece.

Delete second sentence of the fourth paragraph of Article 1078.03 the Standard Specifications.

Add the following to the fourth paragraph of Article 1078.03 of the Standard Specifications:

When retro reflective sheeting is specified, it shall be Type ZZ sheeting according to Article 1091.03 and applied in preferred orientation for the maximum angularity according to the vendor’s recommendations. The retroreflective sheeting shall be installed under a controlled environment at the vendor/equipment supplier before shipment to the contractor. The formed plastic backplate shall be prepared and cleaned, following recommendations of the retroreflective sheeting manufacturer.

DETECTOR LOOP

Effective: May 22, 2002

Revised: July 1, 2018

886.01TS

Procedure.

A minimum of seven (7) working days prior to the Contractor cutting loops, the Contractor shall mark the proposed loop locations and contact the Area Traffic Signal Maintenance and Operations Engineer (847) 705-4424 to inspect and approve the layout. When preformed detector loops are installed, the Contractor shall have them inspected and approved prior to the pouring of the Portland cement concrete surface, using the same notification process as above.

Installation.

Revise Article 886.04 of the Standard Specifications to read:

Loop detectors shall be installed according to the requirements of the "District One Standard Traffic Signal Design Details." Saw-cuts (homeruns on preformed detector loops) from the loop to the edge of pavement shall be made perpendicular to the edge of pavement when possible in order to minimize the length of the saw-cut (homerun on preformed detector loops) unless directed otherwise by the Engineer or as shown on the plan.

The detector loop cable insulation shall be labeled with the cable specifications.

Each loop detector lead-in wire shall be labeled in the handhole using a water proof tag, from an approved vendor, secured to each wire with nylon ties.

Resistance to ground shall be a minimum of 100 mega-ohms under any conditions of weather or moisture. Inductance shall be more than 50 and less than 700 microhenries. Quality readings shall be more than 5.

- (a) Type I. All loops installed in new asphalt pavement shall be installed in the binder course and not in the surface course. The edge of pavement, curb and handhole shall be cut with a 1/4 inch (6.3 mm) deep x 4 inches (100 mm) saw cut to mark location of each loop cable.
- (b) Loop sealant shall be two-component thixotropic chemically cured polyurethane from an approved vendor. The sealant shall be installed 1/8 inch (3 mm) below the pavement surface. If installed above the surface the excess shall be removed immediately.
- (c) Preformed. This work shall consist of furnishing and installing a rubberized or cross linked polyethylene heat resistant preformed traffic signal loop in accordance with the Standard Specifications, except for the following:
- (d) Preformed detector loops shall be installed in the sub-base under the Portland cement concrete pavement. Loop lead-ins shall be extended to a temporary protective enclosure near the proposed handhole location. The protective enclosure shall provide sufficient protection from other construction activities and may be buried for additional protection.

- (e) Handholes shall be placed next to the shoulder or back of curb when preformed detector loops enter the handhole. CNC, included in this pay item, shall be used to protect the preformed lead-ins from back of curb to the handhole.
- (f) Preformed detector loops shall be factory assembled with ends capped and sealed against moisture and other contaminants. The loop configurations and homerun lengths shall be assembled for the specific application. The loop and homerun shall be constructed using 5/8 inch (16 mm) outside diameter (minimum), 3/8 inch (9.5 mm) inside diameter (minimum) Class A oil resistant synthetic cord reinforced hydraulic hose with 250 psi (1,720 kPa) internal pressure rating or a similarly sized XLPE cable jacket. Hose for the loop and homerun assembly shall be one continuous piece. No joints or splices shall be allowed in the hose except where necessary to connect homeruns to the loops. This will provide maximum wire protection and loop system strength. Hose tee connections shall be heavy duty high temperature synthetic rubber. The tee shall be of proper size to attach directly to the hose, minimizing glue joints. The tee shall have the same flexible properties as the hose to insure that the whole assembly can conform to pavement movement and shifting without cracking or breaking. For XLPE jacketed preformed loops, all splice connections shall be soldered, sealed, and tested before being sealed in a high impact glass impregnated plastic splice enclosure. The wire used shall be #16 THWN stranded copper. The number of turns in the loop shall be application specific. Homerun wire pairs shall be twisted a minimum of eight turns per foot. No wire splices will be allowed in the preformed loop assembly. The loop and homeruns shall be filled and sealed with a flexible sealant to insure complete moisture blockage and further protect the wire. The preformed loops shall be constructed to allow a minimum of 6.5 feet of extra cable in the handhole.

Method of Measurement.

Add the following to Article 886.05 of the Standard Specifications:

Preformed detector loops will be measured along the detector loop embedded in the pavement, rather than the actual length of the wire. Detector loop measurements shall include the saw cut and the length of the detector loop wire to the edge of pavement. The detector loop wire, including all necessary connections for proper operations, from the edge of pavement to the handhole, shall be included in the price of the detector loop. CNC, trench and backfill, and drilling of pavement or handholes shall be included in detector loop quantities.

Basis of Payment.

This work shall be paid for at the contract unit price per foot (meter) for DETECTOR LOOP, TYPE I or PREFORMED DETECTOR LOOP as specified in the plans, which price shall be payment in full for furnishing and installing the detector loop and all related connections for proper operation.

RADAR VEHICLE DETECTION SYSTEM

Effective: July 01, 2015

Revised: May 9, 2017

886.03TS

Description.

This work shall consist of furnishing and installing a radar vehicle detection system as specified and/or as shown on the plan. This pay item shall include all necessary work and equipment required to have a fully operational system including but not limited to the detector unit/s, the interface unit and all the necessary hardware, cable and accessories required to complete the installation in accordance with the manufacturer's specifications.

The radar vehicle detection system shall work under all weather conditions, including rain, freezing rain, snow, wind, dust, fog, and changes in temperature and light. It shall work in an ambient temperature range of -34 to 74 degrees Celsius. It shall have a max power output of 75 watts or less.

The radar vehicle detection system shall be compatible with the District's approved traffic controller assemblies utilizing NEMA TS 1 or NEMA TS 2 controllers and cabinet components for full time operation. The radar vehicle detection system shall provide a minimum of one interface unit that has Ethernet connectivity, surge protection and shall be capable of supporting a minimum of 2 detector units.

The stop bar radar vehicle detection system shall have true presence capabilities in which it can detect stopped, slow moving or turning vehicles similar to the Departments in-pavement detection. This is especially important at side streets where driveways are near the intersection. The radar shall be able to drop the call if the vehicle leaves the detection zone. A manufacture statement confirming proper operation is required along each catalog cut submittal. The Department will not allow substitutes for other types of detection.

The far back radar detection shall have a detection range of 400 feet or better.

A representative from the supplier of the radar vehicle detection system shall supervise the installation and testing of the radar vehicle detection system and shall be present at the traffic signal turn-on inspection. Once the radar vehicle detection system is configured, it shall not need reconfiguration to maintain performance, unless the roadway configuration or the application requirements change.

The mounting location/s of the detector unit/s shall be per the manufacturer's recommendations. If an extension mounting assembly is needed, it shall be included in this item. All holes drilled into signal poles, mast arms, or posts shall require rubber grommets to prevent chafing of wires.

The radar vehicle detection system shall be warrantied, free from material and workmanship defects for a period of two years from final inspection.

Basis of Payment.

This work shall be paid for at the contract unit price each for RADAR VEHICLE DETECTION SYSTEM, SINGLE APPROACH, STOP BAR; RADAR VEHICLE DETECTION SYSTEM, SINGLE APPROACH, FAR BACK; RADAR VEHICLE DETECTION SYSTEM, SINGLE APPROACH, STOP BAR AND FAR BACK, the price of which shall include the cost for all of the work and material described herein and includes furnishing, installing, delivery, handling, testing, set-up and all appurtenances and mounting hardware necessary for a fully operational radar vehicle detection system.

EMERGENCY VEHICLE PRIORITY SYSTEM

Effective: May 22, 2002

Revised: July 1, 2015

887.01TS

Revise Section 887 of the Standard Specifications to read:

It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle pre-emption equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency.

All new installations shall be equipped with Confirmation Beacons as shown on the "District One Standard Traffic Signal Design Details." The Confirmation Beacon shall consist of a 6 watt Par 38 LED flood lamp with a 30 degree light spread, or a 7 watt Par 30 LED flood lamp with a 15 degree or greater spread, maximum 7 watt energy consumption at 120V, and a 2,000 hour warranty for each direction of pre-emption. The lamp shall have an adjustable mount with a weatherproof enclosure for cable splicing. All hardware shall be cast aluminum or stainless steel. Holes drilled into signal poles, mast arms, or posts shall require rubber grommets. In order to maintain uniformity between communities, the confirmation beacons shall indicate when the control equipment receives the pre-emption signal. The pre-emption movement shall be signaled by a flashing indication at the rate specified by Section 4L.01 of the "Manual on Uniform Traffic Control Devices," and other applicable sections of future editions. The stopped pre-empted movements shall be signaled by a continuous indication.

All light operated systems shall include security and transit preemption software and operate at a uniform rate of 14.035 Hz \pm 0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District.

This item shall include any required modifications to an existing traffic signal controller as a result of the addition of the EMERGENCY VEHICLE PRIORITY SYSTEM.

Basis of Payment.

The work shall be paid for at the contract unit price each for furnishing and installing LIGHT DETECTOR and LIGHT DETECTOR AMPLIFIER. Furnishing and installing the confirmation beacon shall be included in the cost of the Light Detector. Any required modifications to the traffic signal controller shall be included in the cost of the LIGHT DETECTOR AMPLIFIER. The preemption detector amplifier shall be paid for on a basis of (1) one each per intersection controller and shall provide operation for all movements required in the pre-emption phase sequence.

3D MODEL FEEDBACK

Description: This contract has been prepared utilizing a 3D model in MicroStation by IDOT. IDOT is requesting that the contractor provide IDOT written feedback regarding the 3D model and its effectiveness for use in construction. Feedback will be provided at the progress meetings with IDOT. The contractor must review the 3D model and complete all questions listed in this special provision. The 3D model will be provided to the contractor at the preconstruction meeting by the Department.

Questions:

1) Please explain the usefulness of the 3D model provided and how the contractor will utilize 3D models during construction. Please provide specific feedback on each of the following parts of the 3D model

Project content file

DGN sheet files

Separate LandXML files for each roadway alignment and profile

DGN files that include:

-all geometry elements

-Terrain model of PR roadway subgrade

-Terrain model of PR finished grade

-Terrain model of EX ground surface

-Component meshes for all corridors (for finished grade and subgrade)

-3D linear features for all corridors (for finished grade and subgrade)

Roadway template library (ITL) file

Survey raw data files

2) How useful was the storm sewer drainage model?

Describe when and for what purpose it was used for.

3) Will the contractor QA/QC this 3D model and utilize it in their machines or will a new model be created by the contractor?

4) Is the information provided in the 3D model sufficient or is there additional information that is needed to implement it in the contractor's machines and that would be beneficial for the contractor to have?

5) For what size of scope of work is it beneficial to provide a 3D model? Should it only be for large intersection reconstruction and add lane corridor improvements or will smaller projects benefit from a 3D model?

6) What problems were encountered when utilizing the 3D model?

7) If the original 3D model was modified or redone by the contractor please provide the final model to the resident engineer who will then provide it to the designer.

Basis of Payment: This work will be included in the contract unit price for Construction Layout.

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES (PROJECT SPECIFIC)

Description. This work shall consist of the removal and disposal of regulated substances according to Section 669 of the Standard Specifications as revised below.

Contract Specific Sites. The excavated soil and groundwater within the areas listed below shall be managed as either “uncontaminated soil”, hazardous waste, special waste or non-special waste. For stationing, the lateral distance is measured from centerline and the farthest distance is the offset distance or construction limit, whichever is less.

Soil Disposal Analysis. When the waste material requires sampling for landfill disposal acceptance, the Contractor shall secure a written list of the specific analytical parameters and analytical methods required by the landfill. The Contractor shall collect and analyze the required number of samples for the parameters required by the landfill using the appropriate analytical procedures. A copy of the required parameters and analytical methods (from landfill email or on landfill letterhead) shall be provided as Attachment 4A of the BDE 2733 (Regulated Substances Final Construction Report). The price shall include all sampling materials and effort necessary for collection and management of the samples, including transportation of samples from the job site to the laboratory. The Contractor shall be responsible for determining the specific disposal facilities to be utilized; and collect and analyze any samples required for disposal facility acceptance using a NELAP certified analytical laboratory registered with the State of Illinois.

Site 3258V-3: Vacant Land, 1465-1485 S. Neltnor Boulevard, West Chicago, DuPage County

- Station 200+00 to Station 203+05 (CL Garys Mill Road), 0 to 150 feet LT. All excavation planned for Ditch Grading, Roadway Reconstruction, Drainage Improvements and Traffic Signal Foundations. The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters: VOCs, SVOCs and Metals.

Site 3258V-7: Blackwell Forest Preserve, 28W600 Mack Road, West Chicago, DuPage County

- Station 200+00 to Station 203+05 (CL Garys Mill Road), 0 to 100 feet RT. All excavation planned for Ditch Grading, Roadway Reconstruction, Drainage Improvements and Traffic Signal Foundations. The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters: VOCs, SVOCs and Metals.

Work Zones

Three distinct OSHA HAZWOPER work zones (exclusion, decontamination, and support) shall apply to projects adjacent to or within sites with documented leaking underground storage tank (LUST) incidents, or sites under management in accordance with the requirements of the Site Remediation Program (SRP), Resource Conservation and Recovery Act (RCRA), or Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), or as deemed necessary. For this project, the work zones apply for the following ISGS PESA Sites:
None

AUTOMATED FLAGGER ASSISTANCE DEVICES (BDE)

Effective: January 1, 2008

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE)

Effective: November 2, 2006

Revised: August 1, 2017

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

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

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

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

- Where: CA = Cost Adjustment, \$.
BPI_P = Bituminous Price Index, as published by the Department for the month the work is performed, \$/ton (\$/metric ton).
BPI_L = Bituminous Price Index, as published by the Department for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price, \$/ton (\$/metric ton).
%AC_V = Percent of virgin Asphalt Cement in the Quantity being adjusted. For HMA mixtures, the % AC_V will be determined from the adjusted job mix formula. For bituminous materials applied, a performance graded or cutback asphalt will be considered to be 100% AC_V and undiluted emulsified asphalt will be considered to be 65% AC_V.
Q = Authorized construction Quantity, tons (metric tons) (see below).

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

For bituminous materials measured in gallons: $Q, \text{ tons} = V \times 8.33 \text{ lb/gal} \times SG / 2000$
For bituminous materials measured in liters: $Q, \text{ metric tons} = V \times 1.0 \text{ kg/L} \times SG / 1000$

- Where: A = Area of the HMA mixture, sq yd (sq m).
D = Depth of the HMA mixture, in. (mm).
G_{mb} = Average bulk specific gravity of the mixture, from the approved mix design.
V = Volume of the bituminous material, gal (L).
SG = Specific Gravity of bituminous material as shown on the bill of lading.

Basis of Payment. Bituminous materials cost adjustments may be positive or negative but will only be made when there is a difference between the BPI_L and BPI_P in excess of five percent, as calculated by:

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

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

BLENDED FINELY DIVIDED MINERALS (BDE)

Effective: April 1, 2021

Revise the second paragraph of Article 1010.01 of the Standard Specifications to read:

“Different sources or types of finely divided minerals shall not be mixed or used alternately in the same item of construction, except as a blended finely divided mineral product according to Article 1010.06.”

Add the following article to Section 1010 of the Standard Specifications:

“1010.06 Blended Finely Divided Minerals. Blended finely divided minerals shall be the product resulting from the blending or intergrinding of two or three finely divided minerals. Blended finely divided minerals shall be according to ASTM C 1697, except as follows.

- (a) Blending shall be accomplished by mechanically or pneumatically intermixing the constituent finely divided minerals into a uniform mixture that is then discharged into a silo for storage or tanker for transportation.
- (b) The blended finely divided mineral product will be classified according to its predominant constituent or the manufacturer’s designation and shall meet the chemical requirements of its classification. The other finely divided mineral constituent(s) will not be required to conform to their individual standards.”

COMPENSABLE DELAY COSTS (BDE)

Effective: June 2, 2017

Revised: April 1, 2019

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

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

- (1) Minor Delay. A minor delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two hours, but not to exceed two weeks.

- (2) Major Delay. A major delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two weeks.
- (3) Reduced Rate of Production Delay. A reduced rate of production delay occurs when the rate of production on the work in conflict with the utility in an unanticipated location decreases by more than 25 percent and lasts longer than seven calendar days.”

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

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

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

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

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

Equipment will be the same as for a minor delay, except Contractor-owned equipment will be limited to two weeks plus the cost of move-out to either the Contractor’s yard or another job and the cost to re-mobilize, whichever is less. Rental equipment may be paid for longer than two weeks provided the Contractor presents adequate support to the Department (including lease agreement) to show retaining equipment on the job is the most economical course to follow and in the public interest.

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

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

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

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

- (1) When adverse weather prevents work on the controlling item.
- (2) When job conditions due to recent weather prevent work on the controlling item.

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

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

“(f) **Basis of Payment.** After resolution of a claim in favor of the Contractor, any adjustment in time required for the work will be made according to Section 108. Any adjustment in the costs to be paid will be made for direct labor, direct materials, direct equipment, direct jobsite overhead, direct offsite overhead, and other direct costs allowed by the resolution. Adjustments in costs will not be made for interest charges, loss of anticipated profit, undocumented loss of efficiency, home office overhead and unabsorbed overhead other than as allowed by Article 109.13, lost opportunity, preparation of claim expenses and other consequential indirect costs regardless of method of calculation.

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

Add the following to Section 109 of the Standard Specifications.

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

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

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

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

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

- (2) Home Office and Unabsorbed Overhead. Payment for home office and unabsorbed overhead will be calculated as 8 percent of the total delay cost.
- (c) Extended Traffic Control. Traffic control required for an extended period of time due to the delay will be paid for according to Article 109.04.

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

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

CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)

Effective: June 1, 2010

Revised: November 1, 2014

The reduction of emissions of particulate matter (PM) for off-road equipment shall be accomplished by installing retrofit emission control devices. The term “equipment” refers to diesel fuel powered devices rated at 50 hp and above, to be used on the jobsite in excess of seven calendar days over the course of the construction period on the jobsite (including rental equipment).

Contractor and subcontractor diesel powered off-road equipment assigned to the contract shall be retrofitted using the phased in approach shown below. Equipment that is of a model year older than the year given for that equipment’s respective horsepower range shall be retrofitted:

Effective Dates	Horsepower Range	Model Year
June 1, 2010 ^{1/}	600-749	2002
	750 and up	2006
June 1, 2011 ^{2/}	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006
June 1, 2012 ^{2/}	50-99	2004
	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006

- 1/ Effective dates apply to Contractor diesel powered off-road equipment assigned to the contract.
- 2/ Effective dates apply to Contractor and subcontractor diesel powered off-road equipment assigned to the contract.

The retrofit emission control devices shall achieve a minimum PM emission reduction of 50 percent and shall be:

- a) Included on the U.S. Environmental Protection Agency (USEPA) *Verified Retrofit Technology List* (<http://www.epa.gov/cleandiesel/verification/verif-list.htm>), or verified by the California Air Resources Board (CARB) (<http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>); or
- b) Retrofitted with a non-verified diesel retrofit emission control device if verified retrofit emission control devices are not available for equipment proposed to be used on the project, and if the Contractor has obtained a performance certification from the retrofit device manufacturer that the emission control device provides a minimum PM emission reduction of 50 percent.

Note: Large cranes (Crawler mounted cranes) which are responsible for critical lift operations are exempt from installing retrofit emission control devices if such devices adversely affect equipment operation.

Diesel powered off-road equipment with engine ratings of 50 hp and above, which are unable to be retrofitted with verified emission control devices or if performance certifications are not available which will achieve a minimum 50 percent PM reduction, may be granted a waiver by the Department if documentation is provided showing good faith efforts were made by the Contractor to retrofit the equipment.

Construction shall not proceed until the Contractor submits a certified list of the diesel powered off-road equipment that will be used, and as necessary, retrofitted with emission control devices. The list(s) shall include (1) the equipment number, type, make, Contractor/rental company name; and (2) the emission control devices make, model, USEPA or CARB verification number, or performance certification from the retrofit device manufacturer. Equipment reported as fitted with emissions control devices shall be made available to the Engineer for visual inspection of the device installation, prior to being used on the jobsite.

The Contractor shall submit an updated list of retrofitted off-road construction equipment as retrofitted equipment changes or comes on to the jobsite. The addition or deletion of any diesel powered equipment shall be included on the updated list.

If any diesel powered off-road equipment is found to be in non-compliance with any portion of this special provision, the Engineer will issue the Contractor a diesel retrofit deficiency deduction.

Any costs associated with retrofitting any diesel powered off-road equipment with emission control devices shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed. The Contractor's compliance with this notice and any associated regulations shall not be grounds for a claim.

Diesel Retrofit Deficiency Deduction

When the Engineer determines that a diesel retrofit deficiency exists, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency continues to exist. The calendar day(s) will begin when the time period for correction is exceeded and end with the Engineer's written acceptance of the correction. The daily monetary deduction will be \$1,000.00 for each deficiency identified.

The deficiency will be based on lack of diesel retrofit emissions control.

If a Contractor accumulates three diesel retrofit deficiency deductions for the same piece of equipment in a contract period, the Contractor will be shutdown until the deficiency is corrected. Such a shutdown will not be grounds for any extension of the contract time, waiver of penalties, or be grounds for any claim.

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (DBE)

Effective: September 1, 2000

Revised: March 2, 2019

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

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

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

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

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

OVERALL GOAL SET FOR THE DEPARTMENT. As a requirement of compliance with 49 CFR Part 26, the Department has set an overall goal for DBE participation in its federally assisted contracts. That goal applies to all federal-aid funds the Department will expend in its federally assisted contracts for the subject reporting fiscal year. The Department is required to make a good faith effort to achieve the overall goal. The dollar amount paid to all approved DBE companies performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. The determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates, in the absence of unlawful discrimination and in an arena of fair and open competition, DBE companies can be expected to perform **20.00%** of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will only award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set for in this Special Provision:

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

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

BIDDING PROCEDURES. Compliance with this Special Provision is a material bidding requirement and failure of the bidder to comply will render the bid not responsive.

The bidder shall submit a DBE Utilization Plan (form SBE 2026), and a DBE Participation Statement (form SBE 2025) for each DBE company proposed for the performance of work to achieve the contract goal, with the bid. If the Utilization Plan indicates the contract goal will not be met, documentation of good faith efforts shall also be submitted. The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor is selected over a DBE for work on the contract. The required forms and documentation must be submitted as a single .pdf file using the "Integrated Contractor Exchange (iCX)" application within the Department's "EBids System".

The Department will not accept a Utilization Plan if it does not meet the bidding procedures set forth herein and the bid will be declared not responsive. In the event the bid is declared not responsive, the Department may elect to cause the forfeiture of the penal sum of the bidder's proposal guaranty and may deny authorization to bid the project if re-advertised for bids.

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

- (a) The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases and will be considered by the Department.
 - (1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.
 - (2) Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the Contractor might otherwise prefer to perform these work items with its own forces.
 - (3) Providing interested DBE companies with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

- (4) a. Negotiating in good faith with interested DBE companies. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBE companies that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBE companies to perform the work.
 - b. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidders are not, however, required to accept higher quotes from DBE companies if the price difference is excessive or unreasonable. In accordance with the above Bidding Procedures, the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.
- (5) Not rejecting DBE companies as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
 - (6) Making efforts to assist interested DBE companies in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.
 - (7) Making efforts to assist interested DBE companies in obtaining necessary equipment, supplies, materials, or related assistance or services.
 - (8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE companies.

- (b) If the Department determines the bidder has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided it is otherwise eligible for award. If the Department determines the bidder has failed to meet the requirements of this Special Provision or that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification will also include a statement of reasons for the adverse determination. If the Utilization Plan is not approved because it is deficient as a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no more than a five calendar day period to cure the deficiency.
- (c) The bidder may request administrative reconsideration of an adverse determination by emailing the Department at "DOT.DBE.UP@illinois.gov" within the five calendar days after the receipt of the notification of the determination. The determination shall become final if a request is not made on or before the fifth calendar day. A request may provide additional written documentation or argument concerning the issues raised in the determination statement of reasons, provided the documentation and arguments address efforts made prior to submitting the bid. The request will be reviewed by the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person to consider all issues of documentation and whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten working days after receipt of the request for reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

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

- (a) DBE as the Contractor: 100 percent goal credit for that portion of the work performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontracts to a non-DBE does not count toward the DBE goals.
- (b) DBE as a joint venture Contractor: 100 percent goal credit for that portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work performed by the DBE's own forces.

- (c) DBE as a subcontractor: 100 percent goal credit for the work of the subcontract performed by the DBE's own forces, including the cost of materials and supplies, excluding the purchase of materials and supplies or the lease of equipment by the DBE subcontractor from the Contractor or its affiliates. Work that a DBE subcontractor in turn subcontracts to a non-DBE does not count toward the DBE goal.
- (d) DBE as a trucker: 100 percent goal credit for trucking participation provided the DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible. At least one truck owned, operated, licensed, and insured by the DBE must be used on the contract. Credit will be given for the following:
 - (1) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.
 - (2) The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission is receives as a result of the lease arrangement.
- (e) DBE as a material supplier:
 - (1) 60 percent goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.
 - (2) 100 percent goal credit for the cost of materials of supplies obtained from a DBE manufacturer.
 - (3) 100 percent credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a DBE regular dealer or DBE manufacturer.

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

- (a) NO AMENDMENT. No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be emailed to the Department at DOT.DBE.UP@illinois.gov.
- (b) CHANGES TO WORK. Any deviation from the DBE condition-of-award or contract plans, specifications, or special provisions must be approved, in writing, by the Department as provided elsewhere in the Contract. The Contractor shall notify affected DBEs in writing of any changes in the scope of work which result in a reduction in the dollar amount condition-of-award to the contract. Where the revision includes work committed to a new DBE subcontractor, not previously involved in the project, then a Request for Approval of Subcontractor, Department form BC 260A or AER 260A, must be signed and submitted. If the commitment of work is in the form of additional tasks assigned to an existing subcontract, a new Request for Approval of Subcontractor will not be required. However, the Contractor must document efforts to assure the existing DBE subcontractor is capable of performing the additional work and has agreed in writing to the change.
- (c) SUBCONTRACT. The Contractor must provide copies of DBE subcontracts to the Department upon request. Subcontractors shall ensure that all lower tier subcontracts or agreements with DBEs to supply labor or materials be performed in accordance with this Special Provision.
- (d) ALTERNATIVE WORK METHODS. In addition to the above requirements for reductions in the condition of award, additional requirements apply to the two cases of Contractor-initiated work substitution proposals. Where the contract allows alternate work methods which serve to delete or create underruns in condition of award DBE work, and the Contractor selects that alternate method or, where the Contractor proposes a substitute work method or material that serves to diminish or delete work committed to a DBE and replace it with other work, then the Contractor must demonstrate one of the following:
- (1) The replacement work will be performed by the same DBE (as long as the DBE is certified in the respective item of work) in a modification of the condition of award; or
 - (2) The DBE is aware its work will be deleted or will experience underruns and has agreed in writing to the change. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so; or
 - (3) The DBE is not capable of performing the replacement work or has declined to perform the work at a reasonable competitive price. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so.

- (e) TERMINATION AND REPLACEMENT PROCEDURES. The Contractor shall not terminate or replace a DBE listed on the approved Utilization Plan, or perform with other forces work designated for a listed DBE except as provided in this Special Provision. The Contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the Contractor obtains the Department's written consent as provided in subsection (a) of this part. Unless Department consent is provided for termination of a DBE subcontractor, the Contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the DBE in the Utilization Plan.

As stated above, the Contractor shall not terminate or replace a DBE subcontractor listed in the approved Utilization Plan without prior written consent. This includes, but is not limited to, instances in which the Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm. Written consent will be granted only if the Bureau of Small Business Enterprises agrees, for reasons stated in its concurrence document, that the Contractor has good cause to terminate or replace the DBE firm. Before transmitting to the Bureau of Small Business Enterprises any request to terminate and/or substitute a DBE subcontractor, the Contractor shall give notice in writing to the DBE subcontractor, with a copy to the Bureau, of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor shall give the DBE five days to respond to the Contractor's notice. The DBE so notified shall advise the Bureau and the Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Bureau should not approve the Contractor's action. If required in a particular case as a matter of public necessity, the Bureau may provide a response period shorter than five days.

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

- (1) The listed DBE subcontractor fails or refuses to execute a written contract;
- (2) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the Contractor;
- (3) The listed DBE subcontractor fails or refuses to meet the Contractor's reasonable, nondiscriminatory bond requirements;
- (4) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
- (5) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1200 or applicable state law.
- (6) The Contractor has determined the listed DBE subcontractor is not a responsible contractor;

- (7) The listed DBE subcontractor voluntarily withdraws from the projects and provides written notice to the Contractor of its withdrawal;
- (8) The listed DBE is ineligible to receive DBE credit for the type of work required;
- (9) A DBE owner dies or becomes disabled with the result that the listed DBE subcontractor is unable to complete its work on the contract;
- (10) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the Contractor can self-perform the work for which the DBE contractor was engaged or so that the Contractor can substitute another DBE or non-DBE contractor after contract award.

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

- (f) FINAL PAYMENT. After the performance of the final item of work or delivery of material by a DBE and final payment therefore to the DBE by the Contractor, but not later than 30 calendar days after payment has been made by the Department to the Contractor for such work or material, the Contractor shall submit a DBE Payment Agreement on Department form SBE 2115 to the Resident Engineer. If full and final payment has not been made to the DBE, the DBE Payment Agreement shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes the work has not been satisfactorily completed. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the DBE companies indicated in the Utilization Plan and after good faith efforts are reviewed, the Department may deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages. The Contractor may request an administrative reconsideration of any amount deducted as damages pursuant to subsection (h) of this part.
- (g) ENFORCEMENT. The Department reserves the right to withhold payment to the Contractor to enforce the provisions of this Special Provision. Final payment shall not be made on the contract until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.

- (h) **RECONSIDERATION.** Notwithstanding any other provision of the contract, including but not limited to Article 109.09 of the Standard Specifications, the Contractor may request administrative reconsideration of a decision to deduct the amount of the goal not achieved as liquidated damages. A request to reconsider shall be delivered to the Contract Compliance Section and shall be handled and considered in the same manner as set forth in paragraph (c) of “Good Faith Effort Procedures” of this Special Provision, except a final decision that a good faith effort was not made during contract performance to achieve the goal agreed to in the Utilization Plan shall be the final administrative decision of the Department. The result of the reconsideration process is not administratively appealable to the U.S. Department of Transportation.

PERFORMANCE GRADED ASPHALT BINDER (BDE)

Effective: January 1, 2022

Revise Article 1032.05 of the Standard Specifications to read:

1032.05 Performance Graded Asphalt Binder. These materials will be accepted according to the Bureau of Materials Policy Memorandum, “Performance Graded Asphalt Binder Qualification Procedure.” The Department will maintain a qualified producer list. These materials shall be free from water and shall not foam when heated to any temperature below the actual flash point. Air blown asphalt, recycle engine oil bottoms (ReOB), and polyphosphoric acid (PPA) modification shall not be used.

When requested, producers shall provide the Engineer with viscosity/temperature relationships for the performance graded asphalt binders delivered and incorporated in the work.

- (a) Performance Graded (PG) Asphalt Binder. The asphalt binder shall meet the requirements of AASHTO M 320, Table 1 “Standard Specification for Performance Graded Asphalt Binder” for the grade shown on the plans and the following.

Test	Parameter
Small Strain Parameter (AASHTO PP 113) BBR, ΔT_c , 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs)	-5 °C min.

- (b) Modified Performance Graded (PG) Asphalt Binder. The asphalt binder shall meet the requirements of AASHTO M 320, Table 1 “Standard Specification for Performance Graded Asphalt Binder” for the grade shown on the plans.

Asphalt binder modification shall be performed at the source, as defined in the Bureau of Materials Policy Memorandum, “Performance Graded Asphalt Binder Qualification Procedure.”

Modified asphalt binder shall be safe to handle at asphalt binder production and storage temperatures or HMA construction temperatures. Safety Data Sheets (SDS) shall be provided for all asphalt modifiers.

- (1) Polymer Modification (SB/SBS or SBR). Elastomers shall be added to the base asphalt binder to achieve the specified performance grade and shall be either a styrene-butadiene diblock, triblock copolymer without oil extension, or a styrene-butadiene rubber. The polymer modified asphalt binder shall be smooth, homogeneous, and be according to the requirements shown in Table 1 or 2 for the grade shown on the plans.

Table 1 - Requirements for Styrene-Butadiene Copolymer (SB/SBS) Modified Asphalt Binders		
Test	Asphalt Grade SB/SBS PG 64-28 SB/SBS PG 70-22	Asphalt Grade SB/SBS PG 64-34 SB/SBS PG 70-28 SB/SBS PG 76-22 SB/SBS PG 76-28
Separation of Polymer ITP, "Separation of Polymer from Asphalt Binder" Difference in °F (°C) of the softening point between top and bottom portions	4 (2) max.	4 (2) max.
TESTS ON RESIDUE FROM ROLLING THIN FILM OVEN TEST (AASHTO T 240)		
Elastic Recovery ASTM D 6084, Procedure A, 77 °F (25 °C), 100 mm elongation, %	60 min.	70 min.

Table 2 - Requirements for Styrene-Butadiene Rubber (SBR) Modified Asphalt Binders		
Test	Asphalt Grade SBR PG 64-28 SBR PG 70-22	Asphalt Grade SB/SBS PG 64-34 SB/SBS PG 70-28 SBR PG 76-22 SBR PG 76-28
Separation of Polymer ITP, "Separation of Polymer from Asphalt Binder" Difference in °F (°C) of the softening point between top and bottom portions	4 (2) max.	4 (2) max.
Toughness ASTM D 5801, 77 °F (25 °C), 20 in./min. (500 mm/min.), in.-lbs (N-m)	110 (12.5) min.	110 (12.5) min.
Tenacity ASTM D 5801, 77 °F (25 °C), 20 in./min. (500 mm/min.), in.-lbs (N-m)	75 (8.5) min.	75 (8.5) min.
TESTS ON RESIDUE FROM ROLLING THIN FILM OVEN TEST (AASHTO T 240)		
Elastic Recovery ASTM D 6084, Procedure A, 77 °F (25 °C), 100 mm elongation, %	40 min.	50 min.

- (2) Ground Tire Rubber (GTR) Modification. GTR modification is the addition of recycled ground tire rubber to liquid asphalt binder to achieve the specified performance grade. GTR shall be produced from processing automobile and/or truck tires by the ambient grinding method or micronizing through a cryogenic process. GTR shall not exceed 1/16 in. (2 mm) in any dimension and shall not contain free metal particles, moisture that would cause foaming of the asphalt, or other foreign materials. A mineral powder (such as talc) meeting the requirements of AASHTO M 17 may be added, up to a maximum of four percent by weight of GTR to reduce sticking and caking of the GTR particles. When tested in accordance with Illinois Modified AASHTO T 27 "Standard Method of Test for Sieve Analysis of Fine and Coarse Aggregates" or AASHTO PP 74 "Standard Practice for Determination of Size and Shape of Glass Beads Used in Traffic Markings by Means of Computerized Optical Method", a 50 g sample of the GTR shall conform to the following gradation requirements.

Sieve Size	Percent Passing
No. 16 (1.18 mm)	100
No. 30 (600 µm)	95 ± 5
No. 50 (300 µm)	> 20

GTR modified asphalt binder shall be tested for rotational viscosity according to AASHTO T 316 using spindle S27. GTR modified asphalt binder shall be tested for original dynamic shear and RTFO dynamic shear according to AASHTO T 315 using a gap of 2 mm.

The GTR modified asphalt binder shall meet the requirements of Table 3.

Table 3 - Requirements for Ground Tire Rubber (GTR) Modified Asphalt Binders		
Test	Asphalt Grade GTR PG 64-28 GTR PG 70-22	Asphalt Grade GTR PG 76-22 GTR PG 76-28 GTR PG 70-28
TESTS ON RESIDUE FROM ROLLING THIN FILM OVEN TEST (AASHTO T 240)		
Elastic Recovery ASTM D 6084, Procedure A, 77 °F (25 °C), 100 mm elongation, %	60 min.	70 min.

- (3) Softener Modification (SM). Softener modification is the addition of organic compounds, such as engineered flux, bio-oil blends, modified vegetable oils, glycol amines, and fatty acid derivatives, to the base asphalt binder to achieve the specified performance grade. Softeners shall be dissolved, dispersed, or reacted in the asphalt binder to enhance its performance and shall remain compatible with the asphalt binder with no separation. Softeners shall not be added to modified PG asphalt binder as defined in Articles 1032.05(b)(1) or 1032.05(b)(2).

An Attenuated Total Reflectance-Fourier Transform Infrared spectrum (ATR-FTIR) shall be collected for both the softening compound as well as the softener modified asphalt binder at the dose intended for qualification. The ATR-FTIR spectra shall be collected on unaged softener modified binder, 20-hour Pressurized Aging Vessel (PAV) aged softener modified binder, and 40-hour PAV aged softener modified binder. The ATR-FTIR shall be collected in accordance with Illinois Test Procedure 601. The electronic files spectral files (in one of the following extensions or equivalent: *.SPA, *.SPG, *.IRD, *.IFG, *.CSV, *.SP, *.IRS, *.GAML, *. [0-9], *.IGM, *.ABS, *.DRT, *.SBM, *.RAS) shall be submitted to the Central Bureau of Materials.

Softener modified asphalt binders shall meet the requirements in Table 4.

Table 4 - Requirements for Softener Modified Asphalt Binders	
Test	Asphalt Grade
Small Strain Parameter (AASHTO PP 113) BBR, ΔT_c , 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs) ^{1/}	-5°C min.
Large Strain Parameter (Illinois Modified AASHTO T 391) DSR/LAS Fatigue Property, $\Delta G^* _{peak}$, 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs) ^{1/}	Results (%) shall be reported to the Central Bureau of Materials

1/ Frequency of the testing will be determined by the Bureau of Materials Policy Memorandum, "Performance Graded Asphalt Binder Qualification Procedure."

The following grades may be specified as tack coats.

Asphalt Grade	Use
PG 58-22, PG 58-28, PG 64-22	Tack Coat"

Revise Article 1031.06(c)(1) and 1031.06(c)(2) of the Standard Specifications to read:

"(1) RAP/RAS. When RAP is used alone or RAP is used in conjunction with RAS, the percentage of virgin ABR shall not exceed the amounts listed in the following table.

HMA Mixtures - RAP/RAS Maximum ABR % ^{1/2/}			
Ndesign	Binder	Surface	Polymer Modified Binder or Surface ^{3/}
30	30	30	10
50	25	15	10
70	15	10	10
90	10	10	10

1/ For Low ESAL HMA shoulder and stabilized subbase, the RAP/RAS ABR shall not exceed 50 percent of the mixture.

2/ When RAP/RAS ABR exceeds 20 percent, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).

- 3/ The maximum ABR percentages for ground tire rubber (GTR) modified mixes shall be equivalent to the percentages specified for SBS/SBR polymer modified mixes.
- (2) FRAP/RAS. When FRAP is used alone or FRAP is used in conjunction with RAS, the percentage of virgin asphalt binder replacement shall not exceed the amounts listed in the following table.

HMA Mixtures - FRAP/RAS Maximum ABR % ^{1/ 2/}			
Ndesign	Binder	Surface	Polymer Modified Binder or Surface ^{3/}
30	55	45	15
50	45	40	15
70	45	35	15
90	45	35	15
SMA	--	--	25
IL-4.75	--	--	35

- 1/ For Low ESAL HMA shoulder and stabilized subbase, the FRAP/RAS ABR shall not exceed 50 percent of the mixture.
- 2/ When FRAP/RAS ABR exceeds 20 percent for all mixes, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).
- 3/ The maximum ABR percentages for GTR modified mixes shall be equivalent to the percentages specified for SBS/SBR polymer modified mixes.”

Add the following to the end of Note 2. of Article 1030.03 of the Standard Specifications.

“A dedicated storage tank for the ground tire rubber (GTR) modified asphalt binder shall be provided. This tank shall be capable of providing continuous mechanical mixing throughout and/or recirculation of the asphalt binder to provide a uniform mixture. The tank shall be heated and capable of maintaining the temperature of the asphalt binder at 300 °F to 350 °F (149 °C to 177 °C). The asphalt binder metering systems of dryer drum plants shall be calibrated with the actual GTR modified asphalt binder material with an accuracy of ±0.40 percent.”

PORTLAND CEMENT CONCRETE – HAUL TIME (BDE)

Effective: July 1, 2020

Revise Article 1020.11(a)(7) of the Standard Specifications to read:

“(7) Haul Time. Haul time shall begin when the delivery ticket is stamped. The delivery ticket shall be stamped no later than five minutes after the addition of the mixing water to the cement, or after the addition of the cement to the aggregate when the combined aggregates contain free moisture in excess of two percent by weight (mass). If more than one batch is required for charging a truck using a stationary mixer, the time of haul shall start with mixing of the first batch. Haul time shall end when the truck is emptied for incorporation of the concrete into the work. The maximum haul time shall be as follows.

Concrete Temperature at Point of Discharge, °F (°C)	Maximum Haul Time ^{1/} (minutes)	
	Truck Mixer or Truck Agitator	Nonagitator Truck
50 - 64 (10 - 17.5)	90	45
> 64 (> 17.5) - without retarder	60	30
> 64 (> 17.5) - with retarder	90	45

1/ To encourage start-up testing for mix adjustments at the plant, the first two trucks will be allowed an additional 15 minutes haul time whenever such testing is performed.

For a mixture which is not mixed on the jobsite, a delivery ticket shall be required for each load. The following information shall be recorded on each delivery ticket: (1) ticket number; (2) name of producer and plant location; (3) contract number; (4) name of Contractor; (5) stamped date and time batched; (6) truck number; (7) quantity batched; (8) amount of admixture(s) in the batch; (9) amount of water in the batch; and (10) Department mix design number.

For concrete mixed in jobsite stationary mixers, the above delivery ticket may be waived, but a method of verifying the haul time shall be established to the satisfaction of the Engineer.”

SUBCONTRACTOR AND DBE PAYMENT REPORTING (BDE)

Effective: April 2, 2018

Add the following to Section 109 of the Standard Specifications.

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

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

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

SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)

Effective: November 2, 2017

Revised: April 1, 2019

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

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

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

TRAINING SPECIAL PROVISIONS (BDE)

Effective: October 15, 1975

Revised: September 2, 2021

This Training Special Provision supersedes Section 7b of the Special Provision entitled "Specific Equal Employment Opportunity Responsibilities," and is in implementation of 23 U.S.C. 140(a).

As part of the Contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The Contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade or job classification involved. The number of trainees to be trained under this contract will be 1. In the event the Contractor subcontracts a portion of the contract work, it shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The Contractor shall also ensure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the Contractor's needs and the availability of journeymen in the various classifications within the reasonable area of recruitment. Prior to commencing construction, the Contractor shall submit to the Illinois Department of Transportation for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the Contractor shall specify the starting time for training in each of the classifications. The Contractor will be credited for each trainee it employs on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the Contractor shall make every effort to enroll minority trainees and women (e.g. by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps it has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he or she has successfully completed a training course leading to journeyman status or in which he or she has been employed as a journeyman. The Contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the Contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the Contractor and approved by the Illinois Department of Transportation and the Federal Highway Administration. The Illinois Department of Transportation and the Federal Highway Administration shall approve a program, if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved by not necessarily sponsored by the U.S. Department of Labor Employment Training Administration shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Illinois Department of Transportation and the Federal Highway Administration. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the Contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, reimbursement will be made for training of persons in excess of the number specified herein. This reimbursement will be made even though the Contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the Contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the Contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the Contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the Contractor and evidences a lack of good faith on the part of the Contractor in meeting the requirement of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program.

It is not required that all trainees be on board for the entire length of the contract. A Contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The Contractor shall furnish the trainee a copy of the program he will follow in providing the training. The Contractor shall provide each trainee with a certification showing the type and length of training satisfactorily complete.

The Contractor shall provide for the maintenance of records and furnish periodic reports documenting its performance under this Training Special Provision.

For contracts with an awarded contract value of \$500,000 or more, the Contractor is required to comply with the Illinois Works Apprenticeship Initiative (30 ILCS 559/20-20 to 20-25) and all applicable administrative rules to the extent permitted by Section 20-20(g). For federally funded projects, the number of trainees to be trained under this contract, as stated in the Training Special Provisions, will be the established goal for the Illinois Works Apprenticeship Initiative 30 ILCS 559/20-20(g). The Contractor shall make a good faith effort to meet this goal. For federally funded projects, the Illinois Works Apprenticeship Initiative will be implemented using the FHWA approved OJT procedures. The Contractor must comply with the recordkeeping and reporting obligations of the Illinois Works Apprenticeship Initiative for the life of the project, including the certification as to whether the trainee/apprentice labor hour goals were met.

Method of Measurement. The unit of measurement is in hours.

Basis of Payment. This work will be paid for at the contract unit price of 80 cents per hour for TRAINEES. The estimated total number of hours, unit price, and total price have been included in the schedule of prices.

IDOT TRAINING PROGRAM GRADUATE ON-THE-JOB TRAINING SPECIAL PROVISION

Effective: August 1, 2012

Revised: February 2, 2017

In addition to the Contractor's equal employment opportunity (EEO) affirmative action efforts undertaken as required by this Contract, the Contractor is encouraged to participate in the incentive program described below to provide additional on-the-job training to certified graduates of the IDOT pre-apprenticeship training program, as outlined in this Special Provision.

IDOT funds, and various Illinois community colleges operate, pre-apprenticeship training programs throughout the State to provide training and skill-improvement opportunities to promote the increased employment of minority groups, disadvantaged persons and women in all aspects of the highway construction industry. The intent of this IDOT Pre-Apprenticeship Training Program Graduate (TPG) special provision (Special Provision) is to place these certified program graduates on the project site for this Contract in order to provide the graduates with meaningful on-the-job training. Pursuant to this Special Provision, the Contractor must make every reasonable effort to recruit and employ certified TPG trainees to the extent such individuals are available within a practicable distance of the project site.

Specifically, participation of the Contractor or its subcontractor in the Program entitles the participant to reimbursement for graduates' hourly wages at \$15.00 per hour per utilized TPG trainee, subject to the terms of this Special Provision. Reimbursement payment will be made even though the Contractor or subcontractor may also receive additional training program funds from other non-IDOT sources for other non-TPG trainees on the Contract, provided such other source does not specifically prohibit the Contractor or subcontractor from receiving reimbursement from another entity through another program, such as IDOT through the TPG program. With regard to any IDOT funded construction training program other than TPG, however, additional reimbursement for other IDOT programs will not be made beyond the TPG Program described in this Special Provision when the TPG Program is utilized.

No payment will be made to the Contractor if the Contractor or subcontractor fails to provide the required on-site training to TPG trainees, as solely determined by IDOT. A TPG trainee must begin training on the project as soon as the start of work that utilizes the relevant trade skill and the TPG trainee must remain on the project site through completion of the Contract, so long as training opportunities continue to exist in the relevant work classification. Should a TPG trainee's employment end in advance of the completion of the Contract, the Contractor must promptly notify the IDOT District EEO Officer for the Contract that the TPG's involvement in the Contract has ended. The Contractor must supply a written report for the reason the TPG trainee involvement terminated, the hours completed by the TPG trainee on the Contract, and the number of hours for which the incentive payment provided under this Special Provision will be, or has been claimed for the separated TPG trainee.

Finally, the Contractor must maintain all records it creates as a result of participation in the Program on the Contract, and furnish periodic written reports to the IDOT District EEO Officer that document its contractual performance under and compliance with this Special Provision. Finally, through participation in the Program and reimbursement of wages, the Contractor is not relieved of, and IDOT has not waived, the requirements of any federal or state labor or employment law applicable to TPG workers, including compliance with the Illinois Prevailing Wage Act.

Method of Measurement: The unit of measurement is in hours.

Basis of Payment: This work will be paid for at the contract unit price of \$15.00 per hour for each utilized certified TPG Program trainee (TRAINEES TRAINING PROGRAM GRADUATE). The estimated total number of hours, unit price, and total price must be included in the schedule of prices for the Contract submitted by Contractor prior to beginning work. The initial number of TPG trainees for which the incentive is available for this contract is 1.

The Department has contracted with several educational institutions to provide screening, tutoring and pre-training to individuals interested in working as a TPG trainee in various areas of common construction trade work. Only individuals who have successfully completed a Pre-Apprenticeship Training Program at these IDOT approved institutions are eligible to be TPG trainees. To obtain a list of institutions that can connect the Contractor with eligible TPG trainees, the Contractor may contact: HCCTP TPG Program Coordinator, Office of Business and Workforce Diversity (IDOT OBWD), Room 319, Illinois Department of Transportation, 2300 S. Dirksen Parkway, Springfield, Illinois 62764. Prior to commencing construction with the utilization of a TPG trainee, the Contractor must submit documentation to the IDOT District EEO Officer for the Contract that provides the names and contact information of the TPG trainee(s) to be trained in each selected work classification, proof that that the TPG trainee(s) has successfully completed a Pre-Apprenticeship Training Program, proof that the TPG is in an Apprenticeship Training Program approved by the U.S. Department of Labor Bureau of Apprenticeship Training, and the start date for training in each of the applicable work classifications.

To receive payment, the Contractor must provide training opportunities aimed at developing a full journeyworker in the type of trade or job classification involved. During the course of performance of the Contract, the Contractor may seek approval from the IDOT District EEO Officer to employ additional eligible TPG trainees. In the event the Contractor subcontracts a portion of the contracted work, it must determine how many, if any, of the TPGs will be trained by the subcontractor. Though a subcontractor may conduct training, the Contractor retains the responsibility for meeting all requirements imposed by this Special Provision. The Contractor must also include this Special Provision in any subcontract where payment for contracted work performed by a TPG trainee will be passed on to a subcontractor.

Training through the Program is intended to move TPGs toward journeyman status, which is the primary objective of this Special Provision. Accordingly, the Contractor must make every effort to enroll TPG trainees by recruitment through the Program participant educational institutions to the extent eligible TPGs are available within a reasonable geographic area of the project. The Contractor is responsible for demonstrating, through documentation, the recruitment efforts it has undertaken prior to the determination by IDOT whether the Contractor is in compliance with this Special Provision, and therefore, entitled to the Training Program Graduate reimbursement of \$15.00 per hour.

Notwithstanding the on-the-job training requirement of this TPG Special Provision, some minimal off-site training is permissible as long as the offsite training is an integral part of the work of the contract, and does not compromise or conflict with the required on-site training that is central to the purpose of the Program. No individual may be employed as a TPG trainee in any work classification in which he/she has previously successfully completed a training program leading to journeyman status in any trade, or in which he/she has worked at a journeyman level or higher.

VEHICLE AND EQUIPMENT WARNING LIGHTS (BDE)

Effective: November 1, 2021

Add the following paragraph after the first paragraph of Article 701.08 of the Standard Specifications:

“The Contractor shall equip all vehicles and equipment with high-intensity oscillating, rotating, or flashing, amber or amber-and-white, warning lights which are visible from all directions. The lights shall be in operation while the vehicle or equipment is engaged in construction operations.”

WEEKLY DBE TRUCKING REPORTS (BDE)

Effective: June 2, 2012

Revised: November 1, 2021

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

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

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

WORK ZONE TRAFFIC CONTROL DEVICES (BDE)

Effective: March 2, 2020

Add the following to Article 701.03 of the Standard Specifications:

“(q) Temporary Sign Supports1106.02”

Revise the third paragraph of Article 701.14 of the Standard Specifications to read:

“For temporary sign supports, the Contractor shall provide a FHWA eligibility letter for each device used on the contract. The letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device. The signs shall be supported within 20 degrees of vertical. Weights used to stabilize signs shall be attached to the sign support per the manufacturer’s specifications.”

Revise the first paragraph of Article 701.15 of the Standard Specifications to read:

“701.15 Traffic Control Devices. For devices that must meet crashworthiness standards, the Contractor shall provide a manufacturer’s self-certification or a FHWA eligibility letter for each Category 1 device and a FHWA eligibility letter for each Category 2 and Category 3 device used on the contract. The self-certification or letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device.”

Revise the first six paragraphs of Article 1106.02 of the Standard Specifications to read:

“1106.02 Devices. Work zone traffic control devices and combinations of devices shall meet crashworthiness standards for their respective categories. The categories are as follows.

Category 1 includes small, lightweight, channelizing and delineating devices that have been in common use for many years and are known to be crashworthy by crash testing of similar devices or years of demonstrable safe performance. These include cones, tubular markers, plastic drums, and delineators, with no attachments (e.g. lights). Category 1 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 1 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2024.

Category 2 includes devices that are not expected to produce significant vehicular velocity change but may otherwise be hazardous. These include vertical panels with lights, barricades, temporary sign supports, and Category 1 devices with attachments (e.g. drums with lights). Category 2 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 2 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2024.

Category 3 includes devices that are expected to cause significant velocity changes or other potentially harmful reactions to impacting vehicles. These include crash cushions (impact attenuators), truck mounted attenuators, and other devices not meeting the definitions of Category 1 or 2. Category 3 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 3 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2029. Category 3 devices shall be crash tested for Test Level 3 or the test level specified.

Category 4 includes portable or trailer-mounted devices such as arrow boards, changeable message signs, temporary traffic signals, and area lighting supports. It is preferable for Category 4 devices manufactured after December 31, 2019 to be MASH-16 compliant; however, there are currently no crash tested devices in this category, so it remains exempt from the NCHRP 350 or MASH compliance requirement.

For each type of device, when no more than one MASH-16 compliant is available, an NCHRP 350 or MASH-2009 compliant device may be used, even if manufactured after December 31, 2019.”

Revise Articles 1106.02(g), 1106.02(k), and 1106.02(l) to read:

“(g) Truck Mounted/Trailer Mounted Attenuators. The attenuator shall be approved for use at Test Level 3. Test Level 2 may be used for normal posted speeds less than or equal to 45 mph.

(k) Temporary Water Filled Barrier. The water filled barrier shall be a lightweight plastic shell designed to accept water ballast and be on the Department’s qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings.

(l) Movable Traffic Barrier. The movable traffic barrier shall be on the Department’s qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings. The barrier shall be capable of being moved on and off the roadway on a daily basis.”

WORKING DAYS (BDE)

Effective: January 1, 2002

The Contractor shall complete the work within **60** working days.

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

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

ATTACHMENTS

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

I. GENERAL

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

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

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

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

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

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

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

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

II. NONDISCRIMINATION

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

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

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

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

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

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

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

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

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

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

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

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

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

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

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#).

The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each

classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a

separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice

performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one

and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of

Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of

Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

Contract Provision - Cargo Preference Requirements

In accordance with Title 46 CFR § 381.7 (b), the contractor agrees—

“(1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.”

Provisions (1) and (2) apply to materials or equipment that are acquired solely for the project. The two provisions do not apply to goods or materials that come into inventories independent of the project, such as shipments of Portland cement, asphalt cement, or aggregates, when industry suppliers and contractors use these materials to replenish existing inventories.

