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Letting June 15, 2018

Notice to Bidders, Specifications and Proposal



**Contract No. 66D24
KENDALL County
Section (1)R,I
Route FAP 311
Project NHPP-C13D(332)
District 3 Construction Funds**

Prepared by

Checked by

F

(Printed by authority of the State of Illinois)



NOTICE TO BIDDERS

- 1. TIME AND PLACE OF OPENING BIDS.** Electronic bids are to be submitted to the electronic bidding system (iCX-Integrated Contractors Exchange). All bids must be submitted to the iCX system prior to 10:00 a.m. June 15, 2018 at which time the bids will be publicly opened from the iCX SecureVault.
- 2. DESCRIPTION OF WORK.** The proposed improvement is identified and advertised for bids in the Invitation for Bids as:

**Contract No. 66D24
KENDALL County
Section (1)R,I
Project NHPP-C13D(332)
Route FAP 311
District 3 Construction Funds**

Reconstruct IL 71 to 4 lanes with a 22' median from IL 47 to IL 126 (1.7 miles) includes replacement of all drainage structures, installation of traffic signals and relocation of water main and sanitary sewer.

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

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

By Order of the
Illinois Department of Transportation

Randall S. Blankenhorn,
Secretary

INDEX
 FOR
 SUPPLEMENTAL SPECIFICATIONS
 AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2018

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

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

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STATE OF ILLINOIS

SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction," adopted April 1, 2016, the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," and the "Manual of Test Procedures 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 311 (IL 71), Project NHPP-C13D(332), Section (1)R,I, Kendall County, Contract No. 66D24 and in case of conflict with any part or parts of said Specifications, the said Special Provisions shall take precedence and shall govern.

LOCATION OF PROJECT

This project is located in Yorkville along Illinois Route 71 in Kendall County. It begins at the intersection of IL 71 and IL 47 and extends northeasterly to approximately 1,500 feet beyond Wing Road, a distance of 1.7 miles.

DESCRIPTION OF PROJECT

The existing Illinois Route 71 two-lane pavement will be completely reconstructed with two 12-foot lanes in each direction along with a 22-foot raised median. There will be concrete curb and gutter with storm sewer as well. All drainage structures will be replaced. Major work items include PCC pavement, HMA pavement, combination concrete curb and gutter, storm sewer, box culvert and pipe culvert replacement, traffic signal installation, earthwork, water main relocation, sanitary sewer relocation, tree removal, pavement marking, and all other work to complete the project.

SEQUENCE OF OPERATIONS

The Contractor shall incorporate the following requirements into their Sequence of Operations:

1. The Contractor is allowed 225 working days to complete this project.
2. IL 71 shall remain open to two-way, two-lane traffic at all times except for temporary one-lane closures as approved by the Engineer.

STATUS OF UTILITIES TO BE ADJUSTED:

Name & Address of Utility	Type	Location	Estimated Date Relocation Complete
ComEd, An Exelon Company One Lincoln Centre, Suite 600 Oakbrook Terrace, IL 60181 (#H17218AUR)	Overhead Electric Underground Electric	Along the south side of IL 71 from 503+00 to 600+00. Crosses IL 71 at 506+77, 510+33, 526+90, 527+16, 531+26, 566+21, and 579+93. Located at 11 different areas along IL 71.	Conflicts throughout. Approx. 46 poles to be relocated and 600' of underground cable. Permit required.
AT&T 1000 Commerce Drive Oak Brook, IL 60523 (YO3116-3)	Buried Telephone	Various locations throughout	Conflicts throughout. Permit required.
Nicor Gas 1844 Ferry Road Naperville, IL 60563 (#SC12359)	4", 6", and 8" Gas	Mostly 4" along the east side of IL 47 at the IL 47 / IL 71 intersection; along both sides of IL 71 from 507+18 to 512+07; along the north side of IL 71 from 512+07 to 600+00; extends into subdivisions; crosses IL 71 at stations 519+38, 526+75 (8"), 536+42 (6"), and 546+55. Changes from 4" to 6" near Identa Road going east.	Conflicts throughout. Permit required.

<p>Comcast 688 Industrial Drive Elmhurst, IL 60126 (ILYORK005)</p>	<p>Overhead CATV Underground CATV</p>	<p>On the ComEd poles along the south side of IL 71 from 522+25 to 566+20. 517+47 to 522+25 RT; crosses IL 71 at 531+03; 530+87 to 531+35 RT; 538+65 heads south; 546+30 heads south in 2 directions; 548+30 to 554+86 RT; and crosses IL 71 at 566+20.</p>	<p>Conflicts throughout. Relocate to new ComEd poles. Permit required.</p>
<p>Yorkville-Bristol Sanitary 304 River Street Yorkville, IL 60560</p>	<p>30" Sanitary sewer</p>	<p>Crosses IL 71 at 527+11</p>	<p>The plans include minor work in this area. No conflicts anticipated.</p>
<p>City of Yorkville 800 Game Farm Road Yorkville, IL 60560</p>	<p>12" Watermain 8" and 10" Sanitary Sewer Fiber Optic</p>	<p>From 503+00 to 538+70 RT and it tees off at all the subdivisions. 8" in the SE quadrant of 47/71; 10" crosses 71 at 530+69; 10" runs along the RT side from 530+69 to 538+81. Along the east side of IL 47 at the 47/71 intersection.</p>	<p>Various water main and sanitary adjustments will be done as part of this contract. No conflicts near 47/71. No conflicts for the FO.</p>

The above represents the best information of the Department and is only included for the convenience of the bidder. The applicable provisions of Section 102 and Articles 105.07, 107.20, 107.37, 107.38, 107.39, 107.40, and 108.02 of the Standard Specifications for Road and Bridge Construction shall apply.

The estimated utility relocation dates should be part of the progress schedule submitted by the Contractor.

** Above utility relocation information reflected as of March 26, 2018, relocation complete dates are unknown at this time due to right of way acquisitions. Per SB 699 (90 day utility relocation law), once the proposed right of way is clear to award the project, a notice will be sent to the utility companies instructing them to begin utility relocations which are in conflict with the project.
 This project includes a large amount of tree removal which can't be started until October 1st of 2018 (to protect the bats) which will slow down the utility relocations. It is anticipated that the utilities will be relocated by May 1st of 2019.

DUST CONTROL--HAULING EARTH, GRANULAR MATERIALS OR WASTE MATERIAL
(Effective November 16, 1993)

In addition to the general requirements of Section 107 of the Standard Specifications, the Contractor shall be required to prepare a plan for pavement cleaning and dust control for this project. A detailed plan outlining specific wetting, tarping, and/or cleaning procedures, or similar dust control methods is to be submitted for approval at the preconstruction meeting.

As required by Chapter 95 1/2, paragraphs 15-109 and 15-109.1 of the Illinois Vehicle Code, no blowing or spillage of material will be allowed during the hauling operations. The specific preventative measures proposed by the Contractor are to be included in the dust control plan.

If, in the opinion of the Engineer, excessive dust is produced during the hauling operations, the hauling shall stop until corrective action is taken.

Approval of the dust control and pavement cleaning procedures will not relieve the Contractor of his responsibility to provide a safe work zone for the traveling public.

No additional compensation will be allowed for dust alleviation.

WETLAND AREAS

(Effective April 3, 1997

Revised April 22, 2010)

Description: According to Federal Executive Order 11990, dated May 24, 1977, and Articles 107.01 and 107.23 of the Standard Specifications, the Contractor shall protect the wetland areas on or adjacent to this project.

This work shall consist of constructing, maintaining, removing, and disposing of a temporary fence, perimeter erosion barrier, and signs as shown on the plans and as described herein.

Materials: Temporary fence shall be a minimum of 4 ft. (1.2 m) in height and shall be a high visibility orange snow fence. Fence stakes shall meet the requirements of Article 1081.15(b) of the Standard Specifications.

Perimeter erosion barrier shall meet the requirements of Section 280 of the Standard Specifications.

Signs shall meet the requirements of Article 720.02 of the Standard Specifications and shall be 9" x 12" (225 mm x 300 mm) and shall read "Federally Protected Wetlands: KEEP OUT." Sign supports shall meet the requirements of Section 1093 of the Standard Specifications.

Construction Requirements: The Contractor shall install fence at all wetland areas as shown on the plans. The Contractor shall also install a minimum of two signs at each wetland location. Signs shall not be spaced greater than 300' (100 m) apart.

The Contractor shall remove the temporary fence at the completion of the project.

Method of Measurement: The temporary fence will be measured for payment in place in feet (meters) along the top of the fence. The signs, sign supports, and fence stakes will not be measured for payment.

Perimeter erosion barrier will be measured for payment according to Article 280.07 of the Standard Specifications.

Basis of Payment: The temporary fence will be paid for at the contract unit price per foot (meter) for TEMPORARY FENCE, which price shall include the cost of the snow fence, fence stakes, signs, and sign supports.

Perimeter erosion barrier will be paid for according to Article 280.08 of the Standard Specifications.

COOPERATION BY CONTRACTOR

(Effective February 7, 2013)

Replace the 3rd paragraph of Article 105.06 with the following:

At the preconstruction meeting, the Contractor shall identify one superintendent, who will act as his agent for the entire duration of the project. This shall be a competent, English-speaking person, who will be at the project site at all times when the Contractor or Subcontractor is present. He or she must be capable of reading and thoroughly understanding the plans and specifications and be thoroughly experienced in the type of work being performed. The superintendent, who shall receive instructions from the Engineer or authorized representatives, shall have full authority to execute orders or directions of the Engineer without delay, and to promptly supply such materials, equipment, tools, labor and incidentals as may be required.

INSPECTION FOR BATS

(Effective: March 29, 2016)

Description. This work shall consist of conducting an inspection for signs of bats in culverts with a height of four feet or more, bridges, structures and buildings. Inspections shall be conducted in accordance with the Bridge Inspection Form in the Federal Highway Administration and Federal Railroad Administration Range-Wide Biological Assessment for Transportation Projects for Indiana Bat and Northern Long-Eared Bat and available at: <http://www.fws.gov/midwest/angered/section7/fhwa/index.html>

Construction Requirements. The work shall be completed in accordance with section 107.23 of the Standard Specifications and the following:

If work which could disturb bats is scheduled to begin April 1 through September 30, the Contractor shall inspect the culvert/bridge/structure/building for signs of bats prior to initiation. The inspection shall be completed no more than seven business days prior to initiation of work at each culvert/bridge/structure/building location. The Contractor shall submit the completed form to the Resident Engineer no later than 2 business days before work is initiated at each culvert/bridge/structure/building location.

In order to reduce potential project schedule delays, the contractor shall conduct an additional initial inspection on a date determined during the pre-construction meeting by the Engineer.

Work shall not begin on any culvert/bridge/structure/building suspected of providing habitat for any species of bat until such time that IDOT has obtained clearance from the US Fish and Wildlife Service, if required. Additional studies may be undertaken by IDOT to determine what species may be utilizing each structure identified as supporting bats prior to allowing any construction to proceed. Estimates of numbers of bats observed should be placed in the Notes column.

Methods. Those individuals conducting inspections shall follow the Bridge Inspection Guidance and complete the Bridge/Structure Inspection Form in the Federal Highway Administration and Federal Railroad Administration Range-Wide Biological Assessment for Transportation Projects for Indiana Bat and Northern Long-Eared Bat (April 17, 2015). The Bridge Inspection Guidance and the Bridge Inspection Form are available at:

<http://www.fws.gov/midwest/endangered/section7/fhwa/index.html>

If portions of a culvert/bridge/structure/building are unsafe to inspect or are inaccessible, inspectors should avoid that section and base their determination on the portion that is safe to survey. If possible, a partial inspection should be combined with night observation. If the entire culvert/bridge/structure/building (or a significant portion) is unsafe, night observation should be used to determine if bats are using the location.

Basis of Payment. No additional compensation will be given for compliance with this inspection requirement. The costs associated with performing the inspection shall be considered as included in the contract unit prices bid for the various culvert/bridge/structure/building items of work.

Basis of payment shall be in accordance with Article 109.04 if additional studies are necessary. Additional studies may be necessary where a culvert/bridge/structure/building is suspected of providing habitat for any species of bat. Additional studies may require the service of a trained mammologist and use of special equipment, such as a snooper.

BORROW AND FURNISHED EXCAVATION

(Revised January 1, 2010)

In addition to the requirements of Section 204 of the Standard Specifications for suitable materials, the following restrictions shall apply:

1. The moisture content of the material as it is incorporated into the embankment shall be between 80% to 110% of AASHTO T99 optimum.
2. A 3 ft. (1 m) minimum cover of other suitable material shall be maintained outside of and on top of the embankment.
3. If the liquid limit of the material is greater than or equal to 50, the material shall not be used for capping, shall not be placed within 20 feet of any structure, and shall not be placed in locations where it may come into contact with water.
4. Embankment capping material (as outlined in #2) shall meet non-frost susceptibility criteria as outlined in the statewide Geotechnical Manual. Materials are considered frost susceptible when the soil contains at least 65% silt and sand content, according to AASHTO T88 and the Plasticity Index is less than 12.

EMBANKMENT

(Effective July 1, 1990

Revised January 1, 2007)

This work shall be performed in accordance with Section 205 of the Standard Specifications except that the embankment material shall not be placed and compacted at moisture contents in excess of 110 percent of optimum moisture unless authorized, in writing, by the Engineer.

Topsoil material shall not be placed in the embankment within 12 in. (300 mm) of high type base and surface courses.

EXPLORATION TRENCH, SPECIAL

(Revised January 1, 2007)

This work shall consist of constructing a trench for the purpose of verifying clearances and locations of existing utilities and storm sewers. The exploration trench shall be constructed at the locations directed by the Engineer.

The depth of the trench shall be variable. The width of the trench shall be sufficient to allow proper investigation of the entire trench.

After the trench has been inspected by the Engineer. The excavated material shall be used to backfill the trench in a manner satisfactory to the Engineer. Any excess materials shall be disposed of according to Article 202.03 of the Standard Specifications.

This work will be paid for at the contract unit price per foot (meter) for EXPLORATION TRENCH, SPECIAL.

MULCH METHOD 2

(Effective August 1, 1994

Revised January 1, 2007)

Article 251.03 Method 2 Procedure 1 of the Standard Specifications shall be required for this improvement.

AGGREGATE SUBGRADE IMPROVEMENT (DISTRICT 3)

(Effective April 1, 2012

Revised January 1, 2013)

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	1004.06
(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 gradations CS 01 or CS 02 but shall not exceed 40 percent of the total product. The top size of the 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 gradations CS 01 or CS 02 are used in lower lifts. The RAP shall not be gap graded, single sized, or have a maximum size of less than 3/4 in. (19 mm).

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.

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 gradations CS 01 and CS 02 shall be 24 in. (600 mm).

303.06 Capping Aggregate. The top surface of the aggregate subgrade shall consist of a minimum 3 inches (75 mm) of aggregate gradations CA 06 or CA 10.

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 square yard (square meter) for AGGREGATE SUBGRADE IMPROVEMENT, of the thickness specified.”

Add the following to Section 1004 of the Standard Specifications:

“1004.06 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.
- (b) Quality. The coarse aggregate shall consist of sound durable particles reasonably free of deleterious materials.
- (c) Gradation.
 - (1) The coarse aggregate gradation for total subgrade thickness less than or equal to 12 inches (300 mm) shall be CS 02.

The coarse aggregate gradation for total subgrade thickness more than 12 inches (300 mm) shall be CS 01 or CS 02.

COARSE AGGREGATE SUBGRADE					
Grad No.	Sieve Size and Percent Passing				
	8"	6"	4"	2"	#4
CS 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20
CS 02		100	80 ± 10	25 ± 15	

COARSE AGGREGATE SUBGRADE GRADATIONS					
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
CS 02		100	80 ± 10	25 ± 15	

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

AGGREGATE SURFACE COURSE, TYPE B

Effective January 1, 2007

Add the following to Article 402.07 of the Standard Specifications:

The top layer shall be given a final rolling with a roller meeting the requirements of Article 1101.01.

AGGREGATE SHOULDERS TYPE B

(Effective July 1, 1990

Revised January 1, 2007)

The aggregate shoulder shall be constructed according to Section 481 of the Standard Specifications. The shoulder shall be constructed in two lifts. The first lift shall be placed and compacted flush with the top of the adjacent HMA shoulder or leveling binder. Placement of the HMA surface course will not be allowed until the first lift of aggregate shoulder is constructed.

STRINGLESS CONSTRUCTION OPTION

(Effective March 15, 2012)

If the Contractor desires to perform construction using stringless operations, (s)he shall request authorization from the Engineer according to the last paragraph of Article 108.06 of the Standard Specifications. The Contractor shall submit the written request one week prior to beginning stringless operations.

Construction Requirements. Use of a stringless machine shall not relieve the Contractor of any responsibilities stated in the Recurring Special Provision Construction Layout Stakes Except for Bridges or Construction Layout Stakes.

Any Department or Contractor layout destroyed by the Contractor's operations shall be re-established by the Contractor as directed by the Engineer.

The Contractor shall mark the projected path of the stringless paver with paint two days prior to the beginning of the paving operations.

When a system failure occurs during paving operations the following shall apply:

HMA – For HMA pavement, the Contractor will be allowed to lay material as described for a sudden rain event in Article 406.06(c) of the Standard Specifications after which operations shall stop until the system is proven to be in working order.

PCC – For PCC pavement, the Contractor shall immediately stop operations until the system is proven to be in working order.

STORM SEWER (WATER MAIN REQUIREMENTS)

(Effective July 1, 1990)

Revised January 1, 2009)

This work shall consist of constructing storm sewers meeting water main requirements.

Storm Sewer (Water Main Requirements) shall be used at locations where lateral separation between the sewer and water main or water service line is less than 10 feet (3.1 m) and the water main invert is less than 18 inches (457 mm) above the storm sewer crown. Also, Storm Sewer (Water Main Requirements) shall be used where the sewer crosses above the water main or water service line with 18 inches (457 mm) minimum vertical separation.

The storm sewer shall be constructed of

Ductile iron pipe, Class 52 with bell and rubber gasket joint or

Concrete pressure pipe conforming to the latest AWWA Standard C300, C301, C303 or

Plastic pipe meeting the material requirements of Section 40. Pipe for Water Mains and Service Connections of the Standard Specifications for Water and Sewer Main Construction in Illinois and Section 550 of the Standard Specifications.

This work shall be done according to the applicable portions of Sections 550 and 561 of the Standard Specifications.

Method of Measurement. This work will be measured for payment according to Article 550.09 of the Standard Specifications.

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for STORM SEWER (WATER MAIN REQUIREMENTS), of the diameter specified.

PERMANENT SURVEY MARKERS, TYPE I

(Effective July 1, 1990)

Revised January 1, 2007)

Survey markers shall be installed according to Highway Standard 667101, except that the tablet shall be bronze instead of aluminum.

When a survey marker is used to reference a land survey point, the lettering referring to the State of Illinois and the Division of Highways shall be omitted and the marker shall be marked as directed by the Engineer.

CELLULAR PHONES

(Effective March 1, 2007

Revised October 21, 2014)

Add the following to Article 670.02 of the Standard Specifications:

- (s) Three (3) cellular phones for the exclusive use of the Engineer.

Each cellular phone shall be compatible with the current Department cellular phone network and shall have the following:

- A minimum of 500 anytime minutes per month,
- Free unlimited mobile to mobile minutes,
- Free incoming calls,
- Free Nationwide long distance,
- No roaming charges for calls within the continental United States,
- Voice Mail, and
- Speaker Phone

TRAFFIC CONTROL PLAN

(Revised November 14, 2016)

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

Special attention is called to the following sections of the Standard Specifications, the Highway Standards, and the special provisions relating to traffic control:

Standard Specifications:

- Section 701 - Work Zone Traffic Control and Protection
- Section 702 - Nighttime Work Zone Lighting
- Section 703 - Work Zone Pavement Marking
- Section 704 - Temporary Concrete Barrier
- Section 706 - Impact Attenuators, Temporary
- Section 780 - Pavement Striping
- Section 781 - Raised Reflective Pavement Markers
- Section 783 - Pavement Marking and Marker Removal
- Section 862 - Uninterruptable Power Supply
- Section 1106 - Work Zone Traffic Control Devices

Highway Standards:

701001	701006	701011	701101	701106	701201
701206	701301	701311	701326	701421	701422
701426	701502	701901	704001	BLR 21	BLR 22

In addition, the following also relate to traffic control for this project:

ERRATA – Standard Specifications for Road and Bridge Construction
(Adopted 4-1-16) (Revised 1-1-17)

SUPPLEMENTAL SPECIFICATIONS
Temporary Concrete Barrier

RECURRING SPECIAL PROVISIONS
Night Time Inspection of Roadway Lighting

SPECIAL PROVISIONS
Automated Flagger Assistance Device (BDE)
Changeable Message Sign
Detour Signing
Direction Indicator Barricades
Entrance Signing
Equipment Illumination
Local Road Closures
Pavement Marking Removal (BDE)
Suitable Access
Temporary Pavement Marking
Traffic Control and Protection (Special)
Traffic Control Surveillance

EQUIPMENT ILLUMINATION

(Revised January 26, 1998

Revised January 1, 2016)

The Contractor shall equip all vehicles entering and exiting the work area with flashing amber lights, installed so the illumination is visible from all directions.

TRAFFIC CONTROL SURVEILLANCE

Effective: January 1, 2016

Revise the first sentence of Article 701.10 of the Standard Specifications to read:

701.10 Surveillance. When open holes, broken pavement, trenches over 3 in. (75 mm) deep and 4 in. (100 mm) wide, or other hazards are present within 8 ft (2.4 m) of the edge of an open lane; when opposing directions of traffic are separated by barrier wall; or on a closed road from the time a structure is removed until the time the structure has been replaced, the Contractor shall furnish traffic control surveillance during all hours when the Contractor is not engaged in construction operations

DIRECTION INDICATOR BARRICADES

(Effective: March 29, 2016)

In areas with two-way, undivided traffic, the backsides of the direction indicator barricades shall be striped like type II barricades and according to Article 701.15 of the Standard Specifications for Road and Bridge Construction.

INDUCTIVE LOOP DETECTOR

Effective January 1, 2002

Revised January 1, 2012

Inductive loop detectors shall meet the requirements of Sections 885 and 1079 of the Standard Specifications with the following modifications:

Each inductive loop detector amplifier shall be rack mounted. Each inductive loop detector amplifier channel shall have a minimum of :

- 8 sensitivity settings
- LCD program menu
- Detector logs and displays number of loop failure incidents since last reset
- Internal function to determine the ideal sensitivity setting for every loop system
- 8 frequency settings
- 32 second call extend timer
- 32 second delay timer
- Call extend and delay timers able to operate cooperatively
- LED indication for detection

The detector supplied shall be the latest Reno model or equivalent.

The Contractor shall label each amplifier for the loop and movement where they provide input according to the chart in the plans.

Basis of Payment. This item will be paid for according to Article 885.04 of the Standard Specifications.

FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL

Effective January 1, 2002

Revised March 12, 2018

Full Actuated Controller and Type IV Cabinet, Special shall meet the requirements of Sections 857, 1073 and 1074 of the Standard Specifications with the following modifications.

This item requires that a factory representative capable of ensuring that the controller and cabinet are operating to the satisfaction of the Engineer shall be present at the turn on of the controller and shall remain until the intersection is operating to the satisfaction of the Engineer. Should a defect appear in the controller or cabinet operation, the representative shall return as often as necessary until all defects are repaired.

At the preconstruction meeting, the Contractor shall provide the names and phone numbers of two technicians who would be able to respond to controller malfunctions that occur within the 30-day acceptance period after the controller is turned on. If neither person can be reached at the time of the malfunction nor be at the location within two hours of receiving the call, any available electrician capable of evaluating and correcting the malfunction may be called at the State's discretion. Any and all bills resulting from defective operation of the controller or cabinet shall be the responsibility of the Contractor.

CONTROLLER:

The controller shall be capable of uploading and downloading its database to a laptop computer that has been installed with the proper software. All uploaded data shall be able to be changed within the laptop and then downloaded to the controller. The necessary cables for upload/download shall be provided and upload/download software shall be provided and installed onto the District Three laptop computer if the software and cables have not already been supplied to District Three or the software presently being used by District Three requires updating.

The controller shall be an ATC Cobalt Econolite controller with EDI-MMU and LS-200 load switch in order to be compatible with the City of Yorkville's existing system. No other controllers shall be accepted. The controller and cabinet shall be purchased no more than four months prior to installation to ensure the latest technology is used.

The controller data entry fields shall have a clear distinction between data fields and information. Data fields shall be in matrix format with a minimum of eight phases wide and four date lines deep.

The active status screen shall display the following information for all operating phases in an alpha-numeric display.

A clear distinction between the following detection's for each phase: vehicle recall, vehicle detection, pedestrian recall, and pedestrian detection.

A clear distinction among the phases receiving detection.

Status displayed simultaneously whenever one or more of the following is operating: vehicle passage timer, maximum phase timer, added initial timer, time before reduction timer, time to reduce timer, existing gap timer, walk timer, don't walk timer.

When a phase ends, the controller shall report whether the exit was a max out, gap out or force out condition. The controller shall show the yellow and red timers timing and any trailing overlap timers timing.

The color of all operating overlaps.

The phase of the controller shall be as shown in the plans.

CONTROLLER CABINET:

The police door compartment shall contain a manual control cord from which the signals may be operated manually. The inside door toggle switches shall be protected from accidental contact by vertical metal slats. The slats shall extend beyond the switches, in a manner similar to the terminals on the back panel. A plastic plans holder shall be installed on the cabinet door. The holder shall be at least 11 inches high and 17 inches wide, shall open from the side, and shall not interfere with the filter. The holder shall have a means of closing the side opening to prevent water from entering.

A Plexiglas cover, or other high strength nonconductive cover, shall be installed over, and completely cover, the power panel. The cover shall completely shield the service wires, and circuit breaker wires from accidental contact.

A Plexiglas cover, or other high strength nonconductive cover, shall be installed over, and completely cover, the power terminals for the thermostatically controlled exhaust fan. The thermostat shall be of the knob type capable of adjustment by hand and without tools. The thermostat and terminals shall be mounted on the left or right side of the controller cabinet.

All harness wiring of connectors A, B, C and D shall be factory installed so that an additional phase may be added to the existing phasing by the addition of a load switch and the proper conflict monitor card pinning.

A self-adhering phasing diagram shall be placed on the inside of the cabinet door. The cabinet shall be Super "P" Cabinet type.

The Controller cabinet shall have two incandescent light bulbs.

Three 0.4 meter (15 inch) Velcro straps shall be fastened to the front of each cabinet shelf to secure the detector amplifier cables.

Traffic signal controller and the cabinet assembly shall be fully tested by the equipment supplier. Five (5) copies of the complete cabinet wiring showing all connections shall be furnished to the Engineer.

Basis of Payment. This work will be paid for at the contract unit price per EACH for FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL.

OPTIMIZE TRAFFIC SIGNAL SYSTEM

(Effective January 1, 2016)

This work shall consist of providing a revised Signal Coordination and Timing (SCAT) Report and implementing optimized timings to an existing previously optimized closed loop traffic signal system. This work is required due to the addition of a signalized intersection to an existing system or a modification of an existing signalized intersection, which affects the quality of an existing system's operation. MAINTENANCE OF THE SUBJECT INTERSECTION SHALL NOT BE ACCEPTED BY THE DEPARTMENT UNTIL THE OPTIMIZED TIMINGS ARE IMPLEMENTED AND THE SIGNALS ARE FUNCTIONING TO THE SATISFACTION OF THE ENGINEER.

The traffic signal system to be optimized includes the following intersections:

- IL 47 and Saravanos Drive
- IL 47 and IL 71
- IL 47 and Fountainview Drive

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

The traffic signal system shall be optimized by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for District 3 of the Illinois Department of Transportation. The Contractor shall contact the Area Traffic Signal Operations Engineer at 815-434-8505 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 3 SCAT Guidelines, if available, except as note herein.

A listing of existing signal equipment, interconnect information and existing phasing/timing patterns may be obtained from the Department if available and as appropriate. The existing SCAT Report is available for review at the District Three office (if one exists) and if the Consultant provides blank rewritable compact disks, copies containing software runs for the existing optimized system and a timing database that includes intersection displays will be made

for the Consultant. The Consultant shall consult with the Area Traffic Signal Operations 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 re-optimization.

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. Proposed signal timing plan for the new or modified intersection(s) shall be forwarded to IDOT for review prior to implementation. 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.

Traffic counts shall be taken at the subject intersection after the traffic signals are approved for operation by the Area Traffic Signal Operations Engineer. Seven day/twenty-four hour automatic traffic recorder counts will be required and 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 if necessary, on the weekend. Additional manual turning movement counts may be necessary if heavy traffic flows exist during off peak hours. The turning movement counts shall identify cars, and single-unit, multi-unit heavy vehicles, transit buses, and pedestrian/bicyclist movements.

As necessary, the intersections shall be re-addressed and all system detectors reassigned in the master controllers according to the current standard of District Three.

A Capacity Analysis shall be conducted at the subject intersection to determine its level of service and degree of saturation. 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 with minor adjustments if necessary. Changes to the cycle lengths and offsets for the entire system may be required due to the addition/modification of the subject intersection. Both volume and occupancy shall be considered when developing the re-optimized timing program. Signal system optimization analyses shall be conducted utilizing PASSER II, TRANSYT 7F, SIGNAL 85, SYNCHRO 6.0 or other appropriate approved computer software.

The following traffic signal timings are required:

- a. Confirm that all signals have minimum 4 second yellow and 2 second red and check that the formula meets latest MUTCD edition.
- b. "Zero out" all density times.
- c. Confirm pedestrian times meet MUTCD latest edition (3.5 seconds).
- d. Confirm minimum green times are 6 seconds on left turn, 8 seconds on side streets, and 10 seconds on main street.
- e. Confirm all detection is "non-locking".

All the intersections shall be re-addressed according to the current standard of District Three. The proposed signal timing plan shall be forwarded to IDOT for review and approval seven days prior to the traffic signal turn on at the intersection. The timing plan shall be implemented at least two working days prior to the turn on of the traffic signal. The timing plan shall include a time-of-day program, which may be used as a back-up system. After downloading the system timings, the Consultant shall make fine tuning adjustments to the timing in the field to alleviate observed operating conditions and to enhance operations. The timing plans shall be re-evaluated after the signal has been turned on and traffic has had an opportunity to adjust to the new signal. Any necessary timing changes shall be made at that time with the approval of the Area Signal Engineer.

The following deliverables shall be required:

- Consultant shall furnish to IDOT a cover letter describing the extent of the re-optimization work performed.
- Consultant shall furnish an updated intersection graphic display for the subject intersection to IDOT and to IDOT's Traffic Signal Maintenance Contractor.
- 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) Turning movement and automatic traffic recorder counts, capacity analyses for each count period, computer optimization analyses for each count period, proposed implementation plans and summaries including system description, analysis methodology, method of effectiveness comparison results and special recommendations and/or observations. The new report shall follow the format of the old report and shall incorporate all data from the old report which remains unchanged. Copies of the entire database including intersection displays and any other displays which the system software allows shall be furnished to the Department and to the Department's Traffic Signal Maintenance Contractor.
- 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.
 - (4) New or updated intersection graphic display file for the subject intersection.
 - (5) The CD shall be labeled with the IDOT system number and master locations, 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.

Method of Measurement: This work will be measured for payment per system as each. A system will consist of all the intersections listed above.

Basis of Payment: This work will be paid for at the contract unit price per each for OPTIMIZE TRAFFIC SIGNAL SYSTEM.

RE-OPTIMIZE TEMPORARY TRAFFIC SIGNAL SYSTEM

(Effective April 1, 2003

Revised January 1, 2016)

This work shall consist of providing a revised Signal Coordination and Timing (SCAT) Report and implementing optimized timings to an existing previously optimized closed loop traffic signal system. This work is required due to the addition of a signalized intersection to an existing system or a modification of an existing signalized intersection, which affects the quality of an existing system's operation. MAINTENANCE OF THE SUBJECT INTERSECTION SHALL NOT BE ACCEPTED BY THE DEPARTMENT UNTIL THE RE-OPTIMIZED TIMINGS ARE IMPLEMENTED AND THE SIGNALS ARE FUNCTIONING TO THE SATISFACTION OF THE ENGINEER.

The traffic signal system to be optimized includes the following intersections:

- IL 47 and Saravanos Drive
- IL 47 and IL 71
- IL 47 and Fountainview Drive

After the new signalized intersection is added or the existing signal is modified, the traffic signal system shall be re-optimized by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for District 3 of the Illinois Department of Transportation. The Contractor shall contact the Area Traffic Signal Operations Engineer at 815-434-8505 for a listing of approved Consultants.

A listing of existing signal equipment, interconnect information and existing phasing/timing patterns may be obtained from the Department if available and as appropriate. The existing SCAT Report is available for review at the District Three office (if one exists) and if the Consultant provides blank rewritable compact disks, copies containing software runs for the existing optimized system and a timing database that includes intersection displays will be made for the Consultant. The Consultant shall consult with the Area Traffic Signal Operations 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 re-optimization.

Traffic counts shall be taken at the subject intersection. Seven day/twenty-four hour automatic traffic recorder counts will be required and 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 if necessary, on the weekend. Additional manual turning movement counts may be necessary if heavy traffic flows exist during off peak hours. The turning movement counts shall identify cars, heavy vehicles, buses, and pedestrian movements.

A Capacity Analysis shall be conducted at the subject intersection to determine its level of service and degree of saturation. 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 with minor adjustments if necessary. Changes to the cycle lengths and offsets for the entire system may be required due to the addition/modification of the subject intersection. Both volume and occupancy shall be considered when developing the re-optimized timing program. Signal system optimization analyses shall be conducted utilizing PASSER II, TRANSYT 7F, SIGNAL 85, SYNCHRO 6.0 or other appropriate approved computer software.

If the system is being re-optimized due to the addition of a signalized intersection, all the intersections shall be re-addressed according to the current standard of District Three. The proposed signal timing plan shall be forwarded to IDOT for review and approval seven days prior to the traffic signal turn on at the intersection. The timing plan shall be implemented at least two working days prior to the turn on of the traffic signal. The timing plan shall include a traffic responsive program and a time-of-day program, which may be used as a back-up system. After downloading the system timings, the Consultant shall make fine turning adjustments to the timing in the field to alleviate observed operating conditions and to enhance operations. The timing plans shall be re-evaluated after the signal has been turned on and traffic has had an opportunity to adjust to the new signal. Any necessary timing changes shall be made at that time with the approval of the Area Signal Engineer.

The Consultant shall furnish to IDOT an original and two copies of the revised SCAT Report for the re-optimized system. The report shall contain the following: turning movement and automatic traffic recorder counts, capacity analyses for each count period, computer optimization analyses for each count period, proposed implementation plans and summaries including system description, analysis methodology, method of effectiveness comparison results and special recommendations and/or observations. The new report shall follow the format of the old report and shall incorporate all data from the old report which remains unchanged. Copies of the entire database including intersection displays and any other displays which the system software allows shall be furnished to the Department and to the Department's Traffic Signal Maintenance Contractor.

Basis of Payment: This work will be paid for at the contract unit price per each for RE-OPTIMIZE TEMPORARY TRAFFIC SIGNAL SYSTEM.

QUALITY CONTROL LABORATORY FOR CONCRETE MIXTURES

(Effective August 12, 2013)

Revised January 1, 2016)

Revise Article 1020.16(c)(2) of the Recurring Special Provision for Quality Control/Quality Assurance of Concrete Mixtures to read:

- “(2) Required Plant Tests. Sampling and testing shall be performed at the plant to control production of a mixture. The required minimum Contractor plant sampling and testing is indicated in Article 1020.16(g) Schedule A.”

Add to the end of the second paragraph of Article 1020.16(f)(1) of the Recurring Special Provision for Quality Control/Quality Assurance of Concrete Mixtures:

“Reporting of above documents shall be done using the Department’s electronic reporting system, QC/QA Excel Package.”

GRANULAR MATERIALS

(Effective: November 26, 2013

Revised January 1, 2016)

For trench backfill and bedding for pipe culverts and storm sewers, gradations CA 7 or CA 11 may be used, however, the granular material shall be encased in filter fabric. The filter fabric shall be installed according to Article 282 of the Standard Specifications, except that the work will not be measured for payment, but will be included in the cost of the pipe culverts or storm sewers. Lifts for gradations CA 7 or CA 11 may exceed 8 inches (200 mm) in depth provided the material is seated to the satisfaction of the Engineer.

TRAFFIC CONTROL AND PROTECTION (SPECIAL)

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 TRAFFIC CONTROL PLAN (SPECIAL) included in 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, Safety Programs & Engineering Policies 3-07 & 4-15, Recurring Special Provisions and Special Provisions contained herein, relating to traffic control.

This item of work shall include installation, maintenance, and removal of the traffic control required for each stage of construction in accordance with Section 701 and as shown in the plans. This shall include, but not be limited to, the signing, vertical panels, barrels, barricades, flashing lights, use of flaggers and/or specific traffic control standards when required, and removal and/or temporary relocation of existing traffic control devices, such as stop signs on the local streets, required to complete the work in each stage.

Temporary signals, pavement markings, changeable message boards (unless noted elsewhere), concrete barrier and impact attenuators shall be paid for at the contract unit price for said item.

The applicable Highway Standards noted in the list of Highway Standards and detailed in the staging notes will not be paid for separately but be included in the cost of TRAFFIC CONTROL AND PROTECTION (SPECIAL).

Construction signs referring to daytime lane closures during working hours shall be removed, covered, or turned away from the view of the motorists during non-working hours.

The Contractor shall maintain at least one lane of traffic for local and emergency use at all times, except for allowable closures with detours as shown on the plans or approved by the Engineer. In the event that a one lane flagged closure is needed lane closures will not be allowed during the following peak hours:

- 6:00a to 8:00a
- 3:00p to 5:00p

All signs except those referring to daily lane closures shall be post mounted in accordance with Standards 720001 and 720006.

Method of Measurement. Traffic control and protection required under this special will be measured for payment on a lump sum basis.

Article 701.20 "Basis of Payment" shall be modified by replacing the first paragraph with the following:

Basis of Payment. This work will be paid at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION (SPECIAL).

Any delays or inconveniences incurred by the Contractor while complying with these requirements shall be considered included in the cost of TRAFFIC CONTROL AND PROTECTION (SPECIAL) and no additional compensation will be allowed.

Any traffic control devices required by the Engineer to implement the Traffic Control Plan as shown in the plans and specifications of the contract shall be considered included in the cost of the pay item TRAFFIC CONTROL AND PROTECTION (SPECIAL).

If the Engineer requires additional work involving a substantial change of location and/or work which differs in design and/or work requiring a change in the type of construction, as stated in Article 104.02(d) of the "Standard Specifications" the standards and/or the designs, other than those required in the plans, will be made available to the Contractor at least one week in advance of the change in traffic control. Payment for any additional traffic control required for the reasons listed above will be in accordance with Article 109.04 of the "Standard Specifications".

Revisions in the phasing of construction or maintenance operations, requested by the Contractor, may require traffic control to be installed in accordance with standards and/or designs other than those included in the plans. The Contractor shall submit revisions or modifications to the traffic control plan shown in the contract to the Engineer for approval. No additional payment will be made for a Contractor requested modification."

The Contractor will be required to provide an emergency Contingency Plan to be approved by the Department prior to commencing work in the event the following may happen that would significantly increase delays or queues during construction.

- Multi-car collision or construction accident within the project limits that would cut through lanes down to one or none during stages with limited shoulder width to provide additional space for management of these incidents.
- Catastrophic failure of storm sewer, water-main break, slope failure, etc. during construction requiring closure of IL Route 71.

Payment for this work will not be included in the TRAFFIC CONTROL AND PROTECTION (SPECIAL) pay item but will be paid in accordance with Article 109.04 of the "Standard Specifications".

SUITABLE ACCESS

All commercial, private, and field entrances within the limits of improvements shall have suitable access, as determined by the Engineer, at all times during construction of this project. Estimated quantities of aggregate surface course for temporary access (AGGREGATE FOR TEMPORARY ACCESS) have been included in the plans for this purpose. The Engineer will determine the amount and when to place the aggregate. The Contractor shall begin placement of the aggregate within 2 hours of notice to proceed from the Engineer or the Contractor will be liable for liquidated damages in accordance with Article 108.09 of the Standard Specifications.

LOCAL ROAD CLOSURES

Notifications: Prior to the closure of any side road, the Contractor shall provide a minimum of seven (7) days notice to the following emergency service units, governmental agencies and school districts:

County Engineer:	Francis C. Klaas, Kendall County	(630) 553-7616
Sheriff:	Kendall County Sheriff	(630) 553-7500
Police Department:	Yorkville Police Department	(630) 553-4340
Fire & Ambulance:	Bristol Kendall Fire Station	(630) 553-6186
Schools:	Yorkville Middle School	(630) 553-4544
	Yorkville C.U.S.D. #115	(630) 553-4832
Post Office:	Yorkville, IL	(630) 553-7100
City of Yorkville	Eric Dhuse, Director of Public Works	(630) 553-4370

Requirements:

- Closure shall be according to the Staging Plans, Detour Plans and applicable Highway Standards.
- Stage 2 – Candleberry Lane shall be constructed in sub-stages to maintain local access.
- Stage 3 – Local Road Closures involving Village View Drive, Raintree Road, and Country Hills Drive shall be scheduled to ensure consecutive roads are not under closure at the same time.
- Stage 3 – Wing Road shall be constructed in sub-stages to maintain access to the commercial entrance at Wing Road STA 62+37 RT. There shall be access from the south (IL 126) at all times.
- Unless otherwise stated, all side road closures shall be limited to a single 30 calendar day period.
- By the end of the 30 day calendar period the side road must be open to two way traffic during non-working hours, and limited to single lane, flagger controlled closures during working hours.

Failure to Complete Work on Time: Should the Contractor fail to complete the individual side road reconstructions within the 30 calendar day period or within such extended time allowed by the Department, it would be considered traffic control deficiency and will be treated in accordance with Article 105.03(b) of the Standard Specifications.

DETOUR SIGNING

Description: This work shall consist of providing all labor, equipment and materials necessary to provide and maintain all traffic control and protection for detours as shown on the plans except for those items which are paid for separately. The Contractor shall furnish the posts and signs and erect the signs at the locations directed by the Engineer.

The Contractor shall provide portable changeable message signs on IL Route 71 from both directions notifying motorists of each of the sideroad closures. The exact message shall be approved by the Engineer. The exact location will be determined in the field by the Engineer. Portable changeable message signs as shown on the Detour Plan Sheets will not be paid for separately, but shall be included in the cost of DETOUR SIGNING. Any relocation of the signs directed by the Engineer during construction will not be paid for separately, but shall be included in the cost of DETOUR SIGNING.

The Contractor shall provide specific Detour Route signs. Signs shall use 6" D black lettering on florescent orange background.

The Contractor shall coordinate with the Engineer locations where detour signing is needed to redirect traffic to businesses that have entrances blocked or closed due to staging operations. The exact location and message of the signs will be determined in the field by the Engineer.

Method of Measurement: This work will be measured for payment by lump sum.

Basis of Payment: This work shall be paid for at the contract lump sum price for DETOUR SIGNING.

ENTRANCE SIGNING

Description. This work shall consist of the furnishing, installation, maintenance, and removal of temporary entrance signs.

Materials. Materials shall be according to the applicable portions of Section 701 of the Standard Specifications and as shown on the plans.

Construction Requirements. The temporary entrance signs shall be in place at least one week prior to the beginning of construction activities that impact traffic flow and shall remain in place until the completion of the project. If all lanes are open for an extended period of time during the project, such as a winter shutdown, the Contractor shall cover the signs until lane closures resume.

Signs shall be installed according to the requirements of Section 701. Sign dimensions shall be according to the Business Abutting Work Zone Entrance Sign Detail.

Basis of Payment. This work will be paid at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION (SPECIAL).

WIDTH RESTRICTION SIGN

(Effective April 24, 2017)

Width restriction signs, as shown in Standard 701901 – Traffic Control Devices, shall be used on this project. They shall be placed as follows:

MAX WIDTH	MILES AHEAD	SIGN LOCATION
11'-6"	1/2 MILES AHEAD	EB on west leg of IL 71 & IL 47 Intersection
11'-6"	5 MILES AHEAD	WB on east leg of IL 71 & Orchard Rd Intersection

The cost of supplying, installing, maintaining, and removing width restriction signs shall be included in the cost of the traffic control and protection pay items.

TEMPORARY PAVEMENT MARKING

Materials. Temporary pavement marking shall be the same type of material as the permanent pavement marking. See Pavement Marking Schedule for more information.

CHANGEABLE MESSAGE SIGN

Effective December 1, 1999

Revised August 7, 2008

In addition to any changeable message signs shown in the traffic control standards, the Contractor shall furnish four (4) Changeable Message Signs for this project. The signs shall be operational two weeks prior to any lane closure and shall be located as directed by the Engineer. Any relocation of the signs directed by the Engineer during construction will not be paid for separately, but shall be included in the cost of the Changeable Message Sign.

TEMPORARY EASEMENTS

It is the intention of the Department that any Temporary Easement area be used only for the purpose of highway for which it was obtained. If the Contractor wishes to use a Temporary Easement Area for other uses such as equipment and material storage, he shall obtain written permission from the property owner and provide a copy to the Engineer prior to using the area.

GEOTECHNICAL REPORTS

A Roadway Geotechnical Report and a Structure Geotechnical Report have been prepared for this project. Copies can be obtained by contacting Mike Short, District Geotechnical Engineer, at 1-815-433-7085 or Michael.Short@Illinois.gov.

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES

This work shall be according to Article 669 of the Standard Specifications and the following:

Qualifications: The term environmental firm shall mean an environmental firm with at least five (5) documented leaking underground storage tank (LUST) cleanups or that is pre-qualified in hazardous waste by the Department. Documentation includes but not limited to verifying remediation and special waste operations for sites contaminated with gasoline, diesel, or waste oil in accordance with all Federal, State, or local regulatory requirements and shall be provided to the Engineer for approval. The environmental firm selected shall not be a former or current consultant or have any ties with any of the properties contained within and/or adjacent to this construction project.

General: This Special Provision will likely require the Contractor to subcontract for the execution of certain activities.

All contaminated materials shall be managed as either "uncontaminated soil" or non-special waste. This work shall include monitoring and potential sampling, analytical testing, and management of a material contaminated by regulated substances. The Environmental Firm shall continuously monitor all soil excavation for worker protection and soil contamination. **Phase I Preliminary Engineering information is available through the District's Environmental Studies Unit.** Soil samples or analysis without the approval of the Engineer will be at no additional cost to the Department. The lateral distance is measured from centerline and the farthest distance is the offset distance or construction limit whichever is less.

The Contractor shall manage any excavated soils and sediment within the following areas:

Site 2229V-5 – FS Growmark

- Station 510+24 to STA 511+38 (IL Route 71), 0 to 85 ft LT (FS Growmark, PESA Site 2229V-5, 107 IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern (COC): Arsenic and manganese.
- Station 506+07 to 508+08 (IL Route 71), 0 to 108 ft LT (FS Growmark, PESA Site 2229V-5, 107 IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern (COC): Manganese.
- Station 509+06 to 510+24 (IL Route 71), 0 to 68 ft LT (FS Growmark, PESA Site 2229V-5, 107 IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern (COC): Arsenic and manganese.
- Station 511+38 to 512+12 (IL Route 71), 0 to 89 ft LT (FS Growmark, PESA Site 2229V-5, 107 IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern (COC): Manganese.
- Station 89+48 to 92+50 (IL Route 71), 0 to 115 ft LT (FS Growmark, PESA Site 2229V-5, 107 IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern (COC): Manganese.

All groundwater encountered within the excavation may be managed within the excavation and be allowed to infiltrate into the ground. If the groundwater cannot be managed within the excavation it must be managed off-site as a special waste

Site 2229V-6 – Silver Dollar Restaurant

- Station 508+20 to 509+18 (IL Route 71), 0 to 85 ft RT (Silver Dollar Restaurant, PESA Site 2229V-6, 6980 IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern (COC): Manganese and elevated PID reading.

Site 2229V-16 – Residence

- Station 531+19 to 532+40 (IL Route 71), 0 to 105 ft RT (Residence, PESA Site 2229V-16, 9600 IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern (COC): Arsenic, thallium, lead, and manganese.
- Station 532+40 to 533+59 (IL Route 71), 0 to 80 ft RT (Residence, PESA Site 2229V-16, 9600 IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern (COC): Manganese.
- Station 533+59 to 534+57 (IL Route 71), 0 to 69 ft RT (Residence, PESA Site 2229V-16, 9600 IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern (COC): Arsenic and manganese.

Site 2229V-26 – IDOT ROW

- Station 571+21 to 572+17 (IL Route 71), 0 to 63 ft RT (IDOT ROW, PESA Site 2229V-26, 8800 Block of IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern (COC): Arsenic, thallium, lead, and manganese.
- Station 79+59 to 80+24 (IL Route 126), 0 to 110 ft LT (IDOT ROW, PESA Site 2229V-6, 8800 Block of IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminant of concern (COC): Arsenic.
- Station 570+45 to 571+21 (IL Route 71), 0 to 103 ft RT (IDOT ROW, PESA Site 2229V-26, 8800 Block of IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern (COC): Arsenic, thallium, and manganese.
- Station 571+21 to 572+35 (IL Route 71), 63 to 125 ft (IDOT ROW, PESA Site 2229V-6, 8800 Block of IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern (COC): Thallium and manganese.
- Station 570+76 to 573+65 (IL Route 71), 0 to 110 ft LT (IDOT ROW, PESA Site 2229V-26, 8800 Block of IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern (COC): Manganese.
- Station 572+17 to 573+34 (IL Route 71), 0 to 125 ft RT (IDOT ROW, PESA Site 2229V-26, 8800 Block of IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern (COC): Manganese.

All groundwater encountered within the excavation may be managed within the excavation and be allowed to infiltrate into the ground. If the groundwater cannot be managed within the excavation it must be managed off-site as a special waste.

Site 2229V-29 – Vacant Building

- Station 581+76 to 582+98 (IL Route 71), 0 to 60 ft RT (Vacant Building, PESA Site 2229V-29, 8710 IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern (COC): Arsenic, thallium, and manganese.
- Station 584+16 to 585+00 (IL Route 71), 0 up to 85 ft RT (Vacant Building, PESA Site 2229V-29, 8710 IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern (COC): Lead and manganese.
- Station 580+04 to 581+76 (IL Route 71), 0 to 126 ft RT (Vacant Building, PESA Site 2229V-29, 8710 IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern (COC): Lead and manganese.
- Station 582+98 to 584+16 (IL Route 71), 0 to 84 ft RT (Vacant Building, PESA Site 2229V-29, 8710 IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern (COC): Lead and manganese.
- Station 585+00 to 585+50 (IL Route 71), 0 to 67 ft RT (Vacant Building, PESA Site 2229V-29, 8710 IL 71, Yorkville, Kendall County, Illinois) – This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern (COC): Manganese.

INITIAL SITE PREPARATION AND SUBGRADE TREATMENT

In addition to the requirements of Sections 205 and 301 of the Standard Specifications, the following requirements shall apply:

Site Preparation and Earthwork

- Topsoil within the limits of the proposed pavement and shoulders shall be removed. This work will be paid for as EARTH EXCAVATION, or if used for topsoil purposes, TOPSOIL EXCAVATION AND PLACEMENT.
- The stability of the exposed soils will be observed for the presence of any unsuitable and unstable soils. The soils shall be proof rolled to observe the amount of deflection and rutting taking place under the wheels of heavy construction equipment.

Subgrade Treatment and Recommendations

- See the Roadway Geotechnical Report and Structure Geotechnical Report for all recommendations.

INLET AND PIPE PROTECTION

This work shall be according to Article 280.04 of the Standard Specifications except that at locations with flared end sections only straw bales will be allowed to be used.

AGGREGATE FOR TEMPORARY ACCESS

Description. This work shall consists of constructing and maintaining an aggregate surface for temporary roads, approaches, and entrances according to Article 402 and as directed by the Engineer.

Add the following to Article 402.10 of the Standard Specifications:

“The aggregate surface course shall be constructed to the dimensions and grades specified below, except as modified by the plans or as directed by the Engineer.

- (a) Private Entrance. The minimum width shall match the existing entrance width. The minimum compacted thickness shall be 6 inches. The maximum grade shall be eight percent, except as required to match the existing grade.
- (b) Commercial Entrance. The minimum width shall match the existing entrance width. The minimum compacted thickness shall be 9 inches. The maximum grade shall be six percent, except as required to match the existing grade.
- (c) Field Entrance. The minimum width shall match the existing entrance width. The minimum compacted thickness shall be 6 inches. The maximum grade shall be eight percent, except as required to match the existing grade.
- (d) Side Road. The minimum width shall match the existing entrance width. The minimum compacted thickness shall be 9 inches. The grade and elevation shall be the same as the removed pavement, except as required to meet the grade of any new pavement constructed.

Maintaining the temporary access shall include relocating and/or regarding the aggregate surface course for any operation that may disturb or remove the temporary access. The same type and gradation of material used to construct the temporary access shall be used to maintain it. Placement and removal of the subbase material is to be considered included in the cost of AGGREGATE FOR TEMPORARY ACCESS.”

DRIVEWAY PAVEMENT REMOVAL

Description. This work shall consist of furnishing all labor, equipment and materials to remove driveway pavements at the locations shown in the plans, in accordance with the applicable portions of Section 440 of the Standard Specifications and as directed by the Engineer. The driveway pavement thicknesses are variable.

Method of Measurement. This work will be measured for payment by square yard.

Basis of Payment. This work will be paid for at the contract unit price per square yard for DRIVEWAY PAVEMENT REMOVAL.

REMOVAL OF EXISTING STRUCTURES

Description. This work shall consist of furnishing all labor, equipment and materials to remove and properly dispose of the existing structures described below and at the locations shown on the plans in accordance with Section 501 of the Standard Specifications and as directed by the Engineer.

Existing Structure	Location	Description
No. 1	STA 527+85.42 IL 71	Single barrel 5' x 5' concrete box culvert 82' long.
No. 2	STA 562+05.01 IL 71	Single barrel 6' x 6' concrete box culvert 68' long.
No. 3	STA 90+71.66 IL 126	Single barrel 5' x 2' concrete box culvert – last 10 ft

Method of Measurement. This work will be measured for payment by each. Removal of box culverts includes removal of precast and cast-in-place headwalls.

Basis of Payment. This work will be paid for at the contract unit price per each for REMOVAL OF EXISTING STRUCTURES at the location designated on the plans.

PIPE CULVERT REMOVAL

Description. This work shall consist of removing existing pipe culverts at locations shown in the plans and disposing of the pipe culverts outside the right-of-way in accordance with Section 501 of the Standard Specifications. The existing end sections associated with the pipe culverts shall be removed and disposed in conjunction with the pipe culverts.

Method of Measurement. This work will be measured for payment in place, in feet along the invert of the culvert. The measured length will not include the end section.

Basis of Payment. This work will be paid for at the contract unit price per foot for PIPE CULVERT REMOVAL. The removal of existing end sections will not be paid for separately, but shall be considered included in the cost of PIPE CULVERT REMOVAL.

PLUG EXISTING CULVERTS

Existing culverts to be plugged, as shown on the plans and directed by the Engineer, shall be plugged with Class SI concrete conforming to the applicable portions of Section 503 of the Standard Specifications.

The ends of the pipe shall be securely closed by a 6 inch thick wall of Class SI concrete.

Pipes shall not be plugged until their use is no longer required. The Contractor shall notify the Engineer in advance of any intended culvert plugging.

This work will be paid for at the contract unit price of Each for PLUG EXISTING CULVERTS.

TEMPORARY STORM SEWER PLUGS

Existing storm sewer pipe to be plugged, as shown on the plans and directed by the Engineer, shall be plugged with Class SI concrete conforming to the applicable portions of Section 503 of the Standard Specifications.

The ends of the pipe shall be securely closed by a 6 inch thick wall of Class SI concrete.

Pipes shall not be plugged until their use is no longer required. The Contractor shall notify the Engineer in advance of any intended pipe plugging. Removal of the temporary storm sewer plugs shall not be paid for separately but shall be included in the cost of TEMPORARY STORM SEWER PLUGS.

This work will be paid for at the contract unit price of Each for TEMPORARY STORM SEWER PLUGS.

PROPOSED STORM SEWER TEMPORARY STAGING PLUGS

Proposed storm sewer pipes may need to be plugged during staging operations. The Contractor shall notify the Engineer in advance of any intended pipe plugging. This work will not be paid for separately but shall be included in the costs of the various storm sewer pay items. Removal of the temporary plugs shall not be paid for separately but shall be included in the costs of the various storm sewer pay items.

STORM SEWER REMOVAL

This work will be in accordance with Section 551 of the Standard Specifications except removal and disposal of end sections and/or headwalls abutting or connecting to the storm sewer will not be paid for separately, but will be included in the cost of STORM SEWER REMOVAL, of the diameter specified.

TREATMENT OF EXISTING FIELD TILE SYSTEMS:

Description. This work shall be in accordance with Section 611 of the Standard Specifications.

The following items have been included in the plans in order to establish unit bid prices. The Engineer shall be the sole judge as to the quantity and location for the use of:

PIPE DRAINS, 6", 8" & 10"
STORM SEWER PROTECTED, CLASS A, 6", 8" & 10"
STORM SEWER (SPECIAL), 6", 8" & 10"
MISCELLANEOUS CONCRETE
FIELD TILE JUNCTION VAULT, 2' DIA.

PRESERVING PROPERTY MARKERS

The Contractor shall protect the existing property corner markers. Any such monuments disturbed or destroyed by the Contractor's operations shall be replaced by a Professional Land Surveyor at the Contractor's expense.

ISLAND REMOVAL

Description. This work shall consist of the complete removal and disposal of island pavement as shown on the plans and as directed by the Engineer. This work shall be done in accordance with applicable portions of Section 440 of the Standard Specifications and shall include the removal of the concrete island surface, concrete curb & gutter, and excavation below the concrete to a depth of the bottom of the adjacent pavement.

Basis of Payment. This work will be paid for at the contract unit price per Square Foot for ISLAND REMOVAL.

CONCRETE MEDIAN, TYPE SB (SPECIAL)

Description. This work shall consist of providing all labor, equipment and materials necessary for the installation of Concrete Median, Type SB (Special) in accordance with Section 606 of the Standard Specifications, Highway Standard 606301, and plans details.

Method of Measurement. This work will be measured for payment by square foot.

Basis of Payment. This work will be paid for at the contract unit price per square foot for CONCRETE MEDIAN, TYPE SB (SPECIAL)

DRAINAGE STRUCTURE TO BE REMOVED

Description. This work shall consist of the removal and disposal of all drainage structures, manholes, field tile junction vaults, catch basins, end sections, or inlets as shown on the plans unless otherwise specified and as directed by the Engineer. This work shall be done in accordance with the applicable portions of Section 605 of the Standard Specifications.

Basis of Payment. This work will be paid for at the contract unit price per Each for DRAINAGE STRUCTURE TO BE REMOVED.

POROUS GRANULAR EMBANKMENT

Description. This work consists of backfilling box culverts or three-sided structures with granular materials. This work shall be performed at locations shown on the plans or as directed by the Engineer. The quantity of backfill for each culvert is shown in a plan schedule and the work is shown in the Box Culvert Backfilling Detail in the plans.

Backfilling shall be performed according to Article 502.10. The backfill material shall meet the requirements of Article 1004.05, except the gradation shall be CA-07 or CA-11.

Method of Measurement. This work will be measured for payment in cubic yards compacted in place. Additional material required to backfill excavation outside the limits shown on the plans will not be measured for payment.

Basis of Payment. This work will be paid for at the contract unit price per cubic yard for POROUS GRANULAR EMBANKMENT.

TEMPORARY PAVEMENT

Description. The Contractor has the option to install either hot-mix asphalt or Portland cement concrete temporary pavement. This work shall consist of furnishing all labor, equipment and materials to install and remove temporary pavement, including hot-mix asphalt, prime coat and sub-base granular material, Portland cement concrete, dowel bar assemblies and saw cutting the existing pavement to a vertical edge in accordance with applicable portions of Sections 311, 406, 420 and 440 of the Standard Specifications and at the locations shown in the plans.

Method of Measurement. This work will be measured for payment by square yards.

Basis of Payment. This work will be paid for at the contract unit price per square yard for TEMPORARY PAVEMENT.

TEMPORARY DRAINAGE

The Contractor is required to provide and maintain temporary drainage. Unless otherwise noted, proposed drainage items are to be used for temporary drainage. Adjustment to inlets or manholes from temporary elevations to final elevations will be included in the cost of the proposed drainage structures.

Lids used for proposed temporary connections shall be designated Temporary Lids, of the type specified and shall be furnished, installed, maintained, and removed as specified, except the lid need not be new. When a used lid is furnished, the Engineer will visually inspect the lid for acceptance. This work will be paid for at the contract unit price per each for LIDS, of the type specified.

See the Staging Plans and the Temporary Drainage Schedule for temporary drainage items.

PIPE CULVERTS, CLASS A 36" (JACKED)

Description. This work shall consist of furnishing and installing, by jacking, a 36" diameter culvert at the locations shown on the plans. This work shall be in accordance with Section 552 of the Standard Specifications, except as modified herein.

Obstructions shall be defined as any object (such as, but not limited to, boulders, logs, old foundations, old wingwalls, etc.) that cannot be removed with normal earth drilling procedures but requires special augers, tooling, core barrels or rock augers to remove the obstruction. When obstructions are encountered, the Contractor shall notify the Engineer and upon concurrence of the Engineer, the Contractor shall begin working to core, break up, push aside, or remove the obstruction. The work to core, break up, push aside, or remove the obstructions shall be paid for according to Article 109.04 of the Standard Specifications. Lost tools or equipment in the excavation as a result of the Contractor's operation shall not be defined as obstructions and shall be removed at the Contractor's expense.

Method of Measurement. This work will be measured for payment in place in feet.

Basis of Payment. This work will be paid for at the contract unit price per foot for PIPE CULVERTS, CLASS A 36" (JACKED).

RELOCATE EXISTING LIGHT POLE WITH LUMINAIRE

Description: This work shall conform to Sections 830, 842 and 844 of the Standard Specifications. Work shall consist of the removal of the existing light pole and luminaire from the existing light pole foundation. Electrical conduits, wires, anchor bolts, ground rods, and cable splices shall be removed from the light pole foundation. The existing light pole foundation shall be removed and disposed of by the Contractor.

Light poles will be re-established at their permanent location as shown on the plans or as directed by the Engineer as soon as the construction operations permit. New electrical connection shall be considered incidental to the work. Additional compensation will NOT be allowed for varying light pole types or heights comprising of the existing light poles. It will be the Contractor's responsibility to determine the type of materials required to complete each relocation.

Foundations will be LIGHT POLE FOUNDATION, METAL, 11 1/2" 8 5/8" X 6' and will be measured and paid for separately.

Any light poles damaged by the Contractor shall be replaced by him as incidental.

Basis of Payment: This work will be paid for at the contract unit price per EACH for RELOCATE EXISTING LIGHT POLE WITH LUMINAIRE, which price shall be payment in full for all of the work as specified above.

UTILITY RELOCATIONS AND DELAYED START DATE

It is anticipated that utility relocations will be underway when this project is awarded. The Contractor should assume that the start date for work on this project will be May 1, 2019 to allow for utility relocations to be completed except as follows:

- Work associated with tree removal shall be as outlined under the special provision TREE REMOVAL COMPLETION DATE.

No working days shall be charged and no additional compensation shall be due the Contractor for delays prior to May 1, 2019.

SERVICE INSTALLATION, POLE MOUNTED

In addition to the requirements of Section 805 of the Standard Specifications the following shall apply:

Description. This work shall install, modify, or extend the electric service installation. All installations shall meet the requirements of the details included on the plans and applicable portions of the Standard Specifications.

Materials.

General. The completed control panel shall be constructed in accordance with UL Std. 508, Industrial Control Panel, and carry the UL label. Wire terminations shall be UL listed.

- a. Enclosures: Pole Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 3R unfinished signal door design with back panel. The cabinet shall be fabricated from Type 5052 H-32 aluminum with the frame and door 0.125 inch thick, the top 0.250 inch thick and the bottom 0.500 inch 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 tamper proof stainless steel .075 inch thick hinge bolted to the cabinet with stainless steel carriage bolts and nylock 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 high, 16 inches wide, and 15 inches in depth is required. The cabinet shall be mounted upon a wood pole.
- b. Surge Protector. Over voltage protection, with LED indicator, shall be provided for the 120 volt load circuit by means of MOV and thermal fusing technology. The response time shall be <5n seconds and operate within a range of -40° F to 185° F (-40° C to 85° C). The surge protector shall be UL 1449 Listed.

- c. **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. Unless otherwise noted on the plans, 120 V and the auxiliary circuit breakers shall be rated 10 amperes, 120 V.
- d. **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.
- e. **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.
- f. **Utility Services Connections.** The Contractor shall contact the utility company, prior to beginning work, to determine the utility company regulations relating to electrical service. The Contractor shall provide the utility company an estimated date that the service connection will be required, the agency which will be responsible for monthly service changes, and the connected load for flat rate billing if required. The customer service agreement with the utility company shall be executed by the agency responsible for monthly service charges.

All information furnished to the utility company shall be in writing with a copy provided to the Engineer. Prior to contacting the Utility Company for service connection, the service installation controller cabinet and cable must be installed for inspection by the Utility Company.

During the interim between the service activation date and the signal turn on day, all energy charges for the intersection shall be paid by the Contractor according to Article 109.05 of the Standard Specifications. Beginning the day of the traffic signal turn on, all energy charges for the intersection will be paid by the responsible agency listed in the plans. The Contractor is responsible for making arrangements with the responsible agency to transfer billing to the responsible agency.

Ground Rod. Ground rods shall be copper-clad steel, a minimum of 10' in length, and 0.75 inch 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.

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.** The service installation shall be mounted upon a wood pole.

Basis of Payment. The service installation will be paid for at the contract unit price per EACH for SERVICE INSTALLATION – POLE MOUNTED. The cost for the wood pole is included in the pay item.

PERFORMED DETECTOR LOOP

Revise Section 886 of the Standard Specifications to read:

Procedure. A minimum of seven (7) working days prior to the Contractor cutting loops, the Contractor shall have the proposed loop locations marked and contact the Traffic Signal Technician (815) 434-8506 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. Preformed detectors Loop shall be installed according to the requirements of the (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.

(a) Preformed. This work shall consist of furnishing and installing a rubberized or crosslinked polyethylene heat resistant preformed traffic signal loop in accordance with the Standard Specifications, except for the following:

(b) Preformed detector loops shall be installed in new pavement constructed of Portland cement concrete using mounting chairs or tied to re-bar or the preformed detector loops may be placed in the sub-base. 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.

(c) Preformed detector loops shall be factory assembled with ends capped and sealed against moisture and other contaminants. Homeruns and interconnects shall be pre-wired and shall be an integral part of the loop assembly. The loop configurations and homerun lengths shall be assembled for the specific application. The loop and homerun shall be constructed using 1 1/16 inch (17.2 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 or interconnects 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. Refer to plans for number of turns. 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. This work will be measured for payment in feet (meters) in place. Preformed detector loops will be measured along the detector loop and lead-in embedded in the pavement, rather than the actual length of the wire.

Basis of Payment. This work shall be paid for at the contract unit price per foot (meter) 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.

TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC, SPECIAL

Description: This item consists of furnishing and installing a LOUVERED, FORMED PLASTIC TRAFFIC SIGNAL BACKPLATE as specified herein and all hardware accessories required to install on all proposed signal heads as described in Article 882 and 883.

The vacuum formed ABS plastic backplate shall have a nominal 1/2 inch deep back flange on all inside and outside edges. The backplate shall be louvered and provide openings (louvers) to all wind to penetrate and reduce wind loading. The louver openings shall cover a minimum of 20 percent of the surface area of the backplate. The entire front and side surface of the backplate including louver shall be manufactured so that it is imprinted with fluorescent yellow sheeting. The sheeting shall be Type AZ sheeting according to Article 1091.03 and applied to the preferred orientation for the maximum angularity according to the manufacture's recommendation.

Basis of Payment: This item shall be paid for at the contract unit price each for TRAFFIC SIGNAL SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC, SPECIAL.

TEMPORARY TRAFFIC SIGNAL INSTALLATION

Description. This work shall consist of furnishing, installing, maintaining and removing a temporary traffic signal installation at the intersections shown on the plans.

Installation Requirements. This work shall be completed in accordance with Section 890 of the Standard Specifications. The Contractor shall notify the Engineer at least 48 hours in advance when the temporary signal installation is ready to be turned on. Representatives of IDOT will then inspect the installation. After approval by IDOT, the maintenance of the temporary signal installation, including all energy charges, shall become the responsibility of the Contractor until removal is directed by the Engineer. After removal of the temporary installation, the equipment and materials furnished by the Contractor shall remain the property of the Contractor.

Any relocation of the traffic signal heads along the overhead span wire due to a change in Maintenance of Traffic stages or for any other reason shall not be paid for separately but shall be considered included in this pay item.

The Contractor shall furnish enough extra cable length to relocated traffic signal heads to any position on the span wire to adjust head location as needed during construction staging.

The Contractor shall include and uninterruptable power supply in accordance with Section 862 of the Standard Specifications.

All emergency vehicle preemption equipment as shown on the temporary traffic signal plans shall be provided by the Contractor. It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle preemption equipment to be installed prior the contract bidding. The equipment must be completely compatible with all components on the equipment currently in use by the Agency. All labor and materials required to install and maintain the Emergency Vehicle Preemption installation shall be included in the item Temporary Traffic Signal Installation.

Temporary Video Detection. This work shall consist of furnishing and installing a video detection system at each temporary traffic signal installation. This work shall be completed in accordance with all applicable portions of the Standard Specifications. The Machine Video Processor shall be shelf or rack mounted in the temporary traffic signal cabinet. The video detection system shall be installed in accordance with the technical specifications available through the manufacturer. The video detection system shall also include all the necessary coaxial video cable and power cable to connect the image sensors to the Machine Video Processor as well as any additional appurtenances necessary to implement the temporary video detection system. The contractor shall be responsible for making the necessary adjustments to the temporary video detection system so that the system continues to work throughout all of the separate maintenance of traffic stages and links up with the Temporary Traffic Signal Interconnect System Master Cabinet. Temporary video detection shall not be paid for separately, but shall be considered included in this pay item.

Maintenance Procedures. The Contractor shall be responsible for maintaining the traffic signal installation in proper operating condition. The Contractor shall perform the following maintenance procedures:

- (a) Patrol and inspect the signal installation at least once every two weeks for proper alignment of signal heads, lamp outages, and general operation of the traffic signals.
- (b) Provide immediate corrective action to replace burned-out lamps or damaged sockets with new approved lamps or sockets. At the time of replacement, the reflector and lens shall be cleaned.
- (c) Respond to emergency calls within two hours after notification and provide immediate corrective action. The Contractor shall maintain in stock a sufficient amount of material and equipment to provide temporary and permanent repairs. Any damage to the signal installation from any cause whatsoever shall be repaired or replaced by the Contractor at his own expense. The Contractor may institute action to recover damages from a responsible third party.
- (d) The Contractor shall install STOP (R1-1-3636) signs on all approaches to the intersection as a temporary means of regulating traffic during the time of repair when required by the Engineer.
- (e) The Contractor shall provide the Engineer the names and telephone number of two persons who will be available 24 hours a day, 7 days a week, to perform any necessary work on the signal installation.

If, at any time, the Contractor fails to perform any work deemed necessary by the Engineer to keep the traffic signals in proper operating condition, or if the Engineer finds it impossible to contact the designated persons to perform any work, the Department reserves the right to have other electrical contractors perform the needed work. The cost of such work will be deducted from the amount due the Contractor.

Basis of Payment. This work will be paid for at the contract unit price per each for TEMPORARY TRAFFIC SIGNAL INSTALLATION, which price shall be payment in full for all materials, equipment, and labor necessary for the installation and removal of the temporary traffic signals, including the investigation for proper placement, excavation and backfill.

TEMPORARY TRAFFIC SIGNAL TIMING

Description.

This work shall consist of developing and maintaining appropriate traffic single timings for the intersection of IL 71 and IL 126 for the duration of the temporary signalized condition, as well as impact to existing traffic signal timings caused by detours or other temporary conditions.

All timings and adjustments necessary for this work shall be performed by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems.

The following tasks are associated with TEMPORARY TRAFFIC SIGNAL TIMING:

- a. Consultant shall attend temporary traffic signal inspection (turn-on) and/or detour meeting and conduct on-site implementation of the traffic signal timings. Make fine-tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations.
- b. Consultant shall provide monthly observation of traffic signal operations in the field.
- c. Consultant shall provide on-site consultation and adjust timings as necessary for construction stage changes, temporary traffic signal phase changes, and any other conditions affecting timing and phasing, including lane closures, detours, and other construction activities.
- d. Consultant shall make timing adjustments and prepare comment responses.

Basis of Payment.

The work shall be paid for at the contract unit price per EACH for TEMPORARY TRAFFIC SIGNAL TIMING, which price shall be payment in full for performing all work described herein per intersection location.

TEMPORARY LIGHTING SYSTEM

This work shall consist of furnishing and installing a temporary lighting system at the intersection of IL 71 at IL 126 and IL 71 at IL 47.

The lights shall be 400 Watt, 240 Volt, sodium vapor, horizontal mount luminaires with M-C-III distribution.

Basis of Payment. This work shall be paid for at the contract unit price per EACH for TEMPORARY LIGHTING SYSTEM.

COMBINATION LIGHTING CONTROLLER

Description: This work shall consist of furnishing and installing a photocell with integral surge arrester, 3-position selector switch (H-O-A), terminal/splice blocks, and 30 Amp lighting contactor (120V) in the traffic signal cabinet to control the operation of the combination lighting units.

A 120 Volt 20 Amp circuit breaker shall be installed inside the traffic signal controller connected to the main breaker, to serve the roadway lighting, per section 1068.01(e)(3) of the Standard Specifications. The circuit breaker shall be clearly labeled for lighting according to Article 1068.01(f) of the Standard Specifications.

Install all lighting components independent of the traffic signal components as shown in the "Combination Lighting Controller Detail" drawing on one side of the cabinet and label as "LIGHTING". The under eave photocell shall be mounted on the traffic signal controller cabinet, per section 1068.01(e)(2) of the Standard Specifications. Furnish and install all wiring between components to make a fully functional lighting control system for the combination lights.

Basis of Payment: This work shall be paid for at the contract unit price per each for COMBINATION LIGHTING CONTROLLER, which shall be payment in full for all labor, materials, and equipment required to complete the installation.

MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION

Revise Articles 850.02 and 850.03 of the Standard Specifications to read:

Procedure.

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, or the Municipality 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. Automatic Traffic Enforcement equipment is not owned by the State and the Contractor shall not be responsible for maintaining it during construction. The Contractor shall supply the Engineer a 24-hour emergency contact name and telephone number.

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 the Traffic Signal Section at (815) 434-8506 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. 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.

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.

The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals. Any inquiry, complaint or request by the Department, the Department's Traffic Signal Section, or the public, shall be investigated and repairs begun within one hour. Failure to provide this service will result in liquidated damages of \$500 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to an outside contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor.

Failure to pay these costs within one month after the incident will result in additional liquidated damages of \$500 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. The District's Traffic Signal Section may inspect any signaling device on the Department's highway system at any time without notification.

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.

Full maintenance responsibility shall start as soon as the Contractor begins any physical work on the contract or any portion thereof.

The Contractor shall have electricians with IMSA Level II certification on staff to provide signal maintenance.

This item shall include maintenance of all traffic signal equipment at the intersection, including emergency vehicle pre-emption equipment, master controllers, Uninterruptable power supply (UPS and batteries), telephone service installations, communication cables, conduits to adjacent intersections, and other traffic signal equipment, but shall not include Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, or peripheral equipment, not owned by the State.

Maintenance.

The maintenance shall be according to MAINTENANCE AND RESPONSIBILITY DURING CONSTRUCTION in Section 801 of the Standard Specifications and the following:

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. 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.

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.

The Contractor shall provide the Engineer with a 24 hour telephone number for the maintenance of the traffic signal installation and for emergency calls by the Engineer.

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.

The Contractor shall respond to all emergency calls from the Department or others within one 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 an outside contractor perform the maintenance work required. The outside 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 outside contractor to make reviews of the Existing Traffic Signal Installation that has been transferred to the Contractor for Maintenance.

GROUNDING CABLE

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

Add the following to Article 817.02 (b) of the Standard Specifications:

Unless otherwise noted on the Plans, traffic signal grounding conductor shall be one conductor, #6 gauge copper, with a green color coded XLP jacket.

The traffic signal grounding conductor shall be bonded, using a Listed grounding connector (Burndy type KC/K2C, as applicable, or approved equal), to all proposed and existing traffic signal mast arm poles and traffic/pedestrian signal posts, including push button posts. The grounding conductor shall be bonded to all proposed and existing pull boxes, handhole frames and covers and other metallic enclosures throughout the traffic signal wiring system and noted herein and detailed on the plans. The grounding conductor shall be bonded to conduit terminations using rated grounding bushings. Bonding to existing handhole frames and covers shall be paid for separately.

Add the following to Article 817.05 of the Standard Specifications:

Basis of Payment. Grounding cable shall be measured in place for payment in foot (meter). Payment shall be at the contract unit price per FOOT for ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 3-1/C NO. 6, which price includes all associated labor and material including grounding clamps, splicing, exothermic welds, grounding connectors, conduit grounding bushings, and other hardware.

GROUNDING OF TRAFFIC SIGNAL SYSTEMS

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. See applicable Highway Standards for additional information.

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 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 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.
 3. All metallic and non-metallic raceways containing traffic signal circuit runs 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, listed pressure connectors, listed clamps or other approved listed means.

PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED

Revise Article 881.01 of the Standard Specifications to read:

Description.

This work shall consist of furnishing and installing a pedestrian signal head with light emitting diodes (LED) or pedestrian countdown signal head, with light emitting diodes (LED) of the type specified in the plans.

All pedestrian signals at an intersection shall be the same type and have the same display. No mixing of different types of pedestrian traffic signals or displays will be permitted.

Revise Article 881.02 of the Standard Specifications to read:

Materials.

Materials shall be according to SIGNAL HEAD, POLYCARBONATE, LED, and PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED WITH COUNT DOWN TIMER in Divisions 800 and 1000 of the Standard Specifications.

Add the following to Article 881.03 of the Standard Specifications:

(a) Pedestrian Countdown Signal Heads.

- (1) Pedestrian Countdown Signal Heads shall not be installed at signalized intersections where traffic signals and railroad warning devices are interconnected.
- (2) Pedestrian Countdown Signal Heads shall be 16 inch (406mm) x 18 inch (457mm), for single units with the housings glossy black polycarbonate. 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.
- (3) Each pedestrian signal LED module shall be fully MUTCD compliant and shall consist of double overlay message combining full LED symbols of an Upraised Hand and a Walking Person. "Egg Crate" type sun shields are not permitted. Numerals shall measure 9 inches (229mm) in height and easily identified from a distance of 120 feet (36.6m).
- (4) Each pedestrian signal LED module shall come with a minimum five (5) year warranty.

Revise Article 881.04 of the Standard Specifications to read:

Basis of Payment.

This item shall be paid for at the contract unit price EACH for PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED, or PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED WITH COUNT DOWN TIMER, of the type specified and of the particular kind of material when specified, which price shall be payment in full for furnishing the equipment described above including signal head with LED modules, all mounting hardware, and installing them in satisfactory operating condition. The type specified will indicate the number of faces and the method of mounting.

MAST ARM ASSEMBLY AND POLE

Revise Article 877.01 of the Standard Specifications to read:

Description.

This work shall consist of furnishing and installing a steel mast arm and assembly or steel combination mast arm assembly and a galvanized steel or extruded aluminum shroud for protection of the base plate.

Revise Article 877.03 of the Standard Specifications: Mast arm assembly and pole shall be as follows.

(a) Steel Mast Arm Assembly and Pole and Steel Combination Mast Arm Assembly and Pole. The steel mast arm assembly and pole and steel combination mast arm assembly and pole shall consist of a traffic signal mast arm, a luminaire mast arm or davit (for combination pole only), a pole, and a base, together with anchor rods and other appurtenances. The configuration of the mast arm assembly, pole, and base shall be according to the details shown on the plans.

- (1) Loading. The mast arm assembly and pole, and combination mast arm assembly and pole shall be designed for the loading shown on the Highway Standards or elsewhere on the plans, whichever is greater. The design shall be according to AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals" 2015 Edition. However, the arm-to-pole connection for tapered signal and luminaire arms shall be according to the "fillet welded, ring stiffened box connection" detail as shown in Figure C5.6.7-2. The mast arm and pole shall be designed assuming the ADT > 10,000, Risk Category Typical, and Fatigue Category I Natural Wind Gust only
- (2) Structural Steel Grade. The mast arm and pole shall be fabricated according to ASTM A 595, Grade A or B, ASTM A 572 Grade 55, or ASTM A 1011 Grade 55 HSLAS Class 2. The base and flange plates shall be of structural steel according to AASHTO M 270 Grade 50 (M 270M Grade 345). Luminaire arms and trussed arms 15 ft (4.5 m) or less shall be fabricated from one steel pipe or tube size according to ASTM A 53 Grade B or ASTM A 500 Grade B or C. All mast arm assemblies, poles, and bases shall be galvanized according to AASHTO M 111.
- (3) Fabrication. The design and fabrication of the mast arm assembly, pole, and base shall be according to the requirements of the Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals published by AASHTO. The mast arm and pole may be of single length or sectional design. If section design is used, the overlap shall be at least 150 percent of the maximum diameter of the overlapping section and shall be assembled in the factory.

The manufacturer will be allowed to slot the base plate in which other bolt circles may fit, providing that these slots do not offset the integrity of the pole. Circumferential welds of tapered arms and poles to base plates shall be full penetration welds.

- (4) Shop Drawing Approval. The Contractor shall submit detailed drawings showing design materials, thickness of sections, weld sizes, and anchor rods to the Engineer for approval prior to fabrication. These drawings shall be at least 11 x 17 in. (275 x 425 mm) in size and of adequate quality for microfilming.
- (b) Anchor Rods. The anchor rods shall be ASTM F 1554 Grade 105, coated by the hot-dip galvanizing process according to AASHTO M 232 and shall be threaded a minimum of 7 1/2 in. (185 mm) at one end and have a bend at the other end. The first 12 in. (300 mm) at the threaded end shall be galvanized. Two nuts, one lock washer, and one flat washer shall be furnished with each anchor rod. All nuts and washers shall be galvanized.

MODIFY EXISTING CONTROLLER

Description: The existing traffic signal controller at the intersection of IL 71 and IL 47 shall be modified to incorporate the proposed traffic signal equipment and luminaire. This work shall be done as specified in Section 895 of the Standard Specifications.

A 120 volt 20 amp circuit breaker shall be installed inside the traffic signal controller connected to the main breaker, to serve the roadway lighting, per section 1068.01(e)(3) of the standard specifications. The circuit breaker shall be clearly labeled for lighting according to article 1068.01(f) of the standard specifications. The photocell shall be mounted to the exterior of the traffic signal controller cabinet, per section 1068.01(e)(2) of the standard specifications.

The traffic signal controller shall be modified to incorporate the additional detector loops within the existing controller cabinet.

Basis of Payment: This work will be paid for at the contract unit price per EACH for MODIFY EXISTING CONTROLLER.

ELECTRIC CABLE IN CONDUIT NO. 20, 3/C, TWISTED, SHIELDED

This item shall be provided in accordance with Section 817 of the Standard Specifications, and as directed by the Engineer.

Basis of Payment: This item shall be paid for at the contract unit price per FOOT for ELECTRIC CABLE IN CONDUIT NO. 20, 3/C, TWISTED, SHIELDED, which price shall include payment in full for all labor, equipment, and material necessary to perform the work as described above.

REMOVE AND REINSTALL FIBER OPTIC CABLE IN CONDUIT

Description: This work shall consist of removing an existing fiber optic cable from a conduit then reinstalling it in a new conduit. The conduit shall be cleaned and swabbed prior to the reinstalling of the cable.

Method of Measurement: Removal and reinstallation of existing fiber optic cable will be measured for payment in place in feet. If two or more cables in a conduit are to be removed and installed, each cable will be measured for payment separately.

Basis of Payment: This work will be paid for at the contract unit price per FOOT for REMOVE AND REINSTALL FIBER OPTIC CABLE IN CONDUIT as shown on the plans. Payment shall not be made until the cable is installed, spliced and tested in accordance with Section 871 of the Standard Specifications, and as directed by the Engineer.

UTILITIES (WATER AND SANITARY) SPECIAL PROVISIONS

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SP-23	TRENCH BACKFILL

APPENDIX A – UNITED CITY OF YORKVILLE INSURANCE REQUIREMENTS

SP-1 NOTIFICATION TO RESIDENCES

The Contractor shall assist the City with notifications to residences regarding water service shutdown and/or limited access during construction. Residents must be notified at least 48 hours in advance of any water shut downs or access limitations.

SP-2 TRENCH BACKFILL

Trench backfill shall be in accordance with Section 208 of the IDOT Standard Specifications except that the trench backfill shall be CA-7 capped with 16 inches of CA-6, meeting the requirements of Section 1003. Trench backfill shall be measured for payment as described in Section 208.

Selected Granular Backfill shall be required for all sewer and water main where any portion of the trench lies under or within 2' of existing or proposed streets, curb & gutter, aggregate shoulder, sidewalks, and driveways. All CA-6 material placed in such trenches shall be mechanically compacted in maximum one foot lifts.

SP-3 EXPLORATION TRENCH

This work shall consist of excavating a trench at the locations directed by the Engineer and shown on the plans for the purpose of locating existing utility conflicts within the construction limits of the proposed improvements.

The trench shall be deep enough to expose the existing utility, and the width of the trench shall be sufficient to allow proper investigation by the Engineer to determine if the existing utility needs to be adjusted or revisions to the proposed utility crossings are necessary.

This work shall be paid at the contract unit price per foot for EXPLORATION TRENCH which price shall include all equipment, labor, and material necessary to perform the work.

Areas of the exploratory trench requiring trench backfill shall be backfilled according to the requirements of the Standard Specifications.

No extra compensation will be allowed for delays, inconvenience, or damage sustained by the Contractor in performing the work.

SP-4 PIPE INSTALLATION FOR WATER MAINS

Pipe shall be installed in accordance with the Standard Specifications for Water & Sewer Main construction in Illinois and manufacturers instructions for installing the type of pipe specified.

All water main shall be wrapped with polyethylene in accordance with AWWA/ANSI C105/A21.5, Method A. When lifting polyethylene-encased pipe, a fabric type sling or a suitably padded cable or chain shall be used to prevent damage to the polyethylene. Any damage to the polyethylene wrap shall be taped with a polyethylene adhesive tape. Excess damage to the polyethylene encasement will result in a new polyethylene tube for that pipe. Polyethylene wrap will be paid at the contract unit price per foot for POLYETHYLENE ENCASEMENT, regardless of the size of pipe being encased.

Excavation and backfill for water mains shall conform to the typical sections shown in the plans and shall conform to the provisions of Sections 20, 21 and 22 of the Standard Specifications for Water & Sewer Main construction in Illinois.

The trench unless otherwise specified shall have a flat bottom. The pipe shall be laid on 4 inches of bedding stone graded true and even so that the barrel of the pipe will have a bearing for its full length. Bell holes shall be excavated for joints. Any part of the trench excavated below grade shall be corrected with an approved material and thoroughly compacted.

When water is encountered in the trench, it shall be removed during pipe laying and jointing operations. Provisions shall be made to prevent floating of the pipe. Trench water shall not be allowed to enter the pipe at any time. Dewatering, if required, shall be considered included in the Contract.

This work shall be paid for at the contract unit price per foot for DUCTILE IRON WATER MAIN, of the size specified, which price shall include providing and installing the pipe, polyethylene wrap, all equipment, labor, bedding stone (if necessary) and other materials, (not listed for payment separately).

SP-5 PRESSURE CONNECTION

Pressure connections with tapping sleeves shall be suitable for ordinary water works service, intended to be installed in a normal position on buried pipe lines for water distribution systems.

All pressure taps to an existing city main shall be made with a Clow or Waterous ductile iron mechanical joint tapping sleeve or stainless steel tapping sleeve and a Clow or Waterous resilient tapping valve and shall be constructed in a valve vault.

The Contractor shall expose the water main to be tapped and shall confirm the size and type of piping present. The Contractor shall obtain the necessary materials required to make a proper pressure connection. The Contractor shall not proceed until he has all the required materials on site.

Each valve shall have marker's name, pressure rating and year in which manufactured cast on the body. Prior to shipment from the factory, each valve shall be tested by hydrostatic pressure equal to twice the specified working pressure.

This work shall be paid for at the contract unit price per each for PRESSURE CONNECTION, of the size specified which price shall include providing and installing the tapping sleeve. The tapping valve will be paid for at the contract unit price per each for WATER VALVES, of the size specified. Valve vaults will be paid at the contract unit price for VALVE VAULTS of the type and size specified.

SP-6 FIRE HYDRANT ASSEMBLY

Hydrants shall be manufactured to the latest and best design conforming to the current AWWA Specifications C-502, "Standard for Dry Barrel Fire Hydrants" and shall be of the break away style traffic design.

Hydrants shall be easy and economical to install and maintain, shall incorporate no parts requiring field adjustment, and shall place nozzle at least eighteen inches (18") above the hydrant ground line to fully comply with the National Fire Protection Association, Fire Protection Handbook, 13th Edition.

Hydrants shall be equipped with automatic drain.

Fire hydrants shall be painted red at the factory and not repainted in the field.

All contractors/suppliers shall include (A) a detailed drawing to include a parts list indicating the material construction and applicable ASTM Standards for each part or item; and (B) flow data for the proposed hydrant if requested.

6-inch Fire Hydrants to be supplied shall be Clow F-2545 (Medallion) or a Waterous WB-67-250 with two (2), two and one half inch (2 1/2") NST (National Standard Threads) hose nozzles and one four and one half inch (4 1/2") NST Pumper Nozzle. The main valve opening size shall be five and one quarter inch (5 1/4"). The inlet shall be six inch (6") mechanical joint (complete with accessories). Hydrants shall open by turning left (counter clockwise). Hydrants shall be painted red. A 6-foot fiberglass whip shall be furnished.

Hydrants shall be installed in accordance with applicable provisions of Section 45 of the Standard Specification.

All 6" mechanical joint auxiliary gate valves shall be constructed with a trench adaptor model 6 valve box by American flow control. Lids to be marked "water".

This work shall be paid for at the contract unit price each for FIRE HYDRANT ASSEMBLY COMPLETE, of the type specified which price shall include labor and material necessary to install the hydrant, the valve, valve box stabilizer, valve box grip, the connection pipes, and thrust block as detailed on the plans. The 6" Tee fitting or reducer required for these installations will be paid for at the contract unit price per pound for DUCTILE IRON WATER MAIN FITTINGS.

SP-7 DUCTILE IRON FITTINGS

This work will be paid for at the contract price per pound for DUCTILE IRON WATER MAIN FITTINGS which includes all material and labor necessary for installation. Any fittings beyond those indicated on the engineering plans required to install the water main in accordance with the engineering plans are considered included in the cost of the water main. All vertical water main adjustments shall be accomplished by deflection, not bends in the water main. However, if fittings are necessary as deemed by the Engineer to lower the water main to avoid conflicts with other existing utilities and provide for water main protection, then they will be paid at the contract unit price per pound for Ductile Iron Water Main Fittings. Weight of fittings on the Bid Schedule does not include weight of mechanical joint accessories.

SP-8 MECHANICAL JOINT ACCESSORIES

Mechanical Joint Accessories, consisting of, but not limited to, gaskets, glands, retainer glands and bolts, are considered included in the cost of DUCTILE IRON WATER MAIN FITTINGS. Weight of fittings on the Bid Schedule does not include weight of accessories.

SP-9 RETAINER GLANDS AND FIELD LOK GASKETS

All mechanical joint fittings, valves, and hydrants shall be restrained with retainer glands. Retainer glands shall be EBAA Iron Series 1100 Megalug, Uni-Flange Series 1400, Stargrip Series 3000, or Sigma One Lok SLD. In addition to the "megalug" style retaining glands to be used at all mechanical joint fittings, the gasket at each joint one pipe length beyond the fitting shall be a Field Lok gasket.

The cost of furnishing and installing retainer glands and Field Lok gaskets is considered included in the project.

SP-10 THRUST BLOCKING

Blocking to prevent movement of lines under pressure at bends, tees, caps, valves, plugs and hydrants shall be Portland Cement Concrete, a minimum of twelve inch (12") thick, placed between solid ground and the fittings, and shall be anchored in such a manner that pipe and fitting joints will be accessible for repairs. The contractor shall provide a polyethylene cover over the pipe and/or fitting joints prior to installation of the concrete.

The cost of thrust blocking is considered included in the project.

SP-11 HYDROSTATIC TESTING AND DISINFECTING WATER MAINS

The Contractor shall perform Hydrostatic Tests in accordance with Division IV, Section 41 of the Technical Specifications and applicable provisions of AWWA C-600 and C-603. The water main shall be pressure tested at 150 psi.

The test pressure shall not drop more than 2 psi for the duration of the test. Allowable leakage shall be set forth in Section 41 of the Technical Specifications. Duration of the test shall be two (2) hours minimum. The gauge should be of good quality and condition, and be fluid filled. The gauge should have large enough range for the pressure being tested and should be capable of reading a minimum pressure of one (1) psi. The testing length shall be limited to 1000 foot. If more than 1000 foot of water main is tested, the allowable leakage will be based upon 1000 foot.

Upon completion of the newly laid water main, the water main shall be disinfected in accordance with the American Water Works Association, Procedure Destination, AWWA C-651.

The Contractor is responsible for coordinating the collection of water samples with the City of Yorkville. The City will take the bacteriological water samples and have the testing performed as required by the Illinois Environmental Protection Agency. The City and Engineer shall be present when the samples are taken.

Water samples collected on two (2) successive days from the treated piping system shall show satisfactory bacteriological results. Bacteriological analyses must be performed by a laboratory certified by the IEPA and approved by the Engineer.

Should the initial treatment result in an unsatisfactory bacterial test, the original chlorination procedure shall be repeated by the Contractor until satisfactory results are obtained.

The Contractor shall furnish to the OWNER the required documentation, test results, etc., required by the IEPA for placing the water main in service.

This work will be paid for at the contract unit price per Foot for WATER MAIN TESTING – PRESSURE AND DISINFECTION which price shall include all necessary labor and materials to pressure test, disinfect, and test the water main, all as required to place the water main in service in accordance with the IEPA regulations.

SP-12 CUT AND CAP EXISTING WATER MAIN

The Contractor shall disconnect and abandon the existing water main at locations shown on the drawings, and in the manner detailed.

Disconnecting and abandoning the existing water main shall only occur after all water services have been transferred to the proposed water main.

Disconnecting the existing water main will require interruption of services. The superintendent of the Utility (City), the Engineer and the Contractor shall mutually agree upon a date and time for disconnections which will allow ample time to assemble labor and materials, and to notify all customers affected. Customers shall be notified at least 48 hours prior to being taken out of service.

The Contractor shall not operate valves on existing mains (unless otherwise authorized by the City), and will be closed and opened only by the employees of the City's Water Department.

The Contractor shall expose the water main to be disconnected and shall confirm the size and type of piping present. The Contractor shall obtain the necessary materials required to make a proper disconnection. The Contractor shall not proceed until he has all the required materials on site. The Contractor shall limit the time for disconnections to four (4) hours. In no case, shall a customer(s) be out of service overnight.

This work will be paid for at the contract unit price per each for CUT AND CAP EXISTING WATER MAIN, of the size specified, which price shall include all equipment, labor, disposal of abandoned pipe, stone bedding, connection pipe, and other materials (not listed for payment separately) required to properly disconnect existing water mains.

Thrust blocking required for these disconnections will be considered included in the pay item. A mechanical joint cap will be required at the end of the abandoned water main. Ductile Iron Fittings required for these disconnections will be paid for at the contract unit price per pound for DUCTILE IRON WATER MAIN FITTINGS.

SP-13 DEWATERING

Dewatering, as required, will be considered included in this Contract.

SP-14 VALVE VAULTS TO BE ABANDONED

This item shall consist of the abandoning the existing valve vaults as shown on the plans.

For valve vaults located outside the limits of the bituminous roadway, abandoning the valve vault shall include the removal of the casting, lid, and conical section of the vault. The remaining concrete vault shall be filled with FA-1 aggregate. The remaining void shall be filled with earthen backfill.

For valve vaults located within the limits of the bituminous roadway, abandoning the valve vault shall include the removal of the casting, lid, and conical section of the vault. The remaining concrete vault shall be filled with CA-7 aggregate. The remaining void shall be filled with CA-7 aggregate (trench backfill) except the top 15" shall be capped with CA-6.

Valve vaults to be abandoned shall be paid for at the contract unit price per each as VALVES VAULT TO BE ABANDONED which includes all labor, tools, equipment, and materials necessary to abandon existing valve vaults.

SP-15 PIPE INSTALLATION FOR SANITARY SEWER

Pipe shall be installed in accordance with the Standard Specifications for Water & Sewer Main construction in Illinois and manufacturer's instructions for installing the type of pipe specified.

Excavation and backfill for sanitary sewer shall conform to the typical sections shown on the plans and shall conform to the provisions of Sections 20, 21 and 22 of the Standard Specifications for Water & Sewer Main construction in Illinois.

The trench unless otherwise specified, shall have a flat bottom. The pipe shall be laid on bedding over firm ground cut true and even so that the barrel of the pipe will have a bearing for its full length. Bell holes shall be excavated for joints. Any part of the trench excavated below grade shall be corrected with an approval material and thoroughly compacted. Initial backfilling and bedding materials shall be Class I as outlined in ASTM D-2321 and shall have an IDOT gradation of CA-7. The trench backfill and bedding shall be installed per the Yorkville-Bristol Sanitary District's detail.

When water is encountered in the trench, it shall be removed during pipe laying and jointing operations. Provisions shall be made to prevent floating of the pipe. Trench water shall not be allowed to enter the pipe at any time. Dewatering, if required, shall be included in the contract.

This work shall be paid for at the contract unit price per foot for SANITARY SEWER of the type and size specified which price shall include providing and installing the pipe, all equipment, labor, non-shear connecting couplers, bedding stone and other materials, (not listed for payment separately), required to make proper connections of the existing sewer to the proposed sewer. PVC SDR-26 (ASTM D-3034) shall be paid for as SANITARY SEWER 10". PVC SDR-21 (ASTM D-2241) shall be paid for as SANITARY SEWER, SPECIAL.

SP-16 SANITARY MANHOLE, SPECIAL

All sanitary sewer manholes shall be in accordance with Section 4 of the Yorkville-Bristol Sanitary District Standard Specifications for Sanitary Sewer Construction. The Size of the manhole shall be as shown in the plans.

Any sanitary sewer pipe or work needed to connect the existing sanitary sewer to the new manhole shall be paid for as part of the sanitary manhole.

This work shall be paid for at the contract unit price per each for SANITARY MANHOLE, SPECIAL, which price shall include providing and installing the manhole, frame and lid and backfill material as detailed on the plans.

SP-17 ABANDON AND FILL EXISTING SANITARY MANHOLE

This work shall consist of plugging all sewer lines within the manhole by a method acceptable to the Engineer. The Contractor shall remove the top cone portion of the manhole and break the bottom base of the structure for drainage. The Contractor shall fill to the top of the structure with CA-7. The Contractor shall fill the remaining depth to within 4" of the finished grade in pavement areas or within 6" of finished grade outside of pavement areas with course aggregate, CA-6.

All areas disturbed during the abandonment process shall be restored by the Contractor by providing 6" of topsoil, seeding and erosion control blanket. Any paved areas disturbed by the Contractor shall be restored to their original condition or better using material approved by the Engineer.

All work associated with the abandonment and restoration of the existing sanitary manholes shall be paid for at the contract unit price for each ABANDON AND FILL EXISTING SANITARY MANHOLE which shall include the all labor and material necessary to complete the work.

SP-18 TELEVISION INSPECTION OF NEW SANITARY SEWER

The Contractor shall televise the sanitary sewer. Reports shall be submitted to the ENGINEER upon completion. The reports shall include DVD's of the televising. The reports shall also be bound with a cover page indicating the title of the project. In addition, a table of contents should be included that lists each run and indicates on which DVD the run is located. This work shall be paid for at the contract unit price per foot for TELEVISION INSPECTION OF NEW SANITARY SEWER.

SP-19 SANITARY SEWER TESTING

Contractor shall vacuum test all sanitary manholes. The vacuum test shall be performed at a vacuum of 10-inches of Mercury and shall not drop below 9-inches of Mercury for a period of 60 seconds.

The Contractor shall perform pressure and deflection testing of the sanitary sewer in accordance with Section 31 of the Standard Specifications for Water and Sewer Main Construction in Illinois. The measurement for payment shall be paid per lump sum for SANITARY SEWER TESTING, which shall include all labor, materials, and equipment necessary to complete all manhole and sewer main testing.

SP-20 SANITARY MANHOLES TO BE REMOVED

This work shall consist of removing an existing sanitary manhole.

This work shall include abandoning the adjacent sanitary sewer. The sanitary sewer lines to be abandoned at these locations shall be cut back 5' from the existing sanitary manhole edge and plugged by a method acceptable to the Engineer. The new sanitary sewer shall be connected to the existing sanitary sewer with a non-shear coupling. Once the manhole has been removed and sewer abandoned the area shall be backfilled with trench backfill.

This work shall be paid for at the contract unit price per each for SANITARY MANHOLES TO BE REMOVED, which shall include the cost of all labor, material, and use of all equipment and tools required to complete the work.

SP-21 ADDITIONAL DEPTH OF MANHOLE

This This work shall be performed in accordance with the Standard Specifications for Illinois Water and Sewer Construction in Illinois, current edition.

This work shall be paid for at the contract unit price per Foot for ADDITIONAL DEPTH OF MANHOLE.

SP-22 FIRE HYDRANT REMOVAL

This item shall consist of the removal of the existing fire hydrants as shown on the plans. Removal shall include the excavation and physical removal of the fire hydrant, auxiliary valve and valve box. Removal shall also include capping the existing fire hydrant lead. Breaking off the existing fire hydrant shall not be allowed.

For hydrants located outside the limits of the bituminous roadway, the removal shall include the excavation and physical removal of the valve box and backfilling the void left by the valve box with earthen backfill.

Trench backfill will be paid for at the contract unit price per cubic yard of TRENCH BACKFILL.

Ductile Iron Fittings required for the removal will be paid for at the contract unit price per pound for DUCTILE IRON FITTINGS.

Fire hydrant removal shall be paid for at the contract unit price per each as FIRE HYDRANTS TO BE REMOVED which includes all necessary labor, tools, equipment, and materials necessary to remove existing hydrants. All hydrants shall be disposed of by the Contractor.

SP-23 TRENCH BACKFILL

Selected granular backfill (also referred to as trench backfill throughout) shall be in accordance with Section 208 of the IDOT Standard Specifications except that the trench backfill shall be CA-7 capped with 15 inches of CA-6, meeting the requirements of Section 1003. Trench backfill shall be measured for payment as described in Section 208.

Selected Granular Backfill shall be required for all sewer and water main where any portion of the trench lies under or within 2' of existing or proposed streets, curb & gutter, aggregate shoulder, sidewalks, and driveways. All CA-6 material placed in such trenches shall be mechanically compacted in maximum one foot lifts.

The quantity for which payment will be made shall not exceed the volume of the trench as computed using the maximum width of trench permitted per the Standard Specification for Water and Sewer Main Construction in Illinois, latest edition, and the actual depth of the completed trench backfill above the center of the pipe with a deduction for the volume of one half of the pipe and up to the bottom of the proposed street sub-base. The Contractor at his/her own expense shall furnish any trench backfill required in excess of the maximum quantity herein specified. Trench Backfill shall be paid for at the contract unit price per cubic yard of TRENCH BACKFILL.

UNINTERRUPTABLE POWER SUPPLY, EXTENDED

Effective March 12, 2018

The UPS shall be the latest version to match the Municipality's existing traffic signal equipment.

Add the following to Article 862.03 of the Standard Specifications:

- The UPS shall be provided with a minimum five (5) year warranty.
- The UPS cabinet shall have one incandescent light bulb.

Revise Article 862.04 of the Standard Specifications to read:

Installation. At locations where UPS is installed and Emergency Vehicle Priority System is in use, any existing incandescent confirmation beacons shall be replaced with LED lamps in accordance with the District Three Emergency Vehicle Priority System specification at no additional cost to the contract

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, EXTENDED. Replacement of Emergency Vehicle Priority System confirmation beacons shall be included in the cost of the UNINTERRUPTABLE POWER SUPPLY, EXTENDED item.

WEEP HOLE DRAINS FOR ABUTMENTS, WINGWALLS, RETAINING WALLS AND CULVERTS

Effective: April 19, 2012

Revised: October 22, 2013

Delete the last paragraphs of Articles 205.05 and 502.10 and replace with the following.

“If a geocomposite wall drain according to Section 591 is not specified, a prefabricated geocomposite strip drain according to Section 1040.07 shall be placed at the back of each drain hole. The strip drain shall be 24 inches (600 mm) wide and 48 inches (1.220 m) tall. The strip drain shall be centered over the drain hole with the bottom located 12 inches (300 mm) below the bottom of the drain hole. All form boards or other obstructions shall be removed from the drain holes before placing any geocomposite strip drain.”

Revise the last sentence of the first paragraph of Article 503.11 to read as follows.

“Drain holes shall be covered to prevent the leakage of backfill material according to Article 502.10.”

Revise the title of Article 1040.07 to Geocomposite Wall Drains and Strip Drains.

MEMBRANE WATERPROOFING FOR BURIED STRUCTURES

Effective: October 4, 2016

Description. This work shall consist of furnishing and applying a self adhesive membrane waterproofing system to the top slab and sidewalls, or portions thereof, for buried structures as detailed on the contract plans.

Materials. The material used in the waterproofing system shall consist of a cold-applied, self-adhering membrane incorporating a woven or non-woven polypropylene mesh or fiberglass reinforcement with release film on one side.

The sheet membrane shall have the following physical properties:

Physical Properties	
Thickness ASTM D 1777	60 mils (1.500 mm) min.
Width	36 inches (914 mm) min.
Pliability [180° bend over 1/4 inch (6 mm) mandrel @ -25 °F (-32 °C)] ASTM D 146	No Effect
Elongation ASTM D 412 (Die C)	300% min
Puncture Resistance-Membrane ASTM E 154	40 lb (18 kg) min.
Permeance (Grains/ft ² /hr/in Hg) ASTM E 96, Method B	0.1 max.
Water Absorption (% by Weight) ASTM D 570	0.2 max.
Adhesion to concrete ASTM D 903	5.0 lb/in (89 g/mm) min.

Certification: Prior to approval and use of the material the Contractor shall submit, to the Engineer, a notarized certification by an independent test laboratory stating that the materials conform to the requirements of these specifications. The certification shall include or have attached specific results of tests performed on the material supplied. The Engineer may at his option require samples of any material for testing. Materials may be accepted on certification but are subject to control and/or approval by subsequent testing.

Construction. The areas requiring waterproofing shall be prepared and the waterproofing installed in accordance with the manufacturer's instructions. Surfaces to be waterproofed shall be smooth and free from projections which might damage the waterproofing membrane. Projections or depressions on the surface on which the membrane is to be applied that may cause damage to the membrane shall be removed or filled as directed by the Engineer. The surface shall be power washed and cleaned of dust, dirt, grease, and loose particles, and shall be dry before the waterproofing is applied.

The installation of the sheet membrane shall be such that all joints are shingled to shed water by commencing from the lowest elevation of the buried structure's top slab and progress towards the highest elevation. The membrane strips shall be overlapped a minimum of 2 ½ inches (64 mm). The membrane shall be smooth and free of wrinkles and there shall be no depressions in horizontal surfaces of the finished waterproofing.

Sealing bands at joints between precast segments shall be installed prior to the sheet membrane being applied. Where the waterproofing membrane and sealing band overlap, the installation shall be planned such that water will not be trapped or directed underneath the membrane or sealing band.

Care shall be taken to protect and to prevent damage to the membrane surface prior to and during backfilling operations. The sheet membrane shall be removed as required for the installation of slab mounted guardrails and other appurtenances. After the installation is complete, the sheet membrane shall be repaired and sealed against water intrusion according to the manufacturer's instructions and to the satisfaction of the Engineer.

Replace the last paragraph of Article 540.06 Precast Concrete Box Culverts and replace with:

Handling holes shall be filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation nor project above the outside surface to the extent that may cause damage to the membrane. When metal lifting inserts are used, their sockets shall be filled with mastic or mortar compatible with the membrane.

Method of Measurement. The waterproofing system will be measured in place, in square yards (square meters) of the concrete surface to be waterproofed.

Basis of Payment. This work will be paid for at the contract unit price, per square yard (square meter) for MEMBRANE WATERPROOFING FOR BURIED STRUCTURES.

ADJUSTING FRAMES AND GRATES (BDE)

Effective: April 1, 2017

Add the following to Article 602.02 of the Standard Specifications:

- “(s) High Density Expanded Polystyrene Adjusting Rings
 with Polyurea Coating (Note 4) 1043.04
- (t) Expanded Polypropylene (EPP) Adjusting Rings (Note 5) 1043.05

Note 4. High density expanded polystyrene adjusting rings with polyurea coating shall meet the design load requirements of AASHTO HS20/25. The rings may be used to adjust the frames and grates of drainage and utility structures up to a maximum of 6 in. (150 mm). They shall be installed and sealed underneath the frames according to the manufacturer’s specifications.

Note 5. Riser rings fabricated from EPP may be used to adjust the frames and grates of drainage and utility structures up to a maximum of 6 in. (150 mm). An adhesive meeting ASTM C 920, Type S, Grade N5, Class 25 shall be used with EPP adjustment rings. The top ring of the adjustment stack shall be a finish ring with grooves on the lower surface and flat upper surface. The joints between all manhole adjustment rings and the frame and cover shall be sealed using the approved adhesive. In lieu of the use of an adhesive, an internal or external mechanical frame-chimney seal may be used for watertight installation. EPP adjustment rings shall not be used with heat shrinkable infiltration barriers.”

Add the following to Section 1043 of the Standard Specifications:

“1043.04 High Density Expanded Polystyrene Adjusting Rings with Polyurea Coating. High density expanded polystyrene adjustment rings with polyurea coating shall be designed and tested to meet or exceed an HS25 wheel load according to the AASHTO Standard Specifications for Highway Bridges (AASHTO M306 HS-25). The raw material suppliers shall provide certifications of quality or testing using the following ASTM standards, and upon request, certify that only virgin material was used in the manufacturing of the expanded polystyrene rings.

Physical Property	Test Standard	Value	
		3.0 lb/cu ft	4.5 lb/cu ft
Compression Resistance at 10% deformation at 5% deformation at 2% deformation	ASTM D 1621	50 - 70	70 - 90
		45 - 60	60 - 80
		15 - 20	20 - 40
Flexural Strength	ASTM D 790	90 - 120	130 - 200
Water Absorption	ASTM D 570	2.0%	1.7%
Coefficient of Linear Expansion	ASTM D 696	2.70E-06 in./in./°F	2.80E-06 in./in./°F
Sheer Strength	ASTM D 732	55	80
Tensile Strength	ASTM D 1623	70 - 90	130 - 140
Water Vapor Transmission	ASTM C 355	0.82 – 0.86 perm – in.	

High density expanded polystyrene adjustment rings with polyurea coating shall have no void areas, cracks, or tears. The actual diameter or length shall not vary more than 0.125 in. (3 mm) from the specified diameter or length. Variations in height are limited to ± 0.063 in. (± 1.6 mm). Variations shall not exceed 0.25 in. (6 mm) from flat (dish, bow, or convoluting edge) or 0.125 in. (3 mm) for bulges or dips in the surface.

1043.05 Expanded Polypropylene (EPP) Adjusting Rings. The EPP adjusting rings shall be manufactured using a high compression molding process to produce a minimum finished density of 7.5 lb/cu ft (120 g/l). The EPP rings shall be made of materials meeting ASTM D 3575 and ASTM D 4819-13. The grade adjustments shall be designed and tested according to the AASHTO Standard Specifications for Highway Bridges (AASHTO M 306 HS-25).

Grade rings shall contain upper and lower keyways (tongue and groove) for proper vertical alignment and sealing. The top ring, for use directly beneath the cast iron frame, shall have keyways (grooves) on the lower surface with a flat upper surface.

Adhesive or sealant used for watertight installation of the manhole grade adjustment rings shall meet ASTM C 920, Type S, Grade NS, Class 25, Uses NT, T, M, G, A, and O.

EPP adjustment rings shall have no void areas, cracks, or tears. The actual diameter or length shall not vary more than 0.125 in. (3 mm) from the specified diameter or length. Variations in height are limited to ± 0.063 in. (± 1.6 mm). Variations shall not exceed 0.25 in. (6 mm) from flat (dish, bow, or convoluting edge) or 0.125 in. (3 mm) for bulges or dips in the surface.”

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.

BUTT JOINTS (BDE)

Effective: July 1, 2016

Add the following to Article 406.08 of the Standard Specifications.

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

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

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

1/ Crosshead speed -2 in./minute

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

COMPENSABLE DELAY COSTS (BDE)

Effective: June 2, 2017

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Add the following to Section 109 of the Standard Specifications.

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

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

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

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

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

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

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

Extended Traffic Control occurs between April 1 and November 30:

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

Extended Traffic Control occurs between December 1 and March 31:

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

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

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

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

OCT = Original contract time in calendar days.

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

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

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

CONCRETE END SECTIONS FOR PIPE CULVERTS (BDE)

Effective: January 1, 2013

Revised: April 1, 2016

Description. This work shall consist of constructing cast-in-place concrete and precast concrete end sections for pipe culverts. These end sections are shown on the plans as Highway Standard 542001 or 542011. This work shall be according to Section 542 of the Standard Specifications except as modified herein.

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

Item	Article/Section
(a) Portland Cement Concrete (Note 1)	1020
(b) Precast Concrete End Sections (Note 2)	
(c) Coarse Aggregate (Note 3)	1004.05
(d) Structural Steel (Note 4)	1006.04
(e) Anchor Bolts and Rods (Note 5)	1006.09
(f) Reinforcement Bars	1006.10(a)
(g) Nonshrink Grout	1024.02
(h) Chemical Adhesive Resin System	1027
(i) Mastic Joint Sealer for Pipe	1055
(j) Hand Hole Plugs	1042.16

Note 1. Cast-in-place concrete end sections shall be Class SI, except the 14 day mix design shall have a compressive strength of 5000 psi (34,500 kPa) or a flexural strength of (800 psi) 5500 kPa and a minimum cement factor of 6.65 cwt/cu yd (395 kg/cu m).

Note 2. Precast concrete end sections shall be according to Articles 1042.02 and 1042.03(b)(c)(d)(e) of the Standard Specifications. The concrete shall be Class PC according to Section 1020, and shall have a minimum compressive strength of 5000 psi (34,000 kPa) at 28 days.

Joints between precast sections shall be produced with reinforced tongue and groove ends according to the requirements of ASTM C 1577.

Note 3. The granular bedding placed below a precast concrete end section shall be gradation CA 6, CA 9, CA 10, CA 12, CA 17, CA 18, or CA 19.

Note 4. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable.

Note 5. The anchor rods for the culvert ties shall be according to the requirements of ASTM F 1554, Grade 105 (Grade 725).

CONSTRUCTION REQUIREMENTS

The concrete end sections may be precast or cast-in-place construction. Toe walls shall be either precast or cast-in-place, and shall be in proper position and backfilled according to the applicable paragraphs of Article 502.10 of the Standard Specifications prior to the installation of the concrete end sections. If soil conditions permit, cast-in-place toe walls may be poured directly against the soil. When poured directly against the soil, the clear cover of the sides and bottom of the toe wall shall be increased to 3 in. (75 mm) by increasing the thickness of the toe wall.

- (a) Cast-In-Place Concrete End Sections. Cast-in-place concrete end sections shall be constructed according to the requirements of Section 503 of the Standard Specifications and as shown on the plans.
- (b) Precast Concrete End Sections. When the concrete end sections will be precast, shop drawings detailing the slab thickness and reinforcement layout shall be submitted to the Engineer for review and approval.

The excavation and backfilling for precast concrete end sections shall be according to the requirements of Section 502 of the Standard Specifications, except a layer of granular bedding at least 6 in. (150 mm) in thickness shall be placed below the elevation of the bottom of the end section. The granular bedding shall extend a minimum of 2 ft (600 mm) beyond each side of the end section.

Anchor rods connecting precast sections shall be brought to a snug tight condition followed by an additional 2/3 turn on one of the nuts. Match marks shall be provided on the bolt and nut to verify relative rotation between the bolt and the nut.

When individual, precast end sections are placed side-by-side for a multi-pipe culvert installation, a 3 in. (75 mm) space shall be left between adjacent end section walls and the space(s) filled with Class SI concrete.

Method of Measurement. This work will be measured for payment as each, with each end of each culvert being one each.

Basis of Payment. This work will be paid for at the contract unit price per each for CONCRETE END SECTION, STANDARD 542001 or CONCRETE END SECTION, 542011, of the pipe diameter and slope specified.

CONTRAST PREFORMED PLASTIC PAVEMENT MARKING (BDE)

Effective: November 1, 2017

Revise the first paragraph of Article 780.07(b) of the Standard Specifications to read:

“(b) Type B or C - Standard Application. Standard application of conventional preformed plastic pavement markings shall consist of applying the markings to the pavement surface or to the bottom of a groove recessed in the pavement surface as specified on the plans. Standard application of contrast preformed plastic pavement markings shall consist of applying the markings to the bottom of a groove recessed in the pavement surface. Both conventional and contrast preformed plastic pavement markings shall only be applied when the air temperature is at least 50 °F (10 °C) and rising and the pavement temperature is at least 70 °F (21 °C). However, application of the markings will not be allowed after October 15.”

Add the following paragraph after the fourth paragraph of Article 780.14 of the Standard Specifications:

“The applied line width specified for contrast pavement markings shall include both the white/yellow reflective portion and the black nonreflective portion of the marking.”

Revise the first paragraph of Article 1095.03 of the Standard Specifications to read:

“**1095.03 Preformed Plastic Pavement Markings.** The material shall consist of a white or yellow (as specified) weather resistant, reflective film meeting the requirements specified herein. Where contrast markings are specified, the white or yellow reflective film shall be bordered along both the left and right edges by a 1 1/2 in. (38 mm) wide black weather resistant, nonreflective film also meeting the requirements specified herein.”

Revise the table in Article 1095.03(a) of the Standard Specifications to read:

“Components	Minimum Percent By Weight	
	White or Yellow	Black
Resins and Plasticizers	20 %	20 %
Pigment and Fillers	30 %	30 %
Graded Glass Beads	25 %	- - “

Revise the first paragraph of Article 1095.03(h) of the Standard Specifications to read:

“Glass beads shall be uniformly distributed throughout the white or yellow portions of the material only. A top coating of beads shall be bonded to or directly embedded into the surface of the markings in order to produce immediate retroreflectivity.”

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (DBE)

Effective: September 1, 2000

Revised: April 2, 2018

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

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

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

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

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

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

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined that the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. The determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates that, in the absence of unlawful discrimination, and in an arena of fair and open competition, DBE companies can be expected to perform **3.00%** of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will only award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set for in this Special Provision:

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

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

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

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

- (a) The bidder shall submit a DBE Utilization Plan on completed Department forms SBE 2025 and 2026.
 - (1) The final Utilization Plan must be submitted within five calendar days after the date of the letting in accordance with subsection (a)(2) of Bidding Procedures herein.
 - (2) To meet the five day requirement, the bidder may send the Utilization Plan electronically by scanning and sending to **DOT.DBE.UP@illinois.gov** or faxing to (217) 785-1524. The subject line must include the bid Item Number and the Letting date. The Utilization Plan should be sent as one .pdf file, rather than multiple files and emails for the same Item Number. It is the responsibility of the bidder to obtain confirmation of email or fax delivery.

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

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

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

- (b) The Utilization Plan shall indicate that the bidder either has obtained sufficient DBE participation commitments to meet the contract goal or has not obtained enough DBE participation commitments in spite of a good faith effort to meet the goal. The Utilization Plan shall further provide the name, telephone number, and telefax number of a responsible official of the bidder designated for purposes of notification of Utilization Plan approval or disapproval under the procedures of this Special Provision.
- (c) The Utilization Plan shall include a DBE Participation Commitment Statement, Department form SBE 2025, for each DBE proposed for the performance of work to achieve the contract goal. For bidding purposes, submission of the completed SBE 2025 forms, signed by the DBEs and scanned or faxed to the bidder will be acceptable as long as the original is available and provided upon request. All elements of information indicated on the said form shall be provided, including but not limited to the following:
 - (1) The names and addresses of DBE firms that will participate in the contract;
 - (2) A description, including pay item numbers, of the work each DBE will perform;
 - (3) The dollar amount of the participation of each DBE firm participating. The dollar amount of participation for identified work shall specifically state the quantity, unit price, and total subcontract price for the work to be completed by the DBE. If partial pay items are to be performed by the DBE, indicate the portion of each item, a unit price where appropriate and the subcontract price amount;

- (4) DBE Participation Commitment Statements, form SBE 2025, signed by the bidder and each participating DBE firm documenting the commitment to use the DBE subcontractors whose participation is submitted to meet the contract goal;
- (5) If the bidder is a joint venture comprised of DBE companies and non-DBE companies, the Utilization Plan must also include a clear identification of the portion of the work to be performed by the DBE partner(s); and,
- (6) If the contract goal is not met, evidence of good faith efforts; the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor is selected over a DBE for work on the contract.

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

- (a) The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases, and will be considered by the Department.
 - (1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.

- (2) Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime Contractor might otherwise prefer to perform these work items with its own forces.
- (3) Providing interested DBE companies with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
- (4) a. Negotiating in good faith with interested DBE companies. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBE companies that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBE companies to perform the work.
 - b. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidders are not, however, required to accept higher quotes from DBE companies if the price difference is excessive or unreasonable. In accordance with subsection (c)(6) of the above Bidding Procedures, the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.
- (5) Not rejecting DBE companies as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
- (6) Making efforts to assist interested DBE companies in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.

- (7) Making efforts to assist interested DBE companies in obtaining necessary equipment, supplies, materials, or related assistance or services.
- (8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE companies.
- (b) If the Department determines that the apparent successful bidder has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided that it is otherwise eligible for award. If the Department determines that the bidder has failed to meet the requirements of this Special Provision or that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification shall include a statement of reasons for the determination. If the Utilization Plan is not approved because it is deficient as a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no more than a five calendar day period in order to cure the deficiency.
- (c) The bidder may request administrative reconsideration of a determination adverse to the bidder within the five working days after the receipt of the notification date of the determination by delivering the request to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764 (Telefax: (217) 785-1524). Deposit of the request in the United States mail on or before the fifth business day shall not be deemed delivery. The determination shall become final if a request is not made and delivered. A request may provide additional written documentation or argument concerning the issues raised in the determination statement of reasons, provided the documentation and arguments address efforts made prior to submitting the bid. The request will be forwarded to the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person in order to consider all issues of documentation and whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten working days after receipt of the request for reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

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

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

- (3) 100 percent credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a DBE regular dealer or DBE manufacturer.

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

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

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

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

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

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

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

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

DOWEL BAR INSERTER (BDE)

Effective: January 1, 2017

Revised: January 1, 2018

Add the following to Article 420.03 of the Standard Specifications.

“(l) Mechanical Dowel Bar Inserter 1103.20”

Revise the first paragraph of Article 420.05(b)(1) of the Supplemental Specifications to read:

“Preformed or Drilled Holes. If applicable, the tie bars shall be installed after the dowel bars have been tested with the MIT Scan-2 device according to Article 420.05(c)(2)b.2. The tie bars shall be installed with a nonshrink grout or chemical adhesive providing a minimum pull-out strength as follows.”

Revise Article 420.05(c) of the Standard Specifications to read:

“(c) Transverse Contraction Joints. Transverse contraction joints shall consist of planes of weakness created by sawing grooves in the surface of the pavement and shall include load transfer devices consisting of dowel bars. Transverse contraction joints shall be according to the following.”

Revise Article 420.05(c)(2) of the Standard Specifications to read:

“(2) Dowel Bars. Dowel Bars shall be installed parallel to the centerline of the pavement and parallel to the proposed pavement surface. Installation shall be according to one of the following methods.

- a. Dowel Bar Assemblies. The assembly shall act as a rigid unit with each component securely held in position relative to the other members of the assembly. The entire assembly shall be held securely in place by means of nails which shall penetrate the stabilized subbase. At least ten nails shall be used for each 10, 11, or 12 ft (3, 3.3, or 3.6 m) section of assembly.

Metal stakes shall be used instead of nails, with soil or granular subbase. The stakes shall loop over or attach to the top parallel spacer bar of the assembly and penetrate the subgrade or subbase at least 12 in. (300 mm).

At the location of each dowel bar assembly, the subgrade or subbase shall be reshaped and re-tamped when necessary.

Prior to placing concrete, any deviation of the dowel bars from the correct horizontal or vertical alignment (horizontal skew or vertical tilt) greater than 3/8 in. in 12 in (9 mm in 300 mm) shall be corrected and a light coating of oil shall be uniformly applied to all dowel bars.

Care shall be exercised in depositing the concrete at the dowel bar assemblies so the horizontal and vertical alignment will be retained.

- b. Dowel Bar Insertion. The dowel bars may be placed in the pavement slab with a mechanical dowel bar inserter (DBI) attached to a formless paver for pavements ≥ 7.0 in. (175 mm) in thickness. A light coating of oil shall be uniformly applied to all dowel bars.

The DBI shall insert the dowel bars with vibration into the plastic concrete after the concrete has been struck off and consolidated without deformation of the slab. After the bars have been inserted, the concrete shall be refinished and no voids shall exist around the dowel bars. The forward movement of the paver shall not be interrupted by the inserting of the dowel bars.

The location of each row of dowel bars shall be marked in a manner to facilitate where to insert the bars, and where to saw the transverse joint.

1. Placement Tolerances for Dowel Bars. The DBI shall place the dowel bars in the concrete pavement within the following tolerances.

- (a.) Longitudinal Translation (Mislocation). Longitudinal translation (mislocation) shall be defined as the position of the center of the dowel bar along the longitudinal axis, in relation to the sawed joint.

The quality control tolerance for longitudinal translation shall not exceed 2.0 in (50 mm). If this tolerance is exceeded, adjustments shall be made to the paving operation.

Any joint having two or more dowel bars with an embedment length less than 4.0 in. (100 mm) within 12 in. (300 mm) of the same wheelpath will be considered unacceptable. The left and right wheelpaths shall be determined by excluding the middle 2.5 ft (0.8 m) of the pavement lane, and by excluding the outer 1.0 ft (0.3 m) measured from each pavement lane edge. Any joint having an average dowel bar embedment length less than 5.25 in. (130 mm) will also be considered unacceptable. Embedment length shall be defined as the length of dowel bar embedded on the short side of the sawed joint. An unacceptable joint shall be replaced with a minimum of 6 ft (1.8 m) of pavement centered over the joint according to Section 442 for Class B patches.

(b.) Horizontal Translation (Mislocation). Horizontal translation (mislocation) shall be defined as the difference in the actual dowel bar location parallel to the longitudinal or edge joint from its theoretical position as shown on the plans.

The quality control tolerance for horizontal translation shall not exceed 2.0 in. (50 mm). If this tolerance is exceeded, adjustments shall be made to the paving operation.

Any joint having a dowel bar with a translation greater than 4.0 in. (100 mm) will be considered unacceptable, but may remain in place unless the Engineer determines the joint will not function. If the joint is unable to remain in place, the joint shall be replaced with a minimum of 6 ft (1.8 m) of pavement centered over the joint according to Section 442 for Class B patches.

(c.) Vertical Translation (Mislocation). Vertical translation (mislocation) shall be defined as the difference in the vertical position of the dowel bar relative to the theoretical midpoint of the slab.

The quality control tolerance for vertical translation shall be as shown in the following table. If these tolerances are exceeded, adjustments shall be made to the paving operation.

Pavement Thickness	Dowel Bar Diameter	Vertical Translation Tolerance Above Midpoint	Vertical Translation Tolerance Below Midpoint
≥7 in. to <8 in. (≥175 mm to <200 mm)	1.25 in. (31 mm)	0.25 in. (6 mm)	0.5 in. (13 mm)
≥8 in. to <9 in. (≥200 mm to <225 mm)	1.50 in. (38 mm)	0.25 in. (6 mm)	0.5 in. (13 mm)
≥9 in. to <10 in. (≥225 mm to <250 mm)	1.50 in. (38 mm)	0.75 in. (19 mm)	0.75 in. (19 mm)
≥10 in. (≥250 mm)	1.50 in. (38 mm)	0.75 in. (19 mm)	1.0 in. (25 mm)

Any joint having a dowel bar with top concrete cover less than T/3, where T is slab thickness, will be considered unacceptable. Any joint having 2 or more dowel bars with bottom concrete cover less than 2.0 in. (50 mm) will also be considered unacceptable. An unacceptable joint shall be replaced with a minimum of 6 ft (1.8 m) of pavement according to Section 442 for Class B patches.

(d.) Vertical Tilt or Horizontal Skew (Misalignment). Vertical tilt or horizontal skew (misalignment) shall be defined as the difference in position of the dowel bar ends with respect to each other. Vertical tilt is measured in the vertical axis whereas horizontal skew is measured in the horizontal axis. Misalignment shall be measured in terms of a joint score. The joint score shall be defined as the degree of misalignment evaluated for a single transverse joint for each lane of pavement. The joint score shall be determined as follows:

$$Joint\ Score = \left(1 + \left(\frac{x}{x-n} \right) \sum_{i=1}^{x-n} W_i \right)$$

where:

W_i = weighting factor (Table 1) for dowel i

x = number of dowels in a single joint

n = number of dowels excluded from the joint score calculation due to measurement interference

Single Dowel Misalignment – The degree of misalignment applicable to a single dowel bar, calculated as:

$$Single\ Dowel\ Misalignment = \sqrt{(Horizontal\ Skew)^2 + (Vertical\ Tilt)^2}$$

Table 1. Weighting Factors in Joint Score Determination	
Single Dowel Bar Misalignment (SDM)	W, Weighting Factor
SDM ≤ 0.6 in. (15 mm)	0
0.6 in. (15 mm) < SDM ≤ 0.8 in. (20 mm)	2
0.8 in. (20 mm) < SDM ≤ 1 in. (25 mm)	4
1 in. (25 mm) < SDM ≤ 1.5 in. (38 mm)	5
1.5 in. (38 mm) < SDM	10

The quality control tolerance for vertical tilt or horizontal skew shall not exceed 0.6 in. (15 mm). If the tolerance is exceeded for either one, adjustments shall be made to the paving operation.

Any joint having a dowel bar with a vertical tilt or horizontal skew greater than 1.5 in. (38 mm) shall be cut. If more than one dowel bar is required to be cut in the joint, the joint will be considered unacceptable and shall be replaced with a minimum of 6 ft (1.8 m) of pavement centered over the joint according to Section 442 for Class B patches.

Single dowel bar misalignment shall be controlled to provide the joint scores shown in the following table.

Number of Dowel Bars in the Joint	Maximum Joint Score
< 5	4
≥ 5 but ≤ 9	8
> 9	12

A joint score greater than the specified maximum will be considered locked. Three consecutive joints with a score greater than the specified maximum total score will all be considered unacceptable.

Three consecutive locked joints shall be corrected by selecting one joint and cutting a dowel bar. Preference shall be given to cutting a dowel bar within the middle 2.5 ft (0.8 m) of the pavement lane to avoid the wheelpaths. If none of the three locked joints will have a joint score less than or equal to the specified maximum after selecting one dowel bar to cut, one of the joints shall be replaced with a minimum of 6 ft (1.8 m) of pavement centered over the joint according to Section 442 for Class B patches.

(e.) For unacceptable work, the Contractor may propose alternative repairs for consideration by the Engineer.

2. Testing of Dowel Bar Placement. The placement of the dowel bars shall be tested within 24 hours of paving with a calibrated MIT Scan-2 device according to "Use of Magnetic Tomography Technology to Evaluate Dowel Placement" (Publication No. FHWA-IF-06-006) by the Federal Highway Administration.

A trained operator shall perform the testing, and all testing shall be performed in the presence of the Engineer. The device shall be calibrated to the type and size dowel bar used in the work according to the manufacturer's instructions. Calibration documentation shall be provided to the Engineer prior to construction. The device shall be recalibrated and/or validate readings as required by the Engineer. The device may be utilized as a process control and make necessary adjustments to ensure the dowel bars are placed in the correct location.

(a.) Test Section. Prior to start of production paving, a test section consisting of 30 transverse joints shall be constructed. The test section may be performed on the actual pavement, but production paving shall not begin until an acceptable test section has been constructed. The test section will be considered acceptable when all of the following are met:

- (1.) 90 percent of the dowel bars meet the quality control tolerance for longitudinal, horizontal, or vertical translation (mislocation);
- (2.) 90 percent of the dowel bars meet the quality control tolerance for vertical tilt or horizontal skew deviation (misalignment); and
- (3.) none of the joints are considered unacceptable prior to a corrective measure for mislocation or misalignment.

If the test section fails, another test section consisting of 30 joints shall be constructed.

The test section requirement may be waived by the Engineer if the Contractor has constructed an acceptable test section and successfully used the DBI on a Department contract within the same calendar year.

(b.) Production Paving. After the test section is approved, production paving may begin. The mislocation and misalignment of each dowel bar for the first ten joints constructed, and every tenth joint thereafter, shall be tested.

If two consecutive days of paving result in 5 percent or more of the joints on each day being unacceptable prior to a corrective measure, production paving shall be discontinued and a new test section shall be constructed.

If any joint is found to be unacceptable prior to a corrective measure, testing of additional joints on each side of the unacceptable joint shall be performed until acceptable joints are found.

(c.) Test Report. Test reports shall be provided to the Engineer within two working days of completing each day's testing. The test report shall include the following.

- (1.) Contract number, placement date, county-route-section, direction of traffic, scan date, Contractor, and name of individual performing the tests.
- (2.) Provide the standard report generated from the on-board printer of the imaging technology used for every dowel and joint measured.

- (3.) For every dowel measured, provide the joint identification number, lane number and station, dowel bar number or x-location, direction of testing and reference joint location/edge location, longitudinal translation, horizontal translation, vertical translation, vertical tilt, and horizontal skew.
 - (4.) Identify each dowel bar with a maximum longitudinal, horizontal, or vertical translation that has been exceeded. Identify each dowel bar with a maximum vertical tilt or horizontal skew deviation that has been exceeded.
 - (5.) Joint Score Details: Provide the joint identification number, lane number, station, and calculated joint score for each joint.
 - (6.) Locked Joint Identification: Identify each joint where the maximum joint score is exceeded.
- (d.) Exclusions. Exclude the following from dowel bar mislocation and misalignment measurements.
- (1.) Transverse construction joints (headers).
 - (2.) Dowel bars within 24 in. (610 mm) of metallic manholes, inlets, metallic castings, or other nearby or underlying steel reinforced objects.
 - (3.) The outside dowel bar when tie bars are installed with mechanical equipment in fresh concrete. For tie bar installations involving preformed or drilled holes, installation of the tie bar shall be performed after testing with the MIT Scan-2 device.
 - (4.) Joints located directly under high voltage power lines.
 - (5.) Subject to the approval of the Engineer, any other contributors to magnetic interference.
- (e.) Deficiency Deduction. When the Contractor has cut 25 dowel bars to correct unacceptable joints, the Contractor shall be liable and shall pay to the Department a deficiency deduction of \$500.00 for the cost of the bars. Thereafter, an additional deficiency deduction of \$20.00 for each additional bar cut will be assessed.”

Add the following to Section 1103 of the Standard Specifications.

“1103.20 Mechanical Dowel Bar Inserter. The mechanical dowel bar inserter (DBI) shall be self-contained and supported on the formless paver with the ability to move separately from the paver. The DBI shall be equipped with insertion forks along with any other devices necessary for finishing the concrete the full width of the pavement. The insertion forks shall have the ability to vibrate at a minimum frequency of 3000 VPM.”

EQUIPMENT PARKING AND STORAGE (BDE)

Effective: November 1, 2017

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

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

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

GROOVING FOR RECESSED PAVEMENT MARKINGS (BDE)

Effective: November 1, 2012

Revised: November 1, 2017

Description. This work shall consist of grooving the pavement surface in preparation for the application of recessed pavement markings.

Equipment. Equipment shall be according to the following.

- (a) **Preformed Plastic Pavement Marking Installations.** The grooving equipment shall have a free-floating saw blade cutting head equipped with gang-stacked diamond saw blades. The diamond saw blades shall be of uniform wear and shall produce a smooth textured surface. Any ridges in the groove shall have a maximum height of 15 mils (0.38 mm).
- (b) **Liquid and Thermoplastic Pavement Marking Installations.** The grooving equipment shall be equipped with either a free-floating saw blade cutting head or a free-floating grinder cutting head configuration with diamond or carbide tipped cutters and shall produce an irregular textured surface.

CONSTRUCTION REQUIREMENTS

General. The Contractor shall supply the Engineer with a copy of the pavement marking material manufacturer's recommendations for constructing a groove.

Pavement Grooving Methods. The grooves for recessed pavement markings shall be constructed using the following methods.

- (a) **Wet Cutting Head Operation.** When water is required or used to cool the cutting head, the groove shall be flushed with high pressure water immediately following the cut to avoid build up and hardening of slurry in the groove. The pavement surface shall be allowed to dry for a minimum of 24 hours prior to the final cleaning of the groove and application of the pavement marking material.
- (b) **Dry Cutting Head Operation.** When used on HMA pavements, the groove shall be vacuumed or cleaned by blasting with high-pressure air to remove loose aggregate, debris, and dust generated during the cutting operation. When used on PCC pavements, the groove shall be flushed with high pressure water or shot blasted to remove any PCC particles that may have become destabilized during the grooving process. If high pressure water is used, the pavement surface shall be allowed to dry for a minimum of 24 hours prior to the final cleaning of the groove and application of the pavement marking material.

Pavement Grooving. Grooving shall not cause ravels, aggregate fractures, spalling or disturbance of the joints to the underlying surface of the pavement. Grooves shall be cut into the pavement prior to the application of the pavement marking material. Grooves shall be cut such that the width is 1 in. (25 mm) greater than the width of the pavement marking line as specified on the plans. Grooves for letters and symbols shall be cut in a square or rectangular shape so that the entire marking will fit within the limits of the grooved area. The position of the edge of the grooves shall be a minimum of 2 in. (50 mm) from the edge of all longitudinal joints. The depth of the groove shall not be less than the manufacturer's recommendations for the pavement marking material specified, but shall be installed to a minimum depth of 110 mils (2.79 mm) and a maximum depth of 200 mils (5.08 mm) for pavement marking tapes thermoplastic markings and a minimum depth of 40 mils (1.02 mm) and a maximum depth of 80 mils (2.03 mm) for liquid markings. The cutting head shall be operated at the appropriate speed in order to prevent undulation of the cutting head and grooving at an inconsistent depth.

At the start of grooving operations, a 50 ft (16.7 m) test section shall be installed and depth measurements shall be made at 10 ft (3.3 m) intervals within the test section. The individual depth measurements shall be within the allowable ranges according to this Article. If it is determined the test section has not been grooved at the appropriate depth or texture, adjustments shall be made to the cutting head and another 50 ft (16.7 m) test section shall be installed and checked. This process shall continue until the test section meets the requirements of this Article.

For new HMA pavements, grooves shall not be installed within 10 days of the placement of the final course of pavement.

Final Cleaning. Immediately prior to the application of the pavement marking material or primer sealer, the groove shall be cleaned with high-pressure air blast.

Method of Measurement. This work will be measured for payment in place, in feet (meter) for the groove width specified.

Grooving for letter, numbers and symbols will be measured in square feet (square meters).

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for GROOVING FOR RECESSED PAVEMENT MARKING of the groove width specified, and per square foot (square meter) for GROOVING FOR RECESSED PAVEMENT MARKING, LETTERS AND SYMBOLS.

The following shall only apply when preformed plastic pavement markings are to be recessed:

Add the following paragraph after the first paragraph of Article 780.07 of the Standard Specifications.

“The markings shall be capable of being applied in a grooved slot on new and existing portland cement concrete and HMA surfaces, by means of a pressure-sensitive, precoated adhesive, or liquid contact cement which shall be applied at the time of installation. A primer sealer shall be applied with a roller and shall cover and seal the entire bottom of the groove. The primer sealer shall be recommended by the manufacturer of the pavement marking material and shall be compatible with the material being used. The Contractor shall install the markings in the groove as soon as possible after the primer sealer cures according to the manufacturer’s recommendations. The markings placed in the groove shall be rolled and tamped into the groove with a roller or tamper cart cut to fit the groove and loaded with or weighing at least 200 lb (90kg). Vehicle tires shall not be used for tamping. The Contractor shall roll and tamp the material with a minimum of 6 passes to prevent easy removal or peeling.”

HOT-MIX ASPHALT - DENSITY TESTING OF LONGITUDINAL JOINTS (BDE)

Effective: January 1, 2010

Revised: April 1, 2016

Description. This work shall consist of testing the density of longitudinal joints as part of the quality control/quality assurance (QC/QA) of hot-mix asphalt (HMA). Work shall be according to Section 1030 of the Standard Specifications except as follows.

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

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

“Longitudinal joint density testing shall be performed at each random density test location. Longitudinal joint testing shall be located at a distance equal to the lift thickness or a minimum of 4 in. (100 mm), from each pavement edge. (i.e. for a 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.”

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

"Mixture Composition	Parameter	Individual Test (includes confined edges)	Unconfined Edge Joint Density Minimum
IL-4.75	Ndesign = 50	93.0 – 97.4% ^{1/}	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 = 50 & 80	93.5 – 97.4%	91.0%”

HOT-MIX ASPHALT – TACK COAT (BDE)

Effective: November 1, 2016

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

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

LIGHTS ON BARRICADES (BDE)

Effective: January 1, 2018

Revise Article 701.16 of the Standard Specifications to read:

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

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

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

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

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

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

MANHOLES, VALVE VAULTS, AND FLAT SLAB TOPS (BDE)

Effective: January 1, 2018

Revised: March 2, 2018

Description. Manholes, valve vaults, and flat slab tops manufactured according to the current or previous Highway Standards listed below will be accepted on this contract:

<u>Product</u>	<u>Current Standard</u>	<u>Previous Standard</u>
Precast Manhole Type A, 4' (1.22 m) Diameter	602401-04	602401-03
Precast Manhole Type A, 5' (1.52 m) Diameter	602402	602401-03
Precast Manhole Type A, 6' (1.83 m) Diameter	602406-08	602406-07
Precast Manhole Type A, 7' (2.13 m) Diameter	602411-06	602411-05
Precast Manhole Type A, 8' (2.44 m) Diameter	602416-06	602416-05
Precast Manhole Type A, 9' (2.74 m) Diameter	602421-06	602421-05
Precast Manhole Type A, 10' (3.05 m) Diameter	602426	n/a
Precast Valve Vault Type A, 4' (1.22 m) Diameter	602501-03	602501-02
Precast Valve Vault Type A, 5' (1.52 m) Diameter	602506	602501-02
Precast Reinforced Concrete Flat Slab Top	602601-05	602601-04

When manufacturing to the current standards, the following revisions to the Standard Specifications shall apply:

Revise Article 602.02(g) of the Standard Specifications to read:

“(g) Structural Steel (Note 4)..... 1006.04

Note 4. All components of the manhole joint splice shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable.”

Add the following to Article 602.02 of the Standard Specifications:

“(s) Anchor Bolts and Rods (Note 5) 1006.09

Note 5. The threaded rods for the manhole joint splice shall be according to the requirements of ASTM F 1554, Grade 55, (Grade 380).”

Add the following paragraph after the first paragraph of Article 602.07 of the Standard Specifications:

“Threaded rods connecting precast sections shall be brought to a snug tight condition.”

Revise the second paragraph of Article 1042.10 of the Standard Specifications to read:

“Catch basin Types A, B, C, and D; Manhole Type A; Inlet Types A and B; Drainage Structures Types 1, 2, 3, 4, 5, and 6; Valve Vault Type A; and reinforced concrete flat slab top (Highway Standard 602601) shall be according to AASHTO M 199 (M 199M), except the minimum wall thickness shall be 3 in. (75 mm). Additionally, catch basins, inlets, and drainage structures shall have a minimum concrete compressive strength of 4500 psi (31,000 kPa) at 28 days and manholes, valve vaults, and reinforced concrete flat slab tops shall have a minimum concrete compressive strength of 5000 psi (34,500 kPa) at 28 days.”

METAL FLARED END SECTION FOR PIPE CULVERTS (BDE)

Effective: January 1, 2018

Revised: April 1, 2018

Revise the first sentence of Article 542.07(c) of the Standard Specifications to read:

“(c) Metal Flared End Sections. Metal flared end sections shall be fabricated of aluminum or steel, and all component parts shall be of the same material.”

Revise the eighth and ninth paragraph of Article 542.11 of the Standard Specifications to read:

“When specified on the plans, steel end sections and aluminum end sections will be paid for at the contract unit price per each for STEEL FLARED END SECTIONS and ALUMINUM FLARED END SECTIONS, respectively, of the diameter or equivalent round size specified.

End sections for polyvinylchloride (PVC) and polyethylene (PE) culvert pipes will be paid for at the contract unit price per each for METAL FLARED END SECTIONS, of the diameter or equivalent round size specified.”

PAVEMENT MARKING REMOVAL (BDE)

Effective: July 1, 2016

Revise Article 783.02 of the Standard Specifications to read:

“783.02 Equipment. Equipment shall be according to the following.

Item	Article/Section
(a) Grinders (Note 1)	
(b) Water Blaster with Vacuum Recovery	1101.12

Note 1. Grinding equipment shall be approved by the Engineer.”

Revise the first paragraph of Article 783.03 of the Standard Specifications to read:

“783.03 Removal of Conflicting Markings. Existing pavement markings that conflict with revised traffic patterns shall be removed. If darkness or inclement weather prohibits the removal operations, such operations shall be resumed the next morning or when weather permits. In the event of removal equipment failure, such equipment shall be repaired, replaced, or leased so removal operations can be resumed within 24 hours.”

Revise the first and second sentences of the first paragraph of Article 783.03(a) of the Standard Specifications to read:

“The existing pavement markings shall be removed by the method specified and in a manner that does not materially damage the surface or texture of the pavement or surfacing. Small particles of tightly adhering existing markings may remain in place, if in the opinion of the Engineer, complete removal of the small particles will result in pavement surface damage.”

Revise the first paragraph of Article 783.04 of the Standard Specifications to read:

“783.04 Cleaning. The roadway surface shall be cleaned of debris or any other deleterious material by the use of compressed air or water blast.”

Revise the first paragraph of Article 783.06 of the Standard Specifications to read:

“783.06 Basis of Payment. This work will be paid for at the contract unit price per each for RAISED REFLECTIVE PAVEMENT MARKER REMOVAL, or at the contract unit price per square foot (square meter) for PAVEMENT MARKING REMOVAL – GRINDING and/or PAVEMENT MARKING REMOVAL – WATER BLASTING.”

Delete Article 1101.13 from the Standard Specifications.

PAYMENTS TO SUBCONTRACTORS (BDE)

Effective: November 2, 2017

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

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

PORTABLE CHANGEABLE MESSAGE SIGNS (BDE)

Effective: November 1, 2016

Revised: April 1, 2017

Revise the second paragraph of Article 701.20(h) of the Standard Specifications to read:

“For all other portable changeable message signs, this work will be paid for at the contract unit price per calendar day for each sign as CHANGEABLE MESSAGE SIGN.”

Revise this second sentence of the first paragraph of Article 1106.02(i) of the Standard Specifications to read:

“The message panel shall be a minimum of 7 ft (2.1 m) above the edge of pavement in urban areas and a minimum of 5 ft (1.5 m) above the edge of pavement in rural areas, present a level appearance, and be capable of displaying up to eight characters in each of three lines at a time.”

PORTLAND CEMENT CONCRETE (BDE)

Effective: November 1, 2017

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

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

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

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

PORTLAND CEMENT CONCRETE SIDEWALK (BDE)

Effective: August 1, 2017

Revise the first paragraph of Article 424.12 of the Standard Specifications to read:

“**424.12 Method of Measurement.** This work will be measured for payment in place and the area computed in square feet (square meters). Curb ramps, including side curbs and side flares, will be measured for payment as sidewalk. No deduction will be made for detectable warnings located within the ramp.”

PROGRESS PAYMENTS (BDE)

Effective: November 2, 2013

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

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

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

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

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

RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES (BDE)

Effective: November 1, 2012

Revise: January 1, 2018

Revise Section 1031 of the Standard Specifications to read:

“SECTION 1031. RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES

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

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

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

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

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

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

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

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

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

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

Unless otherwise specified by the Engineer, mechanically blending manufactured sand (FM 20 or FM 22) up to an equal weight of RAS with the processed RAS will be permitted to improve workability. The sand shall be "B Quality" or better from an approved Aggregate Gradation Control System source. The sand shall be accounted for in the mix design and during HMA production.

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

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

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

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

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

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

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

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

Before testing, each sample shall be split to obtain two test samples. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall perform a washed extraction and test for unacceptable materials on the other test sample according to Department procedures. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

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

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

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

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

1/ The tolerance for FRAP shall be $\pm 0.3 \%$.

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

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

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

Parameter	RAS
No. 8 (2.36 mm)	± 5 %
No. 16 (1.18 mm)	± 5 %
No. 30 (600 µm)	± 4 %
No. 200 (75 µm)	± 2.0 %
Asphalt Binder Content	± 1.5 %

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

1031.05 Quality Designation of Aggregate in RAP/FRAP.

- (a) RAP. The aggregate quality of the RAP for homogeneous and conglomerate stockpiles shall be set by the lowest quality of coarse aggregate in the RAP stockpile and are designated as follows.
- (1) RAP from Class I, Superpave/HMA (High ESAL), or (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.
 - (2) RAP from Class I binder, Superpave/HMA (High ESAL) binder, or (Low ESAL) IL-19.0L binder mixtures are designated as containing Class C quality coarse aggregate.

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

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

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

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

- (1) Coarse Aggregate Size. The coarse aggregate in all RAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.
- (2) Steel Slag Stockpiles. Homogeneous RAP stockpiles containing steel slag will be approved for use in all HMA (High ESAL and Low ESAL) Surface and Binder Mixture applications.
- (3) Use in HMA Surface Mixtures (High and Low ESAL). RAP/FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall be FRAP or homogeneous in which the coarse aggregate is Class B quality or better. FRAP from Conglomerate stockpiles shall be considered equivalent to limestone for frictional considerations. Known frictional contributions from plus #4 (4.75 mm) homogeneous FRAP stockpiles will be accounted for in meeting frictional requirements in the specified mixture.
- (4) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. RAP/FRAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be FRAP, homogeneous, or conglomerate, in which the coarse aggregate is Class C quality or better.
- (5) Use in Shoulders and Subbase. RAP/FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, homogeneous, or conglomerate.
- (6) When the Contractor chooses the RAP option, the percentage of RAP shall not exceed the amounts indicated in Article 1031.06(c)(1) below for a given Ndesign.

- (b) RAS. RAS meeting Type 1 or Type 2 requirements will be permitted in all HMA applications as specified herein.
- (c) RAP/FRAP and/or RAS Usage Limits. Type 1 or Type 2 RAS may be used alone or in conjunction with RAP or FRAP in HMA mixtures up to a maximum of 5.0 percent by weight of the total mix.
 - (1) RAP/RAS. When RAP is used alone or RAP is used in conjunction with RAS, the percentage of virgin asphalt binder replacement shall not exceed the amounts listed in the Max RAP/RAS ABR table listed below for the given Ndesign.

RAP/RAS Maximum Asphalt Binder Replacement (ABR) Percentage

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

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

- (2) FRAP/RAS. When FRAP is used alone or FRAP is used in conjunction with RAS, the percentage of virgin asphalt binder replacement shall not exceed the amounts listed in the FRAP/RAS table listed below for the given Ndesign.

FRAP/RAS Maximum Asphalt Binder Replacement (ABR) Percentage

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

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

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

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

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

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

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

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

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

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

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

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

(1) Dryer Drum Plants.

- a. Date, month, year, and time to the nearest minute for each print.
- b. HMA mix number assigned by the Department.
- c. Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- d. Accumulated dry weight of RAP/FRAP/RAS in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- e. Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.

- f. Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.
 - g. Residual asphalt binder in the RAP/FRAP material as a percent of the total mix to the nearest 0.1 percent.
 - h. Aggregate and RAP/FRAP moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAP/FRAP are printed in wet condition.)
- (2) Batch Plants.
- a. Date, month, year, and time to the nearest minute for each print.
 - b. HMA mix number assigned by the Department.
 - c. Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).
 - d. Mineral filler weight to the nearest pound (kilogram).
 - e. RAP/FRAP/RAS weight to the nearest pound (kilogram).
 - f. Virgin asphalt binder weight to the nearest pound (kilogram).
 - g. Residual asphalt binder in the RAP/FRAP/RAS material as a percent of the total mix to the nearest 0.1 percent.

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

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

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

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

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

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

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

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

TEMPORARY PAVEMENT MARKING (BDE)

Effective: April 1, 2012

Revised: April 1, 2017

Revise Article 703.02 of the Standard Specifications to read:

“703.02 Materials. Materials shall be according to the following.

- (a) Pavement Marking Tape, Type I and Type III 1095.06
- (b) Paint Pavement Markings 1095.02
- (c) Pavement Marking Tape, Type IV 1095.11”

Revise the second paragraph of Article 703.05 of the Standard Specifications to read:

“Type I marking tape or paint shall be used at the option of the Contractor, except paint shall not be applied to the final wearing surface unless authorized by the Engineer for late season applications where tape adhesion would be a problem. Type III or Type IV marking tape shall be used on the final wearing surface when the temporary pavement marking will conflict with the permanent pavement marking such as on tapers, crossovers and lane shifts.”

Revise Article 703.07 of the Standard Specifications to read:

“703.07 Basis of Payment. This work will be paid for as follows.

- a) Short Term Pavement Marking. Short term pavement marking will be paid for at the contract unit price per foot (meter) for SHORT TERM PAVEMENT MARKING. Removal of short term pavement markings will be paid for at the contract unit price per square foot (square meter) for SHORT TERM PAVEMENT MARKING REMOVAL.
- b) Temporary Pavement Marking. Where the Contractor has the option of material type, temporary pavement marking will be paid for at the contract unit price per foot (meter) for TEMPORARY PAVEMENT MARKING of the line width specified, and at the contract unit price per square foot (square meter) for TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS.

Where the Department specifies the use of pavement marking tape, the Type III or Type IV temporary pavement marking will be paid for at the contract unit price per foot (meter) for PAVEMENT MARKING TAPE, TYPE III or PAVEMENT MARKING TAPE, TYPE IV of the line width specified and at the contract unit price per square feet (square meter) for PAVEMENT MARKING TAPE, TYPE III - LETTERS AND SYMBOLS or PAVEMENT MARKING TAPE, TYPE IV – LETTERS AND SYMBOLS.

Removal of temporary pavement markings will be paid for at the contract unit price per square foot (square meter) for TEMPORARY PAVEMENT MARKING REMOVAL.

When temporary pavement marking is shown on the Standard, the cost of the temporary pavement marking and its removal will be included in the cost of the Standard.”

Add the following to Section 1095 of the Standard Specifications:

“1095.11 Pavement Marking Tape, Type IV. The temporary, preformed, patterned markings shall consist of a white or yellow tape with wet retroreflective media incorporated to provide immediate and continuing retroreflection during both wet and dry conditions. The tape shall be manufactured without the use of heavy metals including lead chromate pigments or other similar, lead-containing chemicals.

The white and yellow Type IV marking tape shall meet the Type III requirements of Article 1095.06 and the following.

- (a) Composition. The retroreflective pliant polymer pavement markings shall consist of a mixture of high-quality polymeric materials, pigments and glass beads distributed throughout its base cross-sectional area, with a layer of wet retroreflective media bonded to a durable polyurethane topcoat surface. The patterned surface shall have approximately 40% ± 10% of the surface area raised and presenting a near vertical face to traffic from any direction. The channels between the raised areas shall be substantially free of exposed beads or particles.
- (b) Retroreflectance. The white and yellow markings shall meet the following for initial dry and wet retroreflectance.
 - (1) Dry Retroreflectance. Dry retroreflectance shall be measured under dry conditions according to ASTM D 4061 and meet the values described in Article 1095.06 for Type III tape.
 - (2) Wet Retroreflectance. Wet retroreflectance shall be measured under wet conditions according to ASTM E 2177 and meet the values shown in the following table.

Wet Retroreflectance, Initial R_L

Color	R _L 1.05/88.76
White	300
Yellow	200

- (c) Color. The material shall meet the following requirements for daylight reflectance and color, when tested, using a color spectrophotometer with 45 degrees circumferential/zero degree geometry, illuminant D65, and a two degree observer angle. The color instrument shall measure the visible spectrum from 380 to 720 nm with a wavelength measurement interval and spectral bandpass of 10 nm.

Color	Daylight Reflectance %Y
White	65 minimum
*Yellow	36-59

*Shall match Federal 595 Color No. 33538 and the chromaticity limits as follows.

x	0.490	0.475	0.485	0.530
y	0.470	0.438	0.425	0.456

- (d) Skid Resistance. The surface of the markings shall provide an average minimum skid resistance of 50 BPN when tested according to ASTM E 303.
- (e) Sampling, Testing, Acceptance, and Certification. Prior to approval and use of the wet reflective, temporary, removable pavement marking tape, the manufacturer shall submit a notarized certification from an independent laboratory, together with the results of all tests, stating that the material meets the requirements as set forth herein. The certification test report shall state the lot tested, manufacturer's name, and date of manufacture.

After approval by the Department, samples and certification by the manufacturer shall be submitted for each batch used. The manufacturer shall submit a certification stating that the material meets the requirements as set forth herein and is essentially identical to the material sent for qualification. The certification shall state the lot tested, manufacturer's name, and date of manufacture.

All costs of testing (other than tests conducted by the Department) shall be borne by the manufacturer."

TRAVERSABLE PIPE GRATE FOR CONCRETE END SECTIONS (BDE)

Effective: January 1, 2013

Revised: January 1, 2018

Description. This work shall consist of constructing a traversable pipe grate on a concrete end section.

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

Item	Article/Section
(a) Traversable Pipe Grate Components (Note 1)	
(b) Chemical Adhesive Resin System	1027
(c) High Strength Steel Bolts, Nuts, and Washers (Note 2)	1006.08

Note 1. All steel pipe shall be according to ASTM A 53 (Type E or S), Grade B, or ASTM A 500 Grade B, standard weight (SCH. 40). Structural steel shapes and plates shall be according to AASHTO M270 Grade 50 (M 270M Grade 345) and the requirements of Article 1006.04 of the Standard Specifications. All steel components of the grating system shall be galvanized according to AASHTO M 111 or ASTM F 2329 as applicable.

Anchor rods shall be according to ASTM F 1554, Grade 36 (Grade 250).

Note 2. Threaded rods conforming to the requirements of ASTM F 1554, Grade 105 (Grade 725) may be used for the thru bolts.

CONSTRUCTION REQUIREMENTS

Fabrication of the traversable pipe grate shall be according to the requirements of Section 505 of the Standard Specifications and as shown on the plans.

Anchor rods shall be set according to Article 509.06 of the Standard Specifications. Bolts and anchor rods shall be snug tightened by a few impacts of an impact wrench or the full force of a worker using an ordinary spud wrench. Thru bolts shall be snug tightened and shall be brought to a snug tight condition followed by an additional 2/3 turn on one of the nuts. Match marks shall be provided on the bolt and nut to verify relative rotation between the bolt and the nut.

Splicing of pipes shall be made by utilizing full penetration butt welds according to Article 505.04(q) of the Standard Specifications. In lieu of welding, bolted or sleeve type splices may be utilized, provided the splices are located over intermediate supports with no more than one splice per pipe run with the exception that no splice may occur in pipe runs under 30 ft (9 m) in length.

Method of Measurement. This work will be measured for payment in place in feet (meters). The length measured shall be along the pipe grate elements from end to end for both longitudinal and intermediate support pipes.

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for TRAVERSABLE PIPE GRATE FOR CONCRETE END SECTION.

WARM MIX ASPHALT (BDE)

Effective: January 1, 2012

Revised: April 1, 2016

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

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

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

Equipment.

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

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

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

“(11) Equipment for Warm Mix Technologies.

- a. Foaming. Metering equipment for foamed asphalt shall have an accuracy of ± 2 percent of the actual water metered. The foaming control system shall be electronically interfaced with the asphalt binder meter.
- b. Additives. Additives shall be introduced into the plant according to the supplier’s recommendations and shall be approved by the Engineer. The system for introducing the WMA additive shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes.”

Mix Design Verification.

Add the following to Article 1030.04 of the Standard Specifications.

“(e) Warm Mix Technologies.

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

Construction Requirements.

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

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

Basis of Payment.

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

WEEKLY DBE TRUCKING REPORTS (BDE)

Effective: June 2, 2012

Revised: April 2, 2015

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

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

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

WORKING DAYS (BDE)

Effective: January 1, 2002

The Contractor shall complete the work within 225 working days.

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.

FUEL COST ADJUSTMENT (BDE)

Effective: April 1, 2009

Revised: August 1, 2017

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

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

(a) Categories of Work.

- (1) Category A: Earthwork. Contract pay items performed under Sections 202, 204, and 206 including any modified standard or nonstandard items where the character of the work to be performed is considered earthwork. The cumulative total of all applicable item plan quantities shall exceed 25,000 cu yd (20,000 cu m). Included in the fuel usage factor is a weighted average 0.10 gal/cu yd (0.50 liters/cu m) factor for trucking.
- (2) Category B: Subbases and Aggregate Base Courses. Contract pay items constructed under Sections 311, 312 and 351 including any modified standard or nonstandard items where the character of the work to be performed is considered construction of a subbase or aggregate, stabilized or modified base course. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is a 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.

- (3) Category C: Hot-Mix Asphalt (HMA) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 355, 406, 407 and 482 including any modified standard or nonstandard items where the character of the work to be performed is considered HMA bases, pavements and shoulders. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.
- (4) Category D: Portland Cement Concrete (PCC) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 353, 420, 421 and 483 including any modified standard or nonstandard items where the character of the work to be performed is considered PCC base, pavement or shoulder. The cumulative total of all applicable item plan quantities shall exceed 7500 sq yd (6000 sq m). Included in the fuel usage factor is 1.20 gal/cu yd (5.94 liters/cu m) factor for trucking.
- (5) Category E: Structures. Structure items having a cumulative bid price that exceeds \$250,000 for pay items constructed under Sections 502, 503, 504, 505, 512, 516 and 540 including any modified standard or nonstandard items where the character of the work to be performed is considered structure work when similar to that performed under these sections and not included in categories A through D.

(b) Fuel Usage Factors.

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

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

(c) Quantity Conversion Factors.

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

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

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

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

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

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

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

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

STEEL COST ADJUSTMENT (BDE)

Effective: April 2, 2004

Revised: August 1, 2017

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

Types of Steel Products. An adjustment will be made for fluctuations in the cost of steel used in the manufacture of the following items:

- Metal Piling (excluding temporary sheet piling)
- Structural Steel
- Reinforcing Steel

Other steel materials such as dowel bars, tie bars, mesh reinforcement, guardrail, steel traffic signal and light poles, towers and mast arms, metal railings (excluding wire fence), and frames and grates will be subject to a steel cost adjustment when the pay items they are used in have a contract value of \$10,000 or greater.

The adjustments shall apply to the above items when they are part of the original proposed construction, or added as extra work and paid for by agreed unit prices. The adjustments shall not apply when the item is added as extra work and paid for at a lump sum price or by force account.

Documentation. Sufficient documentation shall be furnished to the Engineer to verify the following:

- (a) The dates and quantity of steel, in lb (kg), shipped from the mill to the fabricator.
- (b) The quantity of steel, in lb (kg), incorporated into the various items of work covered by this special provision. The Department reserves the right to verify submitted quantities.

Method of Adjustment. Steel cost adjustments will be computed as follows:

$$SCA = Q \times D$$

Where: SCA = steel cost adjustment, in dollars
Q = quantity of steel incorporated into the work, in lb (kg)
D = price factor, in dollars per lb (kg)

$$D = MPI_M - MPI_L$$

Where: MPI_M = The Materials Cost Index for steel as published by the Engineering News-Record for the month the steel is shipped from the mill. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

MPI_L = The Materials Cost Index for steel as published by the Engineering News-Record 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,. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

The unit weights (masses) of steel that will be used to calculate the steel cost adjustment for the various items are shown in the attached table.

No steel cost adjustment will be made for any products manufactured from steel having a mill shipping date prior to the letting date.

If the Contractor fails to provide the required documentation, the method of adjustment will be calculated as described above; however, the MPI_M will be based on the date the steel arrives at the job site. In this case, an adjustment will only be made when there is a decrease in steel costs.

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

$$\text{Percent Difference} = \{(MPI_L - MPI_M) \div MPI_L\} \times 100$$

Steel cost adjustments will be calculated by the Engineer and will be paid or deducted when all other contract requirements for the items of work are satisfied. Adjustments will only be made for fluctuations in the cost of the steel as described herein. No adjustment will be made for changes in the cost of manufacturing, fabrication, shipping, storage, etc.

The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

Attachment

Item	Unit Mass (Weight)
Metal Piling (excluding temporary sheet piling)	
Furnishing Metal Pile Shells 12 in. (305 mm), 0.179 in. (3.80 mm) wall thickness)	23 lb/ft (34 kg/m)
Furnishing Metal Pile Shells 12 in. (305 mm), 0.250 in. (6.35 mm) wall thickness)	32 lb/ft (48 kg/m)
Furnishing Metal Pile Shells 14 in. (356 mm), 0.250 in. (6.35 mm) wall thickness)	37 lb/ft (55 kg/m)
Other piling	See plans
Structural Steel	See plans for weights (masses)
Reinforcing Steel	See plans for weights (masses)
Dowel Bars and Tie Bars	6 lb (3 kg) each
Mesh Reinforcement	63 lb/100 sq ft (310 kg/sq m)
Guardrail	
Steel Plate Beam Guardrail, Type A w/steel posts	20 lb/ft (30 kg/m)
Steel Plate Beam Guardrail, Type B w/steel posts	30 lb/ft (45 kg/m)
Steel Plate Beam Guardrail, Types A and B w/wood posts	8 lb/ft (12 kg/m)
Steel Plate Beam Guardrail, Type 2	305 lb (140 kg) each
Steel Plate Beam Guardrail, Type 6	1260 lb (570 kg) each
Traffic Barrier Terminal, Type 1 Special (Tangent)	730 lb (330 kg) each
Traffic Barrier Terminal, Type 1 Special (Flared)	410 lb (185 kg) each
Steel Traffic Signal and Light Poles, Towers and Mast Arms	
Traffic Signal Post	11 lb/ft (16 kg/m)
Light Pole, Tenon Mount and Twin Mount, 30 - 40 ft (9 - 12 m)	14 lb/ft (21 kg/m)
Light Pole, Tenon Mount and Twin Mount, 45 - 55 ft (13.5 - 16.5 m)	21 lb/ft (31 kg/m)
Light Pole w/Mast Arm, 30 - 50 ft (9 - 15.2 m)	13 lb/ft (19 kg/m)
Light Pole w/Mast Arm, 55 - 60 ft (16.5 - 18 m)	19 lb/ft (28 kg/m)
Light Tower w/Luminaire Mount, 80 - 110 ft (24 - 33.5 m)	31 lb/ft (46 kg/m)
Light Tower w/Luminaire Mount, 120 - 140 ft (36.5 - 42.5 m)	65 lb/ft (97 kg/m)
Light Tower w/Luminaire Mount, 150 - 160 ft (45.5 - 48.5 m)	80 lb/ft (119 kg/m)
Metal Railings (excluding wire fence)	
Steel Railing, Type SM	64 lb/ft (95 kg/m)
Steel Railing, Type S-1	39 lb/ft (58 kg/m)
Steel Railing, Type T-1	53 lb/ft (79 kg/m)
Steel Bridge Rail	52 lb/ft (77 kg/m)
Frames and Grates	
Frame	250 lb (115 kg)
Lids and Grates	150 lb (70 kg)

SWPPP



Storm Water Pollution Prevention Plan



Route FAP 311	Marked Route IL 71	Section (1)R,I
Project Number C-93-017-14	County Kendall	Contract Number 66D24

This plan has been prepared to comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit No. ILR10 (Permit ILR10), issues by the Illinois Environmental Protection Agency (IEPA) for storm water discharges from construction site activities.

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

Print Name Kevin Marchek	Title Regional Engineer	Agency Illinois Dept. of Transportation
Signature <i>K. Marchek</i>	Date 2-1-18	

I. Site Description

- A. Provide a description of the project location (include latitude and longitude):
 The project is located along IL 71 from IL 47 to east of IL 126 in Yorkville. (41.62N, 88.44W)
- B. Provide a description of the construction activity which is subject of this plan:
 This is a roadway widening and reconstruction project and the work to be performed under this contract consists of earthwork, storm sewer construction, PCC pavement, CCC&G, pavement marking, shared-use path construction, construction staging, traffic signal replacement, landscaping, signing and all incidental and collateral work necessary to complete the project.
- C. Provide the estimated duration of this project:
 The project is expected to take two construction seasons.
- D. The total area of the construction site is estimated to be 44.9 acres.
 The total area of the site estimated to be disturbed by excavation, grading or other activities is 30 acres.
- E. The following is a weighted average of the runoff coefficient for this project after construction activities are completed:
 Proposed c=0.62
- F. List all soils found within project boundaries. Include map unit name, slope information and erosivity:

La Rose Silt Loam (60C2) - A moderately well drained soil with moderately low to moderately high permeability. This soil has a slight susceptibility to water and a slight susceptibility to wind erosion with slopes between 5 to 10 percent.

La Rose Clay Loam (60C3) - A moderately well drained soil with moderately low to moderately high permeability. This soil has a slight susceptibility to water and a slight susceptibility to wind erosion with slopes between 5 to 10 percent.

Saybrook Silt Loam (145B) - A moderately well drained soil with moderately low to moderately high permeability. This soil has a slight susceptibility to water and a slight susceptibility to wind erosion with slopes between 2 to 5 percent.

Mayville Silt Loam (193B) - A moderately well drained soil with moderately low to moderately high permeability. This soil has a moderate susceptibility to water and a slight susceptibility to wind erosion with slopes between 2 to 5 percent.

Strawn Silt Loam (224C2) - A moderately well drained soil with moderately low to moderately high permeability. This soil has a slight susceptibility to water and a slight susceptibility to wind erosion with slopes between 5 to 10 percent.

Strawn Silt Loam (224C3) - A moderately well drained soil with moderately low to moderately high permeability. This soil has a slight susceptibility to water and a slight susceptibility to wind erosion with slopes between 5 to 10 percent.

Strawn Silt Loam (224F2) - A moderately well drained soil with moderately low to moderately high permeability. This soil has a moderate susceptibility to water and a slight susceptibility to wind erosion with slopes between 18 to 35 percent.

Elpaso Silty Clay Loam (356A) - A poorly drained soil with moderately high permeability. This soil has a slight susceptibility to water and a slight susceptibility to wind erosion with slopes between 0 to 2 percent.

Orthents, Loamy, Undulating (802B) - A well drained soil with moderately high permeability. This soil has a moderate susceptibility to water and a slight susceptibility to wind erosion.

Millington Silt Loam (8082A) - A poorly drained soil with moderately high to high permeability. This soil has a slight susceptibility to water and a slight susceptibility to wind erosion with slopes between 0 to 2 percent.

G. Provide an aerial extent of wetland acreage at the site:

There is a small wetland area along the right side of Wing Road from Sta. 62+60 to Sta. 63+35 at the existing ROW. Area will be delineated with fencing and silt fence.

H. Provide a description of potentially erosive areas associated with this project:

The potential erosive area of this project is near the location associated with the box culvert construction near the ComED property and other storm water discharge area.

I. The following is a description of soil disturbing activities by stages, their locations, and their erosive factors (e.g. steepness of slopes, length of scopes, etc.):

1. Pre-stage 1: construct cross road drainage structures. Soil disturbing activities include tree removal.
 2. Stage 1: construct temporary pavement/ditches for eastbound traffic, drainage structures, temporary, temporary/permanent seeding, earth excavation, 1:4(V:H) max slope. Soil disturbing activities include tree removal, topsoil stripping, embankment and storm sewer construction.
 3. Stage 2: removal and reconstruction of westbound lanes, drainage structures, temporary and permanent traffic signal, temporary/permanent seeding, earth excavation, 1:4(V:H) max slope. Soil disturbing activities include tree removal, topsoil stripping, embankment and storm sewer construction.
 3. Stage 3: removal and reconstruction of eastbound lanes, drainage structures, temporary and permanent traffic signal, temporary/permanent seeding, earth excavation, 1:4(V:H) max slope. Soil disturbing activities include tree removal, topsoil stripping, embankment and storm sewer construction.
 4. Stage 4: construction of center median and left turn lanes, striping, signing, complete traffic signals. Soil disturbing activities include grading and embankment.

J. See the erosion control plans and/or drainage plans for this contract for information regarding drainage patterns, approximate slopes anticipated before and after major grading activities, locations where vehicles enter or exit the site and controls to prevent off site sediment tracking (to be added after contractor identifies locations), areas of soil disturbance, the location of major structural and non-structural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters (including wetlands) and locations where storm water is discharged to surface water including wetlands.

K. Identify who owns the drainage system (municipality or agency) this project will drain into:
 State of Illinois and City of Yorkville

L. The following is a list of General NPDES ILR40 permittees within whose reporting jurisdiction this project is located.
 Illinois Department of Transportation, City of Yorkville, Kendall County

M. The following is a list of receiving water(s) and the ultimate receiving water(s) for this site. The location of the receiving waters can be found on the erosion and sediment control plans:
 The immediate receiving waters are IDOT drainage ditches eventually flowing to the Fox River through groundwater discharge and unnamed tributaries.

N. Describe areas of the site that are to be protected or remain undisturbed. These areas may include steep slopes, highly erodible soils, streams, stream buffers, specimen trees, natural vegetation, nature preserves, etc.
 There are no areas within the project limits dedicated as protected or that shall remain undisturbed. Nothing outside the limits of construction shall be disturbed without prior approval.

O. The following sensitive environmental resources are associated with this project, and may have the potential to be impacted by the proposed development:

- Floodplain
- Wetland Riparian
- Threatened and Endangered Species
- Historic Preservation
- 303(d) Listed receiving waters for suspended solids, turbidity, or siltation
- Receiving waters with Total Maximum Daily Load (TMDL) for sediment, total suspended solids, turbidity, or siltation
- Applicable Federal, Tribal, State or Local Programs
- Other

1. 303(d) Listed receiving waters (fill out this section if checked above):

a. The name(s) of the listed water body, and identification of all pollutants causing impairment:

b. Provide a description of how erosion and sediment control practices will prevent a discharge of sediment resulting from a storm event equal to or greater than a twenty-five (25) year, twenty-four (24) hour rainfall event:

c. Provide a description of the location(s) of direct discharge from the project site to the 303(d) water body:

d. Provide a description of the location(s) of any dewatering discharges to the MS4 and/or water body:

2. TMDL (fill out this section if checked above)

a. The name(s) of the listed water body:

b. Provide a description of the erosion and sediment control strategy that will be incorporated into the site design that is consistent with the assumptions and requirements of the TMDL:

c. If a specific numeric waste load allocation has been established that would apply to the project's discharges, provide a description of the necessary steps to meet the allocation:

P. The following pollutants of concern will be associated with this construction project:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Soil Sediment | <input checked="" type="checkbox"/> Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids) |
| <input checked="" type="checkbox"/> Concrete | <input checked="" type="checkbox"/> Antifreeze / Coolants |
| <input checked="" type="checkbox"/> Concrete Truck waste | <input checked="" type="checkbox"/> Waste water from cleaning construction equipment |
| <input checked="" type="checkbox"/> Concrete Curing Compounds | <input type="checkbox"/> Other (specify) _____ |
| <input checked="" type="checkbox"/> Solid waste Debris | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Paints | <input type="checkbox"/> Other (specify) _____ |
| <input checked="" type="checkbox"/> Solvents | <input type="checkbox"/> Other (specify) _____ |
| <input checked="" type="checkbox"/> Fertilizers / Pesticides | <input type="checkbox"/> Other (specify) _____ |

II. Controls

This section of the plan addresses the controls that will be implemented for each of the major construction activities described in I.C. above and for all use areas, borrow sites, and waste sites. For each measure discussed, the Contractor will be responsible for its implementation as indicated. The Contractor shall provide to the Resident Engineer a plan for the implementation of the measures indicated. The Contractor and subcontractors, will notify the Resident Engineer of any proposed changes, maintenance, or modifications to keep construction activities compliant with the Permit ILR10. Each such Contractor has signed the required certification on forms which are attached to, and are a part of, this plan:

A. **Erosion and Sediment Controls:** At a minimum, controls must be coordinated, installed, and maintained to:

1. Minimize the amount of soil exposed during construction activity;
2. Minimize the disturbance of steep slopes;
3. Maintain natural buffers around surface waters, direct storm water to vegetated areas to increase sediment removal and maximize storm water infiltration, unless infeasible;
4. Minimize soil compaction and, unless infeasible, preserve topsoil.

B. **Stabilization Practices:** Provided below is a description of interim and permanent stabilization practices, including site- specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices may include but are not limited to: temporary seeding, permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided below in II(B)(1) and II(B)(2), stabilization measures shall be initiated **immediately** where construction activities have temporarily or permanently ceased, but in no case more than **one (1) day** after the construction activity in that portion of the site has temporarily or permanently ceased on all disturbed portions of the site where construction will not occur for a period of fourteen (14) or more calendar days.

1. Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.
2. On areas where construction activity has temporarily ceased and will resume after fourteen (14) days, a temporary stabilization method can be used.

The following stabilization practices will be used for this project:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Preservation of Mature Vegetation | <input checked="" type="checkbox"/> Erosion Control Blanket / Mulching |
| <input type="checkbox"/> Vegetated Buffer Strips | <input type="checkbox"/> Sodding |
| <input checked="" type="checkbox"/> Protection of Trees | <input checked="" type="checkbox"/> Geotextiles |
| <input checked="" type="checkbox"/> Temporary Erosion Control Seeding | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Temporary Turf (Seeding, Class 7) | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Temporary Mulching | <input type="checkbox"/> Other (specify) _____ |
| <input checked="" type="checkbox"/> Permanent Seeding | <input type="checkbox"/> Other (specify) _____ |

Describe how the stabilization practices listed above will be utilized during construction:

Tree Protection Fence will be provided around the line of trees to remain. Tree Trunk Protection will also be provided.
 Temporary Erosion Control Seeding will be provided at a rate of 100 pounds per acre to all bare areas every seven days, regardless of weather conditions or progress of work.
 Permanent Seeding with Erosion Control Blanket and Mulch will be placed as soon as conditions make it practical. Sod will be placed as soon as the grading permits, subject to planting restrictions.
 Geotextiles will be used under riprap as part of rock outlet protection.

Describe how the stabilization practices listed above will be utilized after construction activities have been completed:

Permanent Seeding, Erosion Control Blanket/Mulching and Riprap are permanent improvements to stabilize disturbed areas. The remaining stabilization practices will be utilized until final stabilization of the project.

- C. **Structural Practices:** Provided below is a description of structural practices that will be implemented, to the degree attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include but are not limited to: perimeter erosion barrier, earth dikes, drainage swales, sediment traps, ditch checks, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. The installation of these devices may be subject to Section 404 of the Clean Water Act.

The following stabilization practices will be used for this project:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Perimeter Erosion Barrier | <input checked="" type="checkbox"/> Rock Outlet Protection |
| <input checked="" type="checkbox"/> Temporary Ditch Check | <input checked="" type="checkbox"/> Riprap |
| <input checked="" type="checkbox"/> Storm Drain Inlet Protection | <input type="checkbox"/> Gabions |
| <input type="checkbox"/> Sediment Trap | <input type="checkbox"/> Slope Mattress |
| <input type="checkbox"/> Temporary Pipe Slope Drain | <input type="checkbox"/> Retaining Walls |
| <input type="checkbox"/> Temporary Sediment Basin | <input type="checkbox"/> Slope Walls |
| <input type="checkbox"/> Temporary Stream Crossing | <input type="checkbox"/> Concrete Revetment Mats |
| <input checked="" type="checkbox"/> Stabilized Construction Exits | <input type="checkbox"/> Level Spreaders |
| <input type="checkbox"/> Turf Reinforcement Mats | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Permanent Check Dams | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Permanent Sediment Basin | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Aggregate Ditch | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Paved Ditch | <input type="checkbox"/> Other (specify) _____ |

Describe how the structural practices listed above will be utilized during construction:

Perimeter Erosion Barrier will be placed to intercept sheet flow and settle out sediment upslope while allowing runoff to filter through very slowly. It will also be used to redirect water from slopes or areas of exposed soil.
Temporary Ditch Checks will be provided in accordance with Figure 41-38 of the BOE Manual with a maximum spacing of 150 feet along the ditch or swale. Two ditch checks at every culvert entrance and two ditch checks at outlets from the construction site.
Storm Drain Inlet Protection will be provided by placement of Inlet Filters and Inlet and Pipe Protection on all open-lid drainage structures and end sections. Temporary ditch checks (rolled excelsior) will be used in drainage swales to further protect inlet and end sections.
Stabilized Construction Exits will be required for all exits from the construction site. Locations to be determined by the contractor.
The permanent rip rap called out at culvert and pipe outfall locations can be used to form rock check dams at the perimeter where existing and proposed drainage exits the site. The material can be moved into place when the outlet becomes active.
Riprap will be placed at major culvert outlets.

Describe how the structural practices listed above will be utilized after construction activities have been completed:

The riprap placed at outlet locations will be permanent improvements. The others are utilized until construction is stabilized.

D. Treatment Chemicals

Will polymer flocculents or treatment chemicals be utilized on this project: Yes No

If yes above, identify where and how polymer flocculents or treatment chemicals will be utilized on this project.

E. Permanent Storm Water Management Controls: Provided below is a description of measures that will be installed during the construction process to control volume and pollutants in storm water discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.

1. Such practices may include but are not limited to: storm water detention structures (including wet ponds), storm water retention structures, flow attenuation by use of open vegetated swales and natural depressions, infiltration of runoff on site, and sequential systems (which combine several practices).

The practices selected for implementation were determined on the basis of the technical guidance in Chapter 41 (Construction Site Storm Water Pollution Control) of the IDOT Bureau of Design & Environment Manual. If practices other than those discussed in Chapter 41 are selected for implementation or if practices are applied to situations different from those covered in Chapter 41, the technical basis for such decisions will be explained below.

2. Velocity dissipation devices will be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g. maintenance of hydrologic conditions such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).

Description of permanent storm water management controls:

There will be no deviation from the Illinois Department of Transportation Drainage Manual. Permanent stormwater BMP's include native vegetation and scour protection at outlets.

F. Approved State or Local Laws: The management practices, controls, and provisions contained in this plan will be

in accordance with IDOT specifications, which are at least as protective as the requirements contained in the Illinois Environmental Protection Agency's Illinois Urban Manual. Procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials shall be described or incorporated by reference in the space provided below. Requirements specified in sediment and erosion site plans, site permits, storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI, to be authorized to discharge under the Permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

Description of procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials:

All management practices, controls and provisions are in accordance with IDOT specifications.

G. **Contractor Required Submittals:** Prior to conducting any professional services at the site covered by this plan, the Contractor and each subcontractor responsible for compliance with the permit shall submit to the Resident Engineer a Contractor Certification Statement, BDE 2342a.

1. The Contractor shall provide a construction schedule containing an adequate level of detail to show major activities with implementation of pollution prevention BMPs, including the following items:
 - Approximate duration of the project, including each stage of the project
 - Rainy season, dry season, and winter shutdown dates
 - Temporary stabilization measures to be employed by contract phases
 - Mobilization time frame
 - Mass clearing and grubbing/roadside clearing dates
 - Deployment of Erosion Control Practices
 - Deployment of Sediment Control Practices (including stabilized construction entrances/exits)
 - Deployment of Construction Site Management Practices (including concrete washout facilities, chemical storage, refueling locations, etc.)
 - Paving, saw-cutting, and any other pavement related operations
 - Major planned stockpiling operations
 - Time frame for other significant long-term operations or activities that may plan non-storm water discharges such as dewatering, grinding, etc.
 - Permanent stabilization activities for each area of the project
2. The Contractor and each subcontractor shall provide, as an attachment to their signed Contractor Certification Statement, a discussion of how they will comply with the requirements of the permit in regard to the following items and provide a graphical representation showing location and type of BMPs to be used when applicable:
 - Vehicle Entrances and Exits - Identify type and location of stabilized construction entrances and exits to be used and how they will be maintained.
 - Material delivery, Storage, and Use - Discuss where and how materials including chemicals, concrete curing compounds, petroleum products, etc. will be stored for this project.
 - Stockpile Management - Identify the location of both on-site and off-site stockpiles. Discuss what BMPs will be used to prevent pollution of storm water from stockpiles.
 - Waste Disposal - Discuss methods of waste disposal that will be used for this project.
 - Spill Prevention and Control - Discuss steps that will be taken in the event of a material spill (chemicals, concrete curing compounds, petroleum, etc.).
 - Concrete Residuals and Washout Wastes - Discuss the location and type of concrete washout facilities to be used on this project and how they will be signed and maintained.
 - Litter Management - Discuss how litter will be maintained for this project (education of employees, number of dumpsters, frequency of dumpster pick-up, etc.).
 - Vehicle and Equipment Cleaning and Maintenance - Identify where equipment cleaning and maintenance locations for this project and what BMPs will be used to ensure containment and spill prevention.
 - Dewatering Activities - Identify the controls which will be used during dewatering operations to ensure sediments will not leave the construction site.
 - Polymer Flocculants and Treatment Chemicals - Identify the use and dosage of treatment chemicals and provide the Resident Engineer with Material Safety Data Sheets. Describe procedures on how the chemicals will be used and identify who will be responsible for the use and application of these chemicals. The selected individual must be trained on the established procedures.
 - Additional measures indicated in the plan.

III. Maintenance

When requested by the Contractor, the Resident Engineer will provide general maintenance guides to the Contractor for the practices associated with this project. The following additional procedures will be used to maintain, in good and effective operating conditions, the vegetation, erosion and sediment control measures and other protective measures identified in this plan. It will be Contractor's responsibility to attain maintenance guidelines for any manufactured BMPs which are to be installed and maintained per manufacture's specifications.

All ESC measures shall be maintained in accordance with the IDOT Erosion and Sediment Control Field Guide for Construction Inspection and Best Management Practices (BMP) tabs available here:
<http://www.idot.illinois.gov/transportation-system/environment/erosion-and-sediment-control>

All maintenance of ESC systems shall be the responsibility of the Contractor.

IV. Inspections

Qualified personnel shall inspect disturbed areas of the construction site which have not yet been finally stabilized, structural control measures, and locations where vehicles and equipment enter and exit the site using IDOT Storm Water Pollution Prevention Plan Erosion Control Inspection Report (BC 2259). Such inspections shall be conducted at least once every seven (7) calendar days and within twenty-four (24) hours of the end of a storm or by the end of the following business or work day that is 0.5 inch or greater or equivalent snowfall.

Inspections may be reduced to once per month when construction activities have ceased due to frozen conditions. Weekly inspections will recommence when construction activities are conducted, or if there is 0.5" or greater rain event, or a discharge due to snowmelt occurs.

If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the Resident Engineer shall notify the appropriate IEPA Field Operations Section office by e-mail at: epa.swnoncomp@illinois.gov, telephone or fax within twenty-four (24) hours of the incident. The Resident Engineer shall then complete and submit an "Incidence of Non-Compliance" (ION) report for the identified violation within five (5) days of the incident. The Resident Engineer shall use forms provided by IEPA and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of non-compliance shall be signed by a responsible authority in accordance with Part VI. G of the Permit ILR10.

The Incidence of Non-Compliance shall be mailed to the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Compliance Assurance Section
1021 North Grand East
Post Office Box 19276
Springfield, Illinois 62794-9276

Additional Inspections Required:

--

V. Failure to Comply

Failure to comply with any provisions of this Storm Water Pollution Prevention Plan will result in the implementation of a National Pollutant Discharge Elimination System/Erosion and Sediment Control Deficiency Deduction against the Contractor and/or penalties under the Permit ILR10 which could be passed on to the Contractor.



Contractor Certification Statement



Prior to conducting any professional services at the site covered by this contract, the Contractor and every subcontractor must complete and return to the Resident Engineer the following certification. A separate certification must be submitted by each firm. Attach to this certification all items required by Section II.G of the Storm Water Pollution Prevention Plan (SWPPP) which will be handled by the Contractors/subcontractor completing this form.

Route FAP 311	Marked Route IL 71	Section (1)R,I
Project Number C-93-017-14	County Kendall	Contract Number 66D24

This certification statement is a part of SWPPP for the project described above, in accordance with the General NPDES Permit No. ILR10 issued by the Illinois Environmental Protection Agency.

I certify under penalty of law that I understand the terms of the Permit No. ILR10 that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

In addition, I have read and understand all of the information and requirements stated in SWPPP for the above mentioned project; I have received copies of all appropriate maintenance procedures; and, I have provided all documentation required to be in compliance with the Permit ILR10 and SWPPP and will provide timely updates to these documents as necessary.

- Contractor
- Sub-Contractor

Print Name []	Signature []
Title []	Date []
Name of Firm []	Telephone []
Street Address []	City/State/Zip []

Items which the Contractor/subcontractor will be responsible for as required in Section II.G. of SWPPP:
 []

EPA PERMIT

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 North Grand Avenue, East; Post Office Box 19276; Springfield, IL 62794-9276

Division of Public Water Supplies

Telephone 217/782-1724

PUBLIC WATER SUPPLY CONSTRUCTION PERMIT

SUBJECT: YORKVILLE (Kendall County - - 0930250)

Permit Issued to:
Mayor and City Council
800 Game Farm Road
Yorkville, IL 60560

Corrected Permit: March 2, 2018

PERMIT NUMBER: 0568-FY2018

DATE ISSUED: February 16, 2018

PERMIT TYPE: Water Main Extension

The issuance of this permit is based on plans and specifications prepared by the engineers/architects indicated, and are identified as follows. This permit is issued for the construction and/or installation of the public water supply improvements described in this document, in accordance with the provisions of the "Environmental Protection Act", Title IV, Sections 14 through 17, and Title X, Sections 39 and 40, and is subject to the conditions printed on the last page of this permit and the ADDITIONAL CONDITIONS listed below.

FIRM: Engineering Enterprises, Inc.

NUMBER OF PLAN SHEETS: 13

TITLE OF PLANS: "Proposed Highway Plans IDOT Contract 66D24 (IL Route 71 from Walsh Drive to IL Route 126)"

PROPOSED IMPROVEMENTS:

Install approximately 218 lineal feet of eight (8) inch diameter and 30 lineal feet of six (6) inch diameter water main.

ADDITIONAL CONDITIONS:

1. There are no further conditions to this permit.

DCC:CLK

cc: Engineering Enterprises, Inc.
Elgin Regional Office

RECEIVED

MAR - 3 2018

ENGINEERING ENTERPRISES, INC.



David C. Cook, P.E.
Acting Manager Permit Section
Division of Public Water Supplies

SANITARY PERMIT

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT**

LOG NUMBERS: 2018-63031
BOW ID W0938030014

PERMIT NO.: 2018-HB-63031

**FINAL PLANS, SPECIFICATIONS, APPLICATION
AND SUPPORTING DOCUMENTS**

DATE ISSUED: MAR 26 2018

PREPARED BY: Engineering Enterprises, Inc.

SUBJECT: UNITED CITY OF YORKVILLE – Proposed Highway Project IDOT Contract 66D24
(Yorkville Bristol Sanitary District Sewage Treatment Plant) - Sanitary Sewer Permit

PERMITTEE TO CONSTRUCT, OWN AND OPERATE

United City of Yorkville
800 Game Farm Road
Yorkville, IL 60560

Permit is hereby granted to the above designated permittee(s) to construct and operate water pollution control facilities described as follows:

864 feet of 10 inch sanitary sewer and 5 manholes to relocate an existing sanitary sewer and serve existing flow (0 P.E., 0 GPD, DAF) located along Illinois Route 71 with discharge to an existing 10 inch sanitary sewer tributary to the above indicated sewage treatment plant.

This Permit is issued subject to the following Special Condition(s). If such Special Condition(s) require(s) additional or revised facilities, satisfactory engineering plan documents must be submitted to this Agency for review and approval for issuance of a Supplemental Permit.

SPECIAL CONDITION 1: The Permittee to Construct shall be responsible for obtaining an NPDES Storm Water Permit prior to initiating construction if the construction activities associated with this project will result in the disturbance of one (1) or more acres total land area.

An NPDES Storm Water Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Agency's Division of Water Pollution Control - Permit Section.

SPECIAL CONDITION 2: The issuance of this permit does not release the permittee to construct from any obligation to comply with the requirements of the Illinois State Agency Historic Resources Preservation Act or the Illinois Historic Preservation Agency.

RECEIVED

MAR 28 2018


ENGINEERING ENTERPRISES, INC.

THE STANDARD CONDITIONS OF ISSUANCE INDICATED ON THE REVERSE SIDE MUST BE COMPLIED WITH IN FULL. READ ALL CONDITIONS CAREFULLY.

ALD:JAR:2018-63031

DIVISION OF WATER POLLUTION CONTROL

cc: EPA-Des Plaines FOS
Engineering Enterprises, Inc.
Yorkville Bristol Sanitary District
Records - Municipal


Amy L. Dragovich, P.E.
Manager, Northern Municipal Unit, Permit Section

**READ ALL CONDITIONS CAREFULLY:
STANDARD CONDITIONS**

The Illinois Environmental Protection Act (Illinois Revised Statutes Chapter 111-12, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

1. Unless the construction for which this permit is issued has been completed, this permit will expire (1) two years after the date of issuance for permits to construct sewers or wastewater sources or (2) three years after the date of issuance for permits to construct treatment works or pretreatment works.
2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
4. The permittee shall allow any agent duly authorized by the Agency upon the presentations of credentials:
 - a. to enter at reasonable times, the permittee's premises where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit;
 - b. to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit;
 - c. to inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit;
 - d. to obtain and remove at reasonable times samples of any discharge or emission of pollutants;
 - e. to enter at reasonable times and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.
5. The issuance of this permit:
 - a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;
 - b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;
 - c. does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;
 - d. does not take into consideration or attest to the structural stability of any units or parts of the project;
 - e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
6. Unless a joint construction/operation permit has been issued, a permit for operating shall be obtained from the agency before the facility or equipment covered by this permit is placed into operation.
7. These standard conditions shall prevail unless modified by special conditions.
8. The Agency may file a complaint with the Board for suspension or revocation of a permit:
 - a. upon discovery that the permit application contained misrepresentations, misinformation or false statement or that all relevant facts were not disclosed; or
 - b. upon finding that any standard or special conditions have been violated; or
 - c. upon any violation of the Environmental Protection Act or any Rules or Regulation effective thereunder as a result of the construction or development authorized by this permit.

CONSTRUCTION LAYOUT EQUIPMENT

General. The Contractor shall furnish articles of survey equipment to be used by the Department for independent monitoring and verification of construction layout stakes, reference points, and any other horizontal and vertical control set by the Contractor. All equipment will be for the exclusive use of the Department throughout the duration of the contract and will be returned to the Contractor at the end of the contract.

Equipment. The equipment to be furnished by the Contractor shall consist of one precision GNSS rover and a secondary GPS handheld controller. The precision GNSS rover must meet or exceed the capabilities of, and be compatible with the Contractor's equipment and meet the approval of the Engineer. The second GPS handheld controller shall also meet or exceed the capabilities of, and be compatible with the Contractor's equipment and meet the approval of the Engineer. The equipment provided shall include all software, data and any additional equipment (base station, repeaters, etc.) necessary to find any point on the project in station, offset and elevation with precision. The project data included in the equipment will be consistent with data used by the Contractor for layout and grading. Any data revisions or software updates to the Contractor's equipment will also be applied to the Department's equipment by the Contractor.

The Contractor will be responsible for providing training for three members of the Department's staff on use of the equipment and software.

Basis of Payment. This work will not be measured separately, but shall be included in the contract Lump Sum price for CONSTRUCTION LAYOUT.

TREE REMOVAL COMPLETION DATE

All work associated with the tree removal on this project shall be completed between October 1, 2018 and November 30, 2018. The Contractor shall minimize soil disturbing activities during the tree removal operations. At the discretion of the Engineer, various temporary erosion and sediment control measures may be required after the tree removal is complete. Installation and maintenance of the temporary erosion control systems shall be paid for separately per Section 280 of the Standard Specifications.

**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 contract). "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 contract). "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.

**MINIMUM WAGES FOR FEDERAL AND FEDERALLY
ASSISTED CONSTRUCTION CONTRACTS**

This project is funded, in part, with Federal-aid funds and, as such, is subject to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Sta. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in a 29 CFR Part 1, Appendix A, as well as such additional statutes as may from time to time be enacted containing provisions for the payment of wages determined to be prevailing by the Secretary of Labor in accordance with the Davis-Bacon Act and pursuant to the provisions of 29 CFR Part 1. The prevailing rates and fringe benefits shown in the General Wage Determination Decisions issued by the U.S. Department of Labor shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

General Wage Determination Decisions, modifications and supersedes decisions thereto are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision, together with any modifications issued, must be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable DBRA Federal prevailing wage law and 29 CFR Part 5. The wage rates and fringe benefits contained in the General Wage Determination Decision shall be the minimum paid by contractors and subcontractors to laborers and mechanics.