

# 15

**Letting January 16, 2026**

## **Notice to Bidders, Specifications and Proposal**



**Contract No. 61M02  
KANE County  
Section 22-00197-00-TL (Elgin)  
Route FAU 1314 (Kimball Street)  
Project 6ZDW-029 ()  
District 1 Construction Funds**

Prepared by

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Checked by

(Printed by authority of the State of Illinois)



**Illinois Department  
of Transportation**

**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 12:00 p.m. January 16, 2026 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. 61M02  
KANE County  
Section 22-00197-00-TL (Elgin)  
Project 6ZDW-029 ()  
Route FAU 1314 (Kimball Street)  
District 1 Construction Funds**

**Traffic signals improvements at various locations on Kimball Street between Grove Avenue to Dundee Avenue in Elgin.**

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

By Order of the  
Illinois Department of Transportation

Gia Biagi,  
Secretary

**CONTRACT 61M02**

INDEX  
FOR  
SUPPLEMENTAL SPECIFICATIONS  
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2026

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

ERRATA    Standard Specifications for Road and Bridge Construction  
(Adopted 1-1-22) (Revised 1-1-26)

SUPPLEMENTAL SPECIFICATIONS

<u>Std. Spec. Sec.</u>	<u>Page No.</u>
109 Measurement and Payment .....	1
202 Earth and Rock Excavation .....	2
204 Borrow and Furnished Excavation .....	3
207 Porous Granular Embankment .....	4
211 Topsoil and Compost .....	5
214 Grading and Shaping Ditches .....	6
406 Hot-Mix Asphalt Binder and Surface Course .....	7
407 Hot-Mix Asphalt Pavement (Full-Depth) .....	9
420 Portland Cement Concrete Pavement .....	10
502 Excavation for Structures .....	11
504 Precast Concrete Structures .....	12
509 Metal Railings .....	13
522 Retaining Walls .....	14
540 Box Culverts .....	15
542 Pipe Culverts .....	35
550 Storm Sewers .....	44
586 Granular Backfill for Structures .....	51
601 Pipe Drains, Pipe Underdrains, and French Drains .....	52
630 Steel Plate Beam Guardrail .....	53
632 Guardrail and Cable Road Guard Removal .....	54
644 High Tension Cable Median Barrier .....	55
665 Woven Wire Fence .....	56
701 Work Zone Traffic Control and Protection .....	57
781 Raised Reflective Pavement Markers .....	59
782 Reflectors .....	60
801 Electrical Requirements .....	62
821 Roadway Luminaires .....	65
1003 Fine Aggregates .....	66
1004 Coarse Aggregates .....	67
1010 Finely Divided Minerals .....	69
1020 Portland Cement Concrete .....	70
1030 Hot-Mix Asphalt .....	73
1040 Drain Pipe, Tile, and Wall Drain .....	74
1042 Precast Concrete Products .....	75
1061 Waterproofing Membrane System .....	76
1067 Luminaire .....	77
1097 Reflectors .....	84
1102 Hot-Mix Asphalt Equipment .....	85

## RECURRING SPECIAL PROVISIONS

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

<u>CHECK SHEET #</u>		<u>PAGE NO.</u>
1	<input checked="" type="checkbox"/> Additional State Requirements for Federal-Aid Construction Contracts .....	87
2	<input checked="" type="checkbox"/> Subletting of Contracts (Federal-Aid Contracts) .....	90
3	<input checked="" type="checkbox"/> EEO .....	91
4	<input type="checkbox"/> Specific EEO Responsibilities Non Federal-Aid Contracts .....	101
5	<input type="checkbox"/> Required Provisions - State Contracts .....	106
6	<input type="checkbox"/> Asbestos Bearing Pad Removal .....	112
7	<input type="checkbox"/> Asbestos Waterproofing Membrane and Asbestos HMA Surface Removal .....	113
8	<input type="checkbox"/> Temporary Stream Crossings and In-Stream Work Pads .....	114
9	<input type="checkbox"/> Construction Layout Stakes .....	115
10	<input type="checkbox"/> Use of Geotextile Fabric for Railroad Crossing .....	118
11	<input type="checkbox"/> Subsealing of Concrete Pavements .....	120
12	<input type="checkbox"/> Hot-Mix Asphalt Surface Correction .....	124
13	<input type="checkbox"/> Pavement and Shoulder Resurfacing .....	126
14	<input type="checkbox"/> Patching with Hot-Mix Asphalt Overlay Removal .....	127
15	<input type="checkbox"/> Polymer Concrete .....	129
16	<b>Reserved</b> .....	131
17	<input type="checkbox"/> Bicycle Racks .....	132
18	<input type="checkbox"/> Temporary Portable Bridge Traffic Signals .....	134
19	<input type="checkbox"/> Nighttime Inspection of Roadway Lighting .....	136
20	<input type="checkbox"/> English Substitution of Metric Bolts .....	137
21	<input type="checkbox"/> Calcium Chloride Accelerator for Portland Cement Concrete .....	138
22	<input type="checkbox"/> Quality Control of Concrete Mixtures at the Plant .....	139
23	<input type="checkbox"/> Quality Control/Quality Assurance of Concrete Mixtures .....	147
24	<b>Reserved</b> .....	163
25	<b>Reserved</b> .....	164
26	<input type="checkbox"/> Temporary Raised Pavement Markers .....	165
27	<input type="checkbox"/> Restoring Bridge Approach Pavements Using High-Density Foam .....	166
28	<input type="checkbox"/> Portland Cement Concrete Inlay or Overlay .....	169
29	<input type="checkbox"/> Portland Cement Concrete Partial Depth Hot-Mix Asphalt Patching .....	173
30	<input type="checkbox"/> Longitudinal Joint and Crack Patching .....	176
31	<input type="checkbox"/> Concrete Mix Design – Department Provided .....	178
32	<input type="checkbox"/> Station Numbers in Pavements or Overlays .....	179

LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS

Table of Contents

<u>CHECK SHEET #</u>			<u>PAGE NO.</u>
LRS 1		<b>Reserved</b> .....	181
LRS 2	<input type="checkbox"/>	Furnished Excavation .....	182
LRS 3	<input checked="" type="checkbox"/>	Work Zone Traffic Control Surveillance .....	183
LRS 4	<input type="checkbox"/>	Flaggers in Work Zones .....	184
LRS 5	<input type="checkbox"/>	Contract Claims .....	185
LRS 6	<input type="checkbox"/>	Bidding Requirements and Conditions for Contract Proposals .....	186
LRS 7	<input type="checkbox"/>	Bidding Requirements and Conditions for Material Proposals .....	192
LRS 8		<b>Reserved</b> .....	198
LRS 9	<input type="checkbox"/>	Bituminous Surface Treatments .....	199
LRS 10		<b>Reserved</b> .....	203
LRS 11	<input type="checkbox"/>	Employment Practices .....	204
LRS 12	<input type="checkbox"/>	Wages of Employees on Public Works .....	206
LRS 13	<input type="checkbox"/>	Selection of Labor .....	208
LRS 14	<input type="checkbox"/>	Paving Brick and Concrete Paver Pavements and Sidewalks .....	209
LRS 15	<input type="checkbox"/>	Partial Payments .....	212
LRS 16	<input type="checkbox"/>	Protests on Local Lettings .....	213
LRS 17	<input type="checkbox"/>	Substance Abuse Prevention Program .....	214
LRS 18	<input type="checkbox"/>	Multigrade Cold Mix Asphalt .....	215
LRS 19	<input type="checkbox"/>	Reflective Crack Control Treatment .....	216

# Contents

LOCATION OF PROJECT .....	1
DESCRIPTION OF PROJECT .....	1
CONTRACTOR'S DAILY NOTIFICATION .....	1
EQUIPMENT PARKING AND STORAGE .....	1
FIELD MEASUREMENTS .....	2
STATUS OF UTILITIES (D-1).....	2
PUBLIC CONVENIENCE AND SAFETY (D1) .....	4
TRAFFIC CONTROL PLAN.....	5
AVAILABLE REPORTS (D1 LR).....	7
TRAFFIC SIGNAL GENERAL REQUIREMENTS (CITY OF ELGIN) .....	7
ROD AND CLEAN EXISTING CONDUIT .....	23
FIBER OPTIC CABLE (CITY OF ELGIN) .....	24
ELECTRIC CABLE .....	26
OUTDOOR RATED NETWORK CABLE (CITY OF ELGIN).....	26
VIDEO DETECTION SYSTEM (CITY OF ELGIN) .....	28
ETHERNET SWITCH, TYPE 1 (CITY OF ELGIN) .....	32
REMOTE CONTROLLED VIDEO SYSTEM (CITY OF ELGIN).....	33
CAMERA MOUNTING ASSEMBLY (CITY OF ELGIN).....	35
TRAFFIC SIGNAL POST.....	35
TRAFFIC SIGNAL PAINTING .....	36
RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT .....	37
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT (CITY OF ELGIN).....	37
ADVANCED TRANSPORTATION CONTROLLER AND CABINET (CITY OF ELGIN) .....	38
UNINTERRUPTABLE POWER SUPPLY, SPECIAL (CITY OF ELGIN).....	55
LR107-4: SPECIAL PROVISION FOR INSURANCE .....	60

## BDE SPECIAL PROVISIONS

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

<u>File Name</u>	<u>Pg.</u>		<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80099		<input type="checkbox"/>	Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2022
80274		<input type="checkbox"/>	Aggregate Subgrade Improvement	April 1, 2012	April 1, 2022
80192		<input type="checkbox"/>	Automated Flagger Assistance Device	Jan. 1, 2008	April 1, 2023
80173		<input type="checkbox"/>	Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2017
80426		<input type="checkbox"/>	Bituminous Surface Treatment with Fog Seal	Jan. 1, 2020	Jan. 1, 2022
* 80475		<input type="checkbox"/>	Bridge Deck Concrete Overlays	Jan. 1, 2026	
80241		<input type="checkbox"/>	Bridge Demolition Debris	July 1, 2009	
50531		<input type="checkbox"/>	Building Removal	Sept. 1, 1990	Aug. 1, 2022
50261		<input type="checkbox"/>	Building Removal with Asbestos Abatement	Sept. 1, 1990	Aug. 1, 2022
* 80460		<input type="checkbox"/>	Cement, Finely Divided Minerals, Admixtures, Concrete, and Mortar	Jan. 1, 2025	Jan. 1, 2026
80384	61	<input checked="" type="checkbox"/>	Compensable Delay Costs	June 2, 2017	April 1, 2019
80198		<input type="checkbox"/>	Completion Date (via calendar days)	April 1, 2008	
80199		<input type="checkbox"/>	Completion Date (via calendar days) Plus Working Days	April 1, 2008	
80461		<input type="checkbox"/>	Concrete Barrier	Jan. 1, 2025	
80453		<input type="checkbox"/>	Concrete Sealer	Nov. 1, 2023	
80261	65	<input checked="" type="checkbox"/>	Construction Air Quality – Diesel Retrofit	June 1, 2010	Jan. 1, 2025
* 80476		<input type="checkbox"/>	Deck Slab Repair	Jan. 1, 2026	
80029		<input type="checkbox"/>	Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Jan. 2, 2025
80467		<input type="checkbox"/>	Erosion Control Blanket	Aug. 1, 2025	
80229		<input type="checkbox"/>	Fuel Cost Adjustment	April 1, 2009	Aug. 1, 2017
80452		<input type="checkbox"/>	Full Lane Sealant Waterproofing System	Nov. 1, 2023	
80433		<input type="checkbox"/>	Green Preformed Thermoplastic Pavement Markings	Jan. 1, 2021	Jan. 1, 2022
80471		<input type="checkbox"/>	Guardrail	Nov. 1, 2025	
80472		<input type="checkbox"/>	High Friction Surface Treatment	Nov. 1, 2025	
* 80456		<input type="checkbox"/>	Hot-Mix Asphalt	Jan. 1, 2024	Jan. 1, 2026
80446		<input type="checkbox"/>	Hot-Mix Asphalt – Longitudinal Joint Sealant	Nov. 1, 2022	Aug. 1, 2023
80438		<input type="checkbox"/>	Illinois Works Apprenticeship Initiative – State Funded Contracts	June 2, 2021	April 2, 2024
* 80477		<input type="checkbox"/>	Longitudinal Tining	Jan. 1, 2026	
80450		<input type="checkbox"/>	Mechanically Stabilized Earth Retaining Walls	Aug. 1, 2023	Aug. 1, 2025
* 80478		<input type="checkbox"/>	Modified Longitudinal Construction Joint	Jan. 1, 2026	
80464		<input type="checkbox"/>	Pavement Marking	April 1, 2025	Nov. 1, 2025
80468		<input type="checkbox"/>	Pavement Patching	Aug. 1, 2025	
80441		<input type="checkbox"/>	Performance Graded Asphalt Binder	Jan 1, 2023	
80459		<input type="checkbox"/>	Preformed Plastic Pavement Marking	June 2, 2024	
34261		<input type="checkbox"/>	Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2022
80473		<input type="checkbox"/>	Raised Reflective Pavement Markers	Nov. 1, 2025	
80455	67	<input checked="" type="checkbox"/>	Removal and Disposal of Regulated Substances	Jan. 1, 2024	April 1, 2024
80474		<input type="checkbox"/>	Residential Driveway Temporary Signal	Nov. 1, 2025	
80445		<input type="checkbox"/>	Seeding	Nov. 1, 2022	
80457		<input type="checkbox"/>	Short Term and Temporary Pavement Markings	April 1, 2024	April 2, 2024
* 80462	69	<input checked="" type="checkbox"/>	Sign Panels and Appurtenances	Jan. 1, 2025	Jan. 1, 2026
* 80479		<input type="checkbox"/>	Sinusoidal Rumble Strips	Jan. 1, 2026	
80469		<input type="checkbox"/>	Slope Wall	Aug. 1, 2025	
* 80448	71	<input checked="" type="checkbox"/>	Source of Supply and Quality Requirements	Jan. 2, 2023	Jan. 1, 2026
80340		<input type="checkbox"/>	Speed Display Trailer	April 2, 2014	Jan. 1, 2022
80127		<input type="checkbox"/>	Steel Cost Adjustment	April 2, 2004	Nov. 1, 2025
* 80480		<input type="checkbox"/>	Structural Repair of Concrete	Jan. 1, 2026	
80397	73	<input checked="" type="checkbox"/>	Subcontractor and DBE Payment Reporting	April 2, 2018	
80391	74	<input checked="" type="checkbox"/>	Subcontractor Mobilization Payments	Nov. 2, 2017	April 1, 2019
80463	75	<input checked="" type="checkbox"/>	Submission of Bidders List Information	Jan. 2, 2025	Mar. 2, 2025
80437	76	<input checked="" type="checkbox"/>	Submission of Payroll Records	April 1, 2021	Nov. 2, 2023

<b><u>File Name</u></b>	<b><u>Pg.</u></b>		<b><u>Special Provision Title</u></b>	<b><u>Effective</u></b>	<b><u>Revised</u></b>
80435		<input type="checkbox"/>	Surface Testing of Pavements – IRI	Jan. 1, 2021	Jan. 1, 2023
80465	78	<input checked="" type="checkbox"/>	Surveying Services	April 1, 2025	
* 80481		<input type="checkbox"/>	Temporary Concrete Barrier	Jan. 1, 2026	
80466		<input type="checkbox"/>	Temporary Rumble Strips	April 1, 2025	
80470		<input type="checkbox"/>	Traffic Signal Backplate	Aug. 1, 2025	
20338		<input type="checkbox"/>	Training Special Provisions	Oct. 15, 1975	Sept. 2, 2021
80429		<input type="checkbox"/>	Ultra-Thin Bonded Wearing Course	April 1, 2020	Jan. 1, 2022
80439	79	<input checked="" type="checkbox"/>	Vehicle and Equipment Warning Lights	Nov. 1, 2021	Nov. 1, 2022
80458		<input type="checkbox"/>	Waterproofing Membrane System	Aug. 1, 2024	
80302		<input type="checkbox"/>	Weekly DBE Trucking Reports	June 2, 2012	Jan. 2, 2025
80454		<input type="checkbox"/>	Wood Sign Support	Nov. 1, 2023	
* 80427		<input type="checkbox"/>	Work Zone Traffic Control Devices	Mar. 2, 2020	Jan. 1, 2026
80071	80	<input checked="" type="checkbox"/>	Working Days	Jan. 1, 2002	



## STATE OF ILLINOIS

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### SPECIAL PROVISIONS

The following Special Provisions supplement the “Standard Specifications for Road and Bridge Construction, adopted January 1, 2022”, the latest edition of the “Manual on Uniform Traffic Control Devices for Streets and Highways”, and the “Manual of Test Procedures for Materials” in effect on the date of invitation for bids, the latest edition of the “Standard Specifications for Water and Sewer Construction in Illinois” (Standard Specifications (W&S), and the “Supplemental Specifications and Recurring Special Provisions” indicated on the Check Sheet included herein, which apply to and govern the construction of F.A.U. Route 1314 (Kimball Street), Section 22-00197-00-TL in Kane County, 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 work is located at various intersections along Kimball Street in the City of Elgin in Kane County, IL. The locations are maintained by the City of Elgin. Improvements are proposed on Kimball Street beginning at N. Grove Avenue and ending at Dundee Avenue. The net and gross length of the project is 2,042 feet (0.39 miles).

#### **DESCRIPTION OF PROJECT**

The project consists of, but not limited to, installation and furnishing of advanced transportation controller and cabinet with battery-backup systems on existing foundations, installation and assembly of video detection system complete, installation and assembly of PTZ camera system complete, installation of new center island traffic signal posts on existing foundations, installation of fiber optic interconnect system, restoration of the construction area, and all other incidental and collateral work necessary to complete the project as shown on the plans and described herein.

#### **CONTRACTOR’S DAILY NOTIFICATION**

The Contractor shall notify the Engineer and /or his designated representative prior to the beginning of each day’s work as to the location and type of work that is scheduled to be performed that day. The Contractor’s notification shall be ***at least 48 hours prior*** to the day of actual work.

#### **EQUIPMENT PARKING AND STORAGE**

The Contractor shall provide written approval from the land owner, to the Engineer, for any equipment, staging material, and/or storage, used by/for the Contractor’s forces, on any property not owned by the Contractor or City. Verification from the Engineer, prior to any placement of equipment, staging material and/or storage, must be received before the equipment parking staging and/or storage occurs.

Ignoring or not complying with this requirement may result in a Traffic Control Deficiency for each day of violation. No additional compensation will be allowed to the Contractor for complying with these verification requirements.

**FIELD MEASUREMENTS**

The Contractor is advised that it shall be its full responsibility to verify all dimensions, conditions, materials, and details before ordering materials. The Contractor shall verify the dimensions shown on the plans with those actually in the field to determine if any discrepancies exist. Any discrepancies discovered by the Contractor shall be immediately reported to the Engineer in writing for revisions to plans, quantities and/or details as required.

No additional compensation will be allowed to the Contractor for complying with the above verification requirements. Any revisions to dimensions or details resulting from the required field verifications or for any delays due to required revisions shall first be approved by the Engineer.

**STATUS OF UTILITIES (D-1)**

Effective: June 1, 2016

Revised: April 1, 2025

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

**UTILITIES TO BE ADJUSTED**

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

**Pre-Stage**

No conflicts to be resolved.

**Stage 1**

No conflicts to be resolved.

**Pre-Stage: \_\_\_\_0\_\_\_\_ Days Total Installation**

**Stage 1: \_\_\_\_0\_\_\_\_ Days Total Installation**

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

Agency/Company Responsible to Resolve Conflict	Name of contact	Phone	E-mail address
Astound	Willian Ng	312-955-3356	william.ng@astound.com
AT&T	N/A	N/A	g11629@att.com
City of Elgin	N/A	847-931-5955	aaron.neal@elginil.gov
Comcast	Martha Gieras	224-229-5862	martha_gieras@cable.comcast.com
ComEd	N/A	N/A	PlanSubmittalsandMapRequests@exeloncorp.com
Metronet	N/A	812-213-1050	811design@metronet.com
Nicor	Karey Ann Johnson	N/A	karejohn@southernco.com
Verizon	N/A	N/A	investigations@verizon.com

### **UTILITIES TO BE WATCHED AND PROTECTED**

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

#### **Pre-Stage**

No facilities requiring extra consideration.

#### **Stage 1**

No facilities requiring extra consideration.

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

Agency/Company Responsible to Resolve Conflict	Name of contact	Phone	E-mail address
Astound	Willian Ng	312-955-3356	william.ng@astound.com
AT&T	N/A	N/A	g11629@att.com
City of Elgin	N/A	847-931-5955	aaron.neal@elginil.gov
Comcast	Martha Gieras	224-229-5862	martha_gieras@cable.comcast.com
ComEd	N/A	N/A	PlanSubmittalsandMapRequests@exeloncorp.com
Metronet	N/A	812-213-1050	811design@metronet.com
Nicor	Karey Ann Johnson	N/A	karejohn@southernco.com
Verizon	N/A	N/A	investigations@verizon.com

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

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

The estimated relocation duration must be part of the progress schedule submitted by the contractor. A utility kickoff meeting will be scheduled between the Department, the Department's contractor, and the utility companies when necessary.

The contractor is responsible for contacting JULIE (or DIGGER within the City of Chicago) prior to any excavation work. Please note that IDOT electrical facilities are not part of the one-call locating services, such as JULIE or DIGGER.

If the contract requires the services of an electrical contractor, it is the contractor's responsibility, at their own expense, to locate existing IDOT electrical facilities before commencing work. For contracts that do not require an electrical contractor, the contractor may request one free locate of IDOT electrical facilities by contacting the Department's Electrical Maintenance Contractor. Additional locate requests will be at the contractor's expense.

The Department's Electrical Maintenance Contractor must be notified at least 72 hours in advance of the work by calling 773-287-7600 or emailing [dispatch@meade100.com](mailto:dispatch@meade100.com) to arrange for the locating of underground electrical facilities.

Please note, the marking of underground facilities does not absolve the contractor of their responsibility to repair or replace any facilities damaged during construction at their expense.

#### **PUBLIC CONVENIENCE AND SAFETY (D1)**

Effective: May 1, 2012

Revised: July 15, 2012

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

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

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

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

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

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

### **TRAFFIC CONTROL PLAN**

Traffic Control shall be according to the applicable sections of the Standard Specifications, the Supplemental Specifications, the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways", any special details and Highway Standards contained in the plans, and the Special Provisions contained herein. This work shall include furnishing, installing, maintaining, relocating, and removing all traffic control devices used for the purpose of regulating, warning, or directing traffic during the construction or maintenance of this improvement.

Special attention is called to Articles 107.09 and 107.14 of the Standard Specifications and the following Highway Standards, Details, Quality Standard for Work Zone Traffic Control Devices, Recurring Special Provisions and Special Provisions contained herein, relating to traffic control.

The Contractor shall contact the City of Elgin at least 72 hours in advance of beginning work.

### **STANDARDS:**

701001-02, 701006-05, 701101-05, 701427-05, 701701-10, 701801-06, 701901-11

### **DETAILS:**

TC-10 TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS AND DRIVEWAYS

TC-14 TRAFFIC CONTROL AND PROTECTION AT TURN BAYS

### **SPECIAL PROVISIONS:**

#### **District 1 Special Provisions.**

Maintenance of Roadways (D1)

Public Convenience and Safety (D1)

#### **BDE Special Provisions:**

Vehicle and Equipment Warning Lights (BDE)

Work Zone Traffic Control Devices (BDE)

At the preconstruction meeting, the Contractor shall furnish the name of the individual in his direct employ who is to be responsible for the installation and maintenance of the traffic control for this project. This shall not relieve the Contractor of the foregoing requirement for a responsible individual in his direct employ. The City will provide the Contractor the name of its representative who will be responsible for the administration of the Traffic Control Plan.

**Construction Requirements.** The Contractor shall notify the City at least 72 hours in advance of beginning any work. Two-way traffic shall be maintained at all times during the execution of

this work. When lane assignments conflict with existing pavement markings, approved traffic control devices such as signs, cones, barrels, barricades, etc. shall be used to delineate traffic lanes. When available street width is not sufficient to allow for two-lane, two-way traffic, certified flaggers will be required in accordance with the standards included herein. **Lane closures will be allowed only between the hours of 8:00 a.m. and 4:00 p.m.**

The Contractor shall be responsible for the proper location, installation, and arrangement of all traffic control devices. Special attention shall be given to advance warning signs during construction operations in order to keep lane assignment consistent with barricade placement at all times. The Contractor will be required to cover all traffic control devices which are inconsistent with lane assignment patterns during the transition from one construction stage to another. Construction signs referring to daytime lane closures during working hours shall be removed or covered during non-working hours.

The Contractor shall be responsible for coordination of all traffic control work on this project with adjoining or overlapping projects and for coordination of barricade placement necessary to provide a uniform traffic detour pattern. When directed by the Engineer, the Contractor will be required to remove all traffic control devices which were furnished, installed, and maintained by him under this contract, and such devices shall remain the property of the Contractor. All traffic control devices shall remain in place until specific authorization for relocation or removal is received from the Engineer. The Contractor shall ensure that all applicable traffic control devices installed by him are operational 24 hours a day, including Sundays and holidays.

The Contractor shall provide a manned telephone on a continuous 24-hour-a-day basis to receive notification of any deficiencies regarding traffic control and protection and shall dispatch personnel, materials, and equipment to correct any such deficiencies. The Contractor shall be required to respond to any call from the County or Engineer concerning any request for improving or correcting traffic control devices and begin making the requested corrections within two (2) hours from the time of notification.

The Contractor shall plan his work so that there will be no open holes in the pavement and so that all barricades have been removed from the pavement during non-working hours. Steel plates over trenches will be permitted; however, they must be of sufficient strength and stability to accommodate all traffic. Pinning of steel plates as well as installation of asphalt ramps along the edge of plates may be required at the discretion of the Engineer.

The governing factor in the execution and staging of work for this project is to provide the motoring public with the safest possible travel conditions along the roadway through construction zones. The Contractor shall arrange his operations so as to keep the closure of any lane of the roadway to a minimum.

Revisions in the phasing of construction or maintenance operations requested by the Engineer may require traffic control to be installed in accordance with standards and/or designs other than those included in the plans. In such cases, the standards and/or design will be made available to the Contractor at least one week in advance of the change in traffic control. Payment for traffic control required by these standards and/or design will be in accordance with Article 109.04 of the SSRB.

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. Revisions or modifications to the traffic control shown in the contract shall be submitted by the Contractor for approval by the Engineer. No additional compensation will be approved for revisions or modifications to the traffic control requested by the Contractor.

**AVAILABLE REPORTS (D1 LR)**

Effective: July 1, 2021

☒ No project specific reports were prepared.

When applicable, the following checked reports and record information is available for Bidders' reference upon request:

- ☐ Record structural plans
- ☐ Preliminary Site Investigation (PSI) (IDOT ROW)
- ☐ Preliminary Site Investigation (PSI) (Local ROW)
- ☐ Preliminary Environmental Site Assessment (PESA) (IDOT ROW)
- ☐ Preliminary Environmental Site Assessment (PESA) (Local ROW)
- ☐ Soils/Geotechnical Report
- ☐ Boring Logs
- ☐ Pavement Cores
- ☐ Location Drainage Study (LDS)
- ☐ Hydraulic Report
- ☐ Noise Analysis
- ☐ Other: \_\_\_\_\_

**TRAFFIC SIGNAL GENERAL REQUIREMENTS (CITY OF ELGIN)**

City of Elgin, Revised: 9/16/2024

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

All material furnished shall be new unless otherwise noted herein. Traffic signal construction and maintenance work shall be performed by personnel holding current International Municipal Signal Association (IMSA)/Illinois Public Service Institute (IPSI) Traffic Signal Technician Level II certification. A copy of the certification shall be immediately available upon request of the Engineer. The work to be done under the Contract consists of furnishing, installing, and maintaining all traffic signal work and items as specified in the plans and as specified herein in a manner acceptable and approved by the Engineer.

Definitions of Terms.

Add the following to Section 101 of the Standard Specifications:

**101.56 Manufacturer.** Company that sells a particular type of product directly to the Contractor or the Vendor.

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

- (1) Be full service with on-site facilities to assemble, test and troubleshoot traffic signal controllers and cabinet assemblies.
- (2) Maintain an inventory of IDOT District One approved controllers and cabinets.
- (3) Be staffed with permanent sales and technical personnel able to provide traffic signal controller and cabinet expertise and support.
- (4) Have technical staff that hold current IMSA/IPSI Traffic Signal Technician Level III certification and shall attend traffic signal turn-ons as well as cabinet and/or controller modifications.

**101.57 City.** City of Elgin, Illinois or any of its representatives. Nicholas Halan with Hampton, Lenzini and Renwick, Inc. is responsible for traffic signal coordination for the City of Elgin and may be contacted at 847-697-6700.

Submittals.

Revise Article 801.05 of the Standard Specifications to read:

“All material approval requests shall be submitted electronically following City guidelines unless directed otherwise by the Engineer. Submittal requirements shall include, but not limited to the following:

- (1) All material approval requests shall be made prior to or no later than the date of the preconstruction meeting. A list of major traffic signal items can be found in Article 801.05. Material or equipment which is similar or identical shall be the product of the same manufacturer, unless necessary for system continuity. Traffic signal materials and equipment shall bear the U.L. label whenever such labeling is available.



- (2) Product data and shop drawings shall be assembled by pay item. Only the top sheet of each pay item submittal will be stamped by the City with the review status, except shop drawings for mast arm pole assemblies and the like will be stamped with the review status on each sheet.
- (3) Original manufacturer published product data and shop drawing sheets with legible dimensions and details shall be submitted for review.
- (4) When hard copy submittals are necessary, four (4) complete copies of the manufacturer's descriptive literatures and technical data for the traffic signal materials shall be submitted. For hard copy or electronic submittals, the descriptive literature and technical data shall be adequate for determining whether the materials meet the requirements of the plans and specifications. If the literature contains more than one item, the Contractor shall indicate which item or items will be furnished.
- (5) When hard copy submittals are necessary for structural elements, four (4) complete copies of the shop drawings for the mast arm assemblies and poles, and the combination mast arm assemblies and poles showing, in detail, the fabrication thereof and the certified mill analyses of the materials used in the fabrication, anchor rods, and reinforcing materials shall be submitted.
- (6) Partial or incomplete submittals will be returned without review.
- (7) Certain non-standard mast arm poles and special structural elements will require additional review from IDOT's Central Office. Examples include ornamental/decorative, non-standard length mast arm pole assemblies and monotube structures.
- (8) The Contract number or Permit number, project location/limits, and corresponding pay code number must be on each sheet of correspondence, material approval, and mast arm poles and assemblies drawings.
- (9) Where certifications and/or warranties are specified, the information submitted for approval shall include certifications and warranties. Certifications involving inspections and/or tests of material shall be complete with all test data, dates, and times.
- (10) After the Engineer reviews the submittals for conformance with the design concept of the project, the Engineer will stamp the drawings indicating their status as 'Approved', 'Approved-As-Noted', 'Disapproved', or 'Incomplete'. Since the Engineer's review is for conformance with the design concept only, it is the Contractor's responsibility to coordinate the various items into a working system as specified. The Contractor shall not be relieved from responsibility for errors or omissions in the shop, working, layout drawings, or other documents by the City's approval thereof. The Contractor must still be in full compliance with Contract and specification requirements.
- (11) The Contractor shall secure approved materials in a timely manner to assure construction schedules are not delayed.

- (12) All submitted items reviewed and marked 'APPROVED AS NOTED', 'DISAPPROVED', or 'INCOMPLETE' are to be resubmitted in their entirety, unless otherwise indicated within the submittal comments, with a disposition of previous comments to verify Contract compliance at no additional cost to the Contract.
- (13) Exceptions to and deviations from the requirements of the Contract Documents will not be allowed. It is the Contractor's responsibility to note any deviations from Contract requirements at the time of submittal and to make any requests for deviations in writing to the Engineer. In general, substitutions will not be acceptable. Requests for substitutions must demonstrate that the proposed substitution is superior to the material or equipment required by the Contract Documents. No exceptions, deviations or substitutions will be permitted without the approval of the Engineer.
- (14) The Contractor shall not order major equipment such as mast arm assemblies prior to Engineer approval of the Contractor marked proposed traffic signal equipment locations to assure proper placement of Contract required traffic signal displays, push buttons and other facilities. Field adjustments may require changes in proposed mast arm length and other coordination.
- (15) Revised cabinet wiring diagrams shall be submitted whenever any wiring modifications are made to the traffic signal cabinet."

Marking Proposed Locations.

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

Add the following to Article 801.09 of the Standard Specifications:

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

Inspection of Electrical Systems.

Add the following to Article 801.10 of the Standard Specifications:

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

Maintenance and Responsibility of Traffic Signal and Flashing Beacon Installations.

Replace Article 801.11(b) of the Standard Specifications to read:

- (b) Traffic Signals and Flashing Beacons. The Contractor shall be responsible for maintaining the traffic signal/flashing beacon installation in proper operating condition.

- (1) General.

- a. The Contractor must notify the Area Traffic Signal Maintenance and Operations Engineer of their intent to begin any physical construction work on the Contract or any portion thereof. This notification must be made a minimum of seven (7) working days prior to the start of construction to allow sufficient time for inspection of the existing traffic signal installation(s) and transfer of maintenance to the Contractor. The City will attempt to fulfill the Contractor's inspection date request(s); however, workload and other conditions may prevent the City from accommodating specific dates or times. The Contractor shall not be entitled to any other compensation if the requested inspection date(s) cannot be scheduled by the City.
- b. Full maintenance responsibility shall start upon the successful completion of a maintenance transfer inspection, or as directed by the Engineer. If the Contractor begins any physical work on the Contract or any portion thereof prior to a traffic signal 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 the time of transfer at no cost to the owner of the traffic signal equipment. 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.
- c. All traffic signals within the limits of the Contract or those which have the item "MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION," "TEMPORARY TRAFFIC SIGNAL INSTALLATION", "TEMPORARY BRIDGE TRAFFIC SIGNAL INSTALLATION", "TEMPORARY PORTABLE BRIDGE TRAFFIC SIGNAL INSTALLATION", and/or "MAINTENANCE OF EXISTING FLASHING BEACON INSTALLATION" shall become the full responsibility of the Contractor. Maintenance responsibility shall end upon issuance of final acceptance by the Engineer.
- d. The Contractor shall have electricians with IMSA/IPSI Traffic Signal Technician Level II certification on staff to provide signal maintenance. A copy of the certification shall be immediately available upon request by the Engineer.
- e. This item shall include maintenance of all traffic signal equipment and other connected and related equipment such as flashing beacons, emergency vehicle preemption (EVP) equipment, master controllers, network switches, uninterruptable power supply (UPS) and batteries, pan-tilt-zoom (PTZ) cameras, vehicle detection, handholes, lighted signs, telephone service installations, cellular modems, radios, communication cables, and other traffic signal equipment. All conduit and related equipment to adjacent intersections shall be maintained to the far back handhole, or as directed by the Engineer. If adjacent intersections are part of Contract work, then maintenance of all conduit and related equipment shall be included in this item.

- f. Regional transit, County, and other agencies may also have equipment connected to existing traffic signal or peripheral equipment such as network switches and transit signal priority (TSP, SCP, and BRT) servers, radios, and other devices, where maintenance shall be coordinated with the owner.
- g. Maintenance shall not include automatic traffic enforcement equipment such as red light enforcement cameras, detectors, or peripheral equipment. This equipment is operated and maintained by others and shall be deactivated while on Contractor maintenance.
- h. The energy charges for the operation of the traffic signal installation shall be paid for by the Contractor.

(2) Maintenance.

- a. The Contractor shall inspect all traffic signal equipment and appurtenances every two (2) weeks to ensure they are functioning properly. Signal heads shall be properly adjusted, including plumb, and tightly mounted. All controller cabinets, signal posts, and controller pedestals shall be tight on their foundations and in alignment. Deficient equipment shall be repaired or replaced as necessary. The Contractor shall check signal system communications and phone lines to assure proper operation. This item includes, as routine maintenance, all portions of EVP equipment. The Contractor shall always maintain enough materials and equipment in stock to provide effective temporary and permanent repairs. The Contractor shall supply a detailed maintenance log monthly that includes dates, locations, names of electricians performing the required checks and inspections, and any other information requested by the Engineer. The Contractor shall attend any additional inspections as requested by the Engineer. The Contractor shall check the controllers, relays, and detectors after receiving complaints or calls to ascertain that they are functioning properly and make all necessary repairs and replacement.
- b. 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 from the Engineer. Approval to shut down the traffic signal installation will only be granted during the period extending from 9:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.
- c. The Contractor shall provide immediate corrective action when any part(s) of the signal 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 in flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer. The Contractor shall install cones on all lane lines at the stop bar on each approach, R1-1 (36 in. minimum) "STOP" signs at the stop bar on each approach on the right side and on raised medians (where applicable), and black on fluorescent orange "SIGNALS OUT AHEAD" warning signs followed by fluorescent orange W3-1 symbolic stop ahead warning signs on all approaches to the intersection.

- d. Temporary replacement of a damaged or knocked down mast arm pole assembly shall require construction of a full or partial span wire signal installation or other method approved by the Engineer to assure signal heads are located overhead and over traveled pavement. Temporary replacement of mast arm mount signals with post mount signals is not permitted.
- e. The Contractor shall provide the Engineer with two (2) 24-hour telephone numbers for the maintenance of the traffic signal installation and for emergency calls by the Engineer.
- f. Traffic signal equipment which is lost, damaged, or not returned to the City for any reason shall be replaced with new equipment meeting the requirements of the Standard Specifications and these special provisions.
- g. The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals and other equipment noted herein. The Contractor shall respond to all emergency calls from the City or others within one (1) hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new equipment meeting current District One traffic signal specifications. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional cost to the Contract. The Contractor may institute action to recover damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the traffic signal installation in proper operating condition, or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the City's Electrical Maintenance Contractor perform the maintenance work. The Contractor shall be responsible for all of the City's Electrical Maintenance Contractor's costs and liquidated damages of \$1,000 per day per occurrence. The City's Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The Contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor. The Contractor shall allow the Electrical Maintenance Contractor to inspect the traffic signal installation that has been transferred to the Contractor for maintenance. Final replacement of

damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection, otherwise the traffic signal installation will not be accepted. Cable splices outside the controller cabinet shall not be allowed. The City may inspect any signaling device on the City's roadway system at any time without notification. The Contractor shall not install padlocks on traffic signal cabinets or otherwise restrict the City's access to the cabinet or controller.

- h. 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.
- i. The Contractor shall be responsible to clear snow, ice, dirt, debris, vegetation, temporary fence, or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment.
- j. The Contractor shall maintain the traffic signal in normal operation during any loss of utility or battery backup power. Temporary power to the traffic signal must meet applicable NEC and OSHA guidelines and may include portable generators and/or replacement batteries. Temporary power shall not be paid for separately but shall be included in the Contract.

- (3) Basis of Payment. This work will be paid for at the Contract unit price per each for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION, TEMPORARY TRAFFIC SIGNAL INSTALLATION, TEMPORARY BRIDGE TRAFFIC SIGNAL INSTALLATION, or TEMPORARY PORTABLE BRIDGE TRAFFIC SIGNAL INSTALLATION. Each location will be paid for separately. Maintenance of a flashing beacon shall be paid for at the Contract unit price for MAINTENANCE OF EXISTING FLASHING BEACON INSTALLATION. Each flashing beacon will be paid for separately.

Damage to Traffic Signal System.

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

“Any traffic signal control equipment that is damaged and non-repairable or not operating properly from any cause shall be replaced with new equipment meeting current District One traffic signal specifications and provided by the Contractor at no additional cost to the Contract and/or owner of the traffic signal system, all as approved by the Engineer. Final replacement of damaged equipment must meet the approval of the Engineer prior to or at

the time of final inspection. Repair or replace any equipment damaged within the time shown in the table below:

ITEM	RESPONSE TIME	SERVICE RESTORATION	PERMANENT REPAIR (calendar days)
Cabinet	1 hour	24 hours	21 days
Controllers and Peripheral Equipment	1 hour	4 hours	21 days
System Detector Loop	1 hour	N/A	7 days
All Other Detectors	1 hour	N/A	21 days
Signal Head and Lenses	1 hour	4 hours	7 days
Mast Arm Assembly and Pole	1 hour	4 hours	7 days
Traffic Signal Post	1 hour	4 hours	7 days
Cable and Conduit	1 hour	4 hours	7 days
Interconnect and Telemetry	1 hour	4 hours	7 days
Graffiti Removal	N/A	N/A	7 days
Misalignment of Signal Heads	1 hour	4 hours	4 hours
Closed Loop/Central Monitoring System	1 hour	24 hours	14 days
Post and Poles Plumb Vertically	N/A	N/A	21 days
Controller, Post & Pole Foundations	N/A	N/A	21 days
Complaints, Calls, Controller or System Alarms, Timing, Phasing, Programming	1 hour	4 hours	N/A
Patrol Truck Deficiencies	N/A	24 hours	24 hours
Signal Heads Visibility	1 day	2 days	14 days

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

Replacement of any equipment for any reason shall be reported to the Area Traffic Signal Maintenance and Operations Engineer in writing within 24 hours. Permanent and temporary replacement of the controller and/or cabinet shall require inspection and testing by the Vendor.

Automatic Traffic Enforcement equipment, such as red light enforcement cameras, detectors, and peripheral equipment, that is damaged or not operating properly from any cause, shall be the responsibility of the municipality or the automatic traffic enforcement company per Permit agreement.”

Traffic Signal Inspection (TURN-ON).

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

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

When the Contractor requests a turn-on and inspection of the completed traffic signal installation(s), the request must be made to the Area Traffic Signal Maintenance and Operations Engineer a minimum of seven (7) working days prior to the time of the requested inspection. The City will attempt to fulfill the Contractor’s turn-on and inspection date request(s); however, workload and other conditions may prevent the City from accommodating specific dates or times. The Contractor shall not be entitled to any other compensation if the requested turn-on and inspection date(s) cannot be scheduled by the City. The City will not grant a field inspection until written or electronic notification is provided from the Contractor that the equipment has been field tested and the intersection is operating according to Contract requirements. The Contractor must invite local fire City personnel to the turn-on when emergency vehicle preemption (EVP) is included in the project. When the Contract includes the item RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM, OPTIMIZE TRAFFIC SIGNAL SYSTEM, and/or TEMPORARY TRAFFIC SIGNAL TIMING, the Contractor must notify the SCAT Consultant of the turn-on/detour implementation schedule, as well as stage changes and phase changes during construction.

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

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

Upon demonstration that the signals are operating and all work is completed in accordance with the Contract and to the satisfaction of the Engineer, the Engineer will then allow the signals to be placed in continuous operation. The signals shall continue to be maintained by the Contractor until final acceptance.

The City requires the following Final Project Documentation from the Contractor at traffic signal turn-ons in electronic format in addition to hard copies where noted. An electronic media device shall be submitted with separate folders corresponding to each numbered title below. The electronic media device shall be labeled with date, project location, company, and Contract or Permit number. Electronic record drawings and material approvals shall be submitted prior to traffic signal turn-on for review by the City as described in the Record Drawings section herein.



Final Project Documentation:

- (1) Record Drawings. Electronically produced signal plans of record with field revisions marked in red. Two (2) hard copies of 11 in. x 17 in. record drawings shall also be provided.
- (2) Field Testing. Written notification from the Contractor and the Vendor of satisfactory field testing with corresponding material performance measurements, such as for detector loops and fiber optic systems (see Article 801.13).
- (3) Material Approvals. Material approval documentation.
- (4) Manuals. Operation and service manuals of the signal controller and associated control equipment.
- (5) Cabinet Wiring Diagram and Cable Logs. Five (5) hard copies of 11 in. x 17 in. cabinet wiring diagrams shall be provided along with electronic PDF and DGN files of the cabinet wiring diagram. Five (5) hard copies of the cable logs and electronic Excel files shall be provided with cable #, number of conductors and spares, connected device/signal head and intersection location.
- (6) Warranties and Guarantees. All manufacturer and Contractor warranties and guarantees required by Article 801.14.
- (7) GPS Coordinates. GPS coordinates of traffic signal equipment as described in the Record Drawings section herein.

Acceptance of the traffic signal equipment by the City shall be based upon inspection results at the traffic signal “turn-on”, completeness of the required documentation, and successful operation during a minimum 1 week “burn-in” period following activation of traffic signal equipment. If approved, traffic signal acceptance shall be verbal at the final inspection followed by written correspondence from the Engineer. The Contractor shall be responsible for all traffic signal equipment and associated maintenance thereof until City acceptance is granted.

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

All punch list work shall be completed within two (2) weeks after the turn-on. The Contractor shall notify the Area Traffic Signal Maintenance and Operations Engineer to schedule an inspection of all punch list work. Failure to meet these time constraints shall result in liquidated damage charges of \$500 per month per incident.

All cost of work and materials required to comply with the requirements herein shall be included in the pay item bid prices, under which the subject materials and signal equipment are paid, and no additional compensation will be allowed. Materials and signal equipment

not complying with the requirements herein shall be subject to removal and disposal at the Contractor's expense.”

Record Drawings.

The requirements listed for Electrical Installation shall apply for Traffic Signal Installations in Article 801.16. Revise the second and third paragraphs of Article 801.16 of the Standard Specifications to read:

“When the work is complete, and seven (7) days before the request for a final inspection, electronic Contract drawings, stamped “RECORD DRAWINGS”, shall be submitted to the Engineer for review and approval and shall be stamped with the date and the signature of the Contractor’s supervising Engineer or electrician. The record drawings shall be submitted in PDF format. If the Contract consists of multiple intersections, each intersection shall be saved as an individual PDF file with TS# and location name in its file name.

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

The Contractor shall provide two (2) 11 in. x 17 in. hard copies of electronically produced final record drawings to be kept inside each traffic signal cabinet within project limits.”

Add the following to Article 801.16 of the Standard Specifications:

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

- All Mast Arm Poles and Posts
- Traffic Signal Wood Poles
- Railroad Bungalow
- UPS
- Handholes
- Controller Cabinets
- Communication Cabinets
- Electric Service Disconnect locations
- CCTV/PTZ Camera installations

Datum to be used shall be North American 1983.

Data shall be provided in electronic format and shall be in .csv format. Latitude and Longitude shall be in decimal degrees with a minimum of 6 decimal places.

Each coordinate shall have the following information:

- File shall be named: TSXXX\_YY-MM-DD.csv (i.e. TS22157\_24-01-01.csv)
- Each intersection shall have its own file
- Row 1 should have the location name (i.e. IL 31 @ Klausen)
- Row 2 is blank
- Row 3 is the headers for the columns
- Row 4 starts the data
- Column A (Date) – should be in the following format: MM/DD/YYYY
- Column B (Item) – as shown in the table below
- Column C (Description) – as shown in the table below
- Column D and E (GPS Data) – should be in decimal form

Examples:

Date	Item	Description	Latitude	Longitude
01/01/2024	MP (Mast Arm Pole)	NEQ, NB, Dual, Combination Pole	41.580493	-87.793378
01/01/2024	HH (Handhole)	Heavy Duty, Fiber, Intersection, Double	41.558532	-87.792571
01/01/2024	ES (Electrical Service)	Ground mount, Pole mount	41.765532	-87.543571
01/01/2024	CC (Controller Cabinet)		41.602248	-87.794053
01/01/2024	PTZ (PTZ)	NEQ extension pole	41.593434	-87.769876
01/01/2024	POST (Post)		41.651848	-87.762053
01/01/2024	MCC (Master Controller Cabinet)		41.584593	-87.793378
01/01/2024	COMC (Communication Cabinet)		41.584600	-87.793432
01/01/2024	BBS (Battery Backup System)		41.558532	-87.792571

Data collection can be made as construction progresses or can be collected after all items are installed. If the data is unacceptable, the Contractor shall make corrections to the data collection equipment and/or process and resubmit the data for review and approval as specified.

Data shall have a minimum 1 ft accuracy after post processing.”

Restoration of Work Area.

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

**“801.17 Restoration of Work Area.** Restoration of the traffic signal work area shall be included in the related pay items such as foundation, conduit, handhole, underground raceways, detector loop installation or replacement, etc. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded. All brick pavers disturbed in the work area shall be

restored to their original configuration as directed by the Engineer. All damaged brick pavers shall be replaced with a comparable material approved by the Engineer. Exposed holes created from removal or relocation of traffic signal equipment shall be sealed using a zinc-plated fender washer with toggle bolt.

Restoration of the work area shall be included in the Contract without any extra compensation allowed to the Contractor.

Removal, Disposal, and Salvage of Existing Traffic Signal Equipment.

The removal, disposal, and/or salvage of existing traffic signal equipment shall become the property of the Contractor and disposed of by the Contractor outside the City's right-of-way, unless otherwise noted. No additional compensation shall be provided to the Contractor for removal, disposal or salvage expense for the work in the Contract."

Bagging Signal Heads.

Light tan colored traffic and pedestrian signal reusable covers shall be used to cover dark/un-energized signal sections, visors, and retroreflective backplates. Covers shall be made of outdoor fabric with urethane coating for repelling water, have elastic fully sewn around the cover ends for a tight fit over the visor, and have a minimum of two (2) straps with buckles to secure the cover to the backplate. A center mesh strip allows viewing without removal for signal status testing purposes. Covers shall include a message indicating the signal is not in service. Pedestrian pushbuttons that are not in service shall be covered with a durable material such as described above or burlap that is secured in a weather-resistant manner. The entire housing, including the pedestrian sign, shall also be covered on the front side.

Turn-on of New Traffic Signal Installations.

The following only applies to new traffic signals at previously unsignalized locations.

The signal responsibility shall begin at the start of signal construction and shall end upon issuance of final acceptance by the Engineer. New traffic signal heads and indications may not be installed more than two (2) weeks (14 calendar days) prior to the scheduled turn-on of the traffic signal to avoid motorist confusion caused by the presence of new signal heads, even if properly covered. Unenergized signal indications shall be bagged until one (1) hour prior to the scheduled turn-on per the Bagging Signal Heads section above.

New stop bars and crosswalks on approaches that did not previously have stop control shall NOT be installed until the day of the traffic signal turn-on.

A Portable Changeable Message Sign (PCMS) must be placed two (2) weeks prior to the scheduled new traffic signal turn-on for all approaches to the intersection with the following messages:

NEW  
TRAFFIC  
SIGNAL

STARTING  
MMM ##

where “MMM” and “##” are the 3-character month abbreviation and day of the scheduled turn-on, respectively.

On the day of the turn-on, change messages to read:

NEW  
SIGNAL  
AHEAD

BE  
PREPARED  
TO STOP

The PCMS must remain in place for two (2) weeks following the day of the turn-on.

Conflicting Stop signs shall be removed immediately at the time of the traffic signal turn-on.

Locating Underground Facilities.

Revise Section 803 to the Standard Specifications to read:

“IDOT traffic signal facilities are not part of any of the one-call locating service such as J.U.L.I.E or Digger. If the Contract requires the maintenance services of an Electrical Contractor, the Contractor shall be responsible at their own expense for locating all existing IDOT electrical facilities, including but not limited to interconnect conduit and handholes, prior to performing any work. A maintenance transfer is required prior to any locating work. If this Contract does not require the maintenance services of an Electrical Contractor, the Contractor may request one free locate for existing City electrical facilities from the City’s Electrical Maintenance Contractor prior to the start of any work. Additional requests will be at the expense of the Contractor. The location of underground traffic facilities does not relieve the Contractor of their responsibility to repair any facilities damaged during construction at their expense.

The exact location of all utilities shall be field verified by the Contractor before the installation of any components of the traffic signal system. For locations of utilities, locally owned equipment, and leased enforcement camera system facilities, the local Counties or Municipalities may need to be contacted.

The Contractor shall take whatever precautions to protect the electric cable or electric conductors in conduit from damage during location and construction operations. If the wiring is damaged, the Contractor shall replace the entire length of cable or conductors in conduit, in a manner satisfactory to the Engineer. Splicing below grade will not be permitted.

In the event the repairs are not made by the Contractor, the Contractor shall reimburse the City for such repairs within sixty (60) days of receiving written notification of said damage. Otherwise, the cost of such repairs will be deducted from monies due or which will become due the Contractor under the terms of the Contract.”

Grounding of Traffic Signal Systems

Revise Section 806 of the Standard Specifications to read:

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

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

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

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

ground rods via exothermic welding, UL listed pressure connectors, and UL listed clamps.”

### **ROD AND CLEAN EXISTING CONDUIT**

Effective: January 1, 2015

Revised: July 1, 2015

810.03TS

#### **Description.**

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

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

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

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

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

#### **Basis of Payment.**

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

**FIBER OPTIC CABLE (CITY OF ELGIN)**

City of Elgin, Revised: 9/26/2025

Add the following to Article 871.01 of the Standard Specifications:

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

Add the following to Article 872.02 of the Standard Specifications:

The control cabinet distribution enclosure shall be included in the cost of FIBER OPTIC CABLE 36 FIBERS, SINGLE MODE. The Fiber Optic Cable shall provide **twelve fibers per tube**. Fiber Optic Cable may be **gel filled or have an approved water blocking tape**.

Add the following to Article 871.04 of the Standard Specifications:

A nominal twelve single-mode fibers minimum from each cable shall be terminated with approved optical connectors at the distribution enclosure/Patch Panel. **SC type connectors shall be used on the Patch Panel** unless otherwise directed by the Engineer or detailed on the plans. Remaining fibers will either be “spliced through” in splice trays or connectorized into pigtails but left unconnected to the interface panel of the enclosure.

All splices and terminations on the installed fiber optic cable shall be included in the cost of the fiber optic cable, including the splicing of the installed fiber optic cable to any existing fiber optic cable. Splice trays and connector bulkheads required for the installed fiber optic cable shall be included in the cost of FIBER OPTIC CABLE 36 FIBERS, SINGLE MODE.

The Patch panel/enclosure shall be minimally sized to be 1 Rack Unit (1U/1RU) in size or larger if one or two fiber cables are entering the enclosure OR sized to a minimum of 2 Rack Unit (2U/2RU) in size if three or more fiber cables (Legs of an intersection) are entering the enclosure. The 1U size enclosure shall have capacity for 3 adapter plates with each adapter plate installed with 12 SC ports per adapter plate with unused/unterminated ports capped with a protective cover. The 2U size enclosure shall have capacity for 6 adapter plates and be installed with 12 SC port adapter plates in each slot. All terminated SC ports shall be labeled on the exterior of the enclosure to identify the fiber and cable each port corresponds to. Enclosure shall be a Slide-Out type and shall be mounted to the top or bottom of the signal cabinet shelf or cabinet side-wall to ensure no movement of enclosure, adequate clearance in front of adapter plates, and full range of motion of slide out mechanism.

Pre-connectorized pigtails shall be used as part of terminations at the patch panel/enclosure. All splices for “through” connections and pigtail connections shall be performed in a splice tray within the Patch panel/distribution enclosure. All Splice Trays shall be labeled to indicate tube color/fiber numbers contained within a splice tray and indicate if the tray is for “local splices” or “splice through” or both. A minimum of 13.0 feet (4m) of extra cable length shall be provided for controller cabinets. The remaining fibers from each cable shall fusion spliced to preconnectorized SC pigtails left unconnected to the adapter plate unless otherwise directed by the engineer or as shown on the plans. In cases where Tied and banded or “T+B” are indicated on the plans, those fibers shall be spliced to preconnectorized SC pigtails and left unconnected to the adapter plate



unless otherwise directed by the engineer. The controller cabinet extra cable length shall be coiled and stored as approved by the Engineer.

#### Pre-connectorized Pigtail

The pre-connectorized cable connects the adapter plate ports in the patch panel to the splice in the mainline fiber cable. SC-connectors are factory-installed on one end of a cable pigtail. The other end of the cable is spliced to appropriate fibers in the mainline cable. The cable shall be optically and mechanically equivalent to the fiber optic mainline cable specified for this project. These cables shall contain 36 fibers for the 36-fiber termination. The pigtails shall be factory-tested and shall have loss not exceeding 0.5 dB per connector. Pigtails connectors shall have tube colors matching the fiber color they connect with.

Upon completing all splicing operations for a cable span, the Contractor shall measure the mean bi-directional loss at each splice using an Optical Time Domain Reflectometer. This loss shall not exceed 0.1 dB. For each splice.

The Contractor shall measure the end-to-end attenuation of each fiber, from connector to connector, using an optical power meter and source. This loss shall be measured at from both directions and shall not exceed 0.5 dB per installed kilometer of single mode cable. For cables less than 1.6 km (1 mile), the measured loss should not exceed 2 dB. Measurements shall be made at both 1300 and 1550 nm for single mode cable.

As directed by the Engineer, the Contractor at no additional cost to the Department or City, shall replace any cable splice not satisfying the required objectives.

#### General Requirements

All mounting hardware and labeling materials are included. Also included are jumper cables with SC connectors on one end and LC connectors on the other to match the connectors on the equipment. These jumpers connect the terminated fibers to the ports on the Ethernet switches or other field devices. **Each 12-fiber SC Adapter plate shall include two (2) jumpers.** Each jumper will be 72 inches long. Jumpers not used for this project will be stored in plastic pouches as maintenance spares and placed in the controller cabinets. If pigtails are used to attach connectors to the mainline cables, excess pigtails shall be similarly stored in plastic bags and placed in the controller cabinet.

#### New Fiber Cable Added to Existing Signal Cabinet / Fiber Patch Panel/Enclosure

For every new added fiber cable, there must exist at least twelve open and unused SC ports in the patch panel for the termination of each new cable. Should insufficient ports be available in the existing enclosure (even after considering higher SC port density adapter plates), Contractor shall remove and replace existing enclosure and re-establish all pre-existing fiber cable terminations and splices as they were in addition to terminating the new cable to this specification and the enclosure and related Patch panel requirements for sizing, SC port quantities, and other requirements of a new fiber enclosure. Documentation of the existing fiber cables, connections, and splices shall be shared by the contractor to the City and Engineer. The City shall then verify in writing If we concur with the documentation prior to any removal or impacts to the existing fiber connections.

Include in paragraph (b) of Article 1076.02:

Single mode fiber shall satisfy the criteria of ITU Recommendation. G.652.

**Basis of Payment:**

The work shall be paid for at the contract unit price per foot for FIBER OPTIC CABLE 36 FIBERS, SINGLE MODE. The unit price shall include distribution enclosure(s), all connectors, pigtails, splice trays, connector bulkheads, testing and documentation, and the required number of fiber splices and terminations shown on the plans. Additional fiber terminations and/or splices required by the Traffic Engineer, (not included in this item), shall be paid at the contract unit price per each for TERMINATE FIBER IN CABINET and/or SPLICE FIBER IN CABINET.

**ELECTRIC CABLE**

Effective: May 22, 2002

Revised: July 1, 2015

873.01TS

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

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

Service cable may be single or multiple conductor cable.

**OUTDOOR RATED NETWORK CABLE (CITY OF ELGIN)**

City of Elgin, Revised: 5/3/2021

**Description.**

This work shall consist of furnishing an outdoor-rated 24 AWG, 4-pair data cable. Each cable link that is routed to an external device outside of the area serving the cabinet shall be protected by a lightning protection device on the switch side of the link cable for equipment protection. Contractor shall also provide an outdoor rated Ethernet extender to connect to ITS devices.

**Materials.**

Shielded polyolefin cable with four 24 AWG twisted pair conductors.

- Jacket Material: PE
- Conductor Material: Bare Copper
- Drain Wire Material: Tinned Copper
- Insulation Material: Polyolefin
- Separator Material: Polyolefin
- Shield (Tape) Material: Aluminum/Poly

Cable shall meet the following electrical criteria:

- ANSI/TIA Category: 6A

- Maximum dc Resistance Unbalance: 5 percent
- Maximum dc Resistance: 9.38 ohms/100 m
- Mutual Capacitance: 6.0 nF/100 m @ 1 kHz
- Nominal Velocity of Propagation (NVP): 62 percent
- Maximum Operating Frequency: 250 MHz
- Transmission Standards: ANSI/TIA-568-C.2, CENELEC EN 50288-6-1, ISO/IEC 11801 Class E (A)

Cable Connectors shall be RJ-45 compatible and be rated for Category 6A performance. Shall be two piece connectors containing mechanical separators for conductors. RJ-45 Connector shall be suitable for drain wire to be mounted to body of connector.

Cable shall have an operating temperature from -40 degrees Celsius to 70 degrees Celsius, with an insulation temperature from 0 degrees Celsius to 60 degrees Celsius.

Cable shall be type F/UTP (unshielded) with 4 pairs.

Conductor gauge shall be 24 AWG and of solid type. 8 conductors shall be provided.

Maximum pull tension of cable shall be 11 kg.

Nominal cable diameter over jacket shall be no greater than 8.255 millimeters.

A RJ-45 grounded lightning protection device shall be installed on the switch side of the OUTDOOR RATED NETWORK CABLE. Lightning protection device shall meet 3,000W/pair (10/1000us impulse) dissipation for all 8 pins and shall comply with IEEE std. 802.3af and 802.3at for PoE. Lightning protection device shall have a UL497B approval.

For any OUTDOOR RATED NETWORK CABLE which runs longer than 300 feet (as measured along the length of cable) a RJ-45 External Ethernet and POE extender with 60W pass thru shall be provided and have performance specifications meeting or exceeding the Original Equipment Manufacturer (OEM) specifications of the equipment on either end of the network cable (ITS device and Ethernet Switch) being connected on either end. The cost associated for providing such an extender shall be included in the cost of OUTDOOR RATED NETWORK CABLE.

#### Cable Testing.

Cable shall be tested for Verification and Qualification standards (In accordance with TIA and ISO standards) including but not limited to:

Bandwidth Test:	Passing values in 10BASE-T, 100BASE-TX, and Gigabit
Continuity and Wiremap:	Passing values

A report indicating the results of these tests, date of test, description of each cable, and printed and signed name of Tester and the agency the tester works under shall be included in duplicate and copies of report shall be provided within the cabinet/switch side of the cable run.

Basis of Payment.

This work will be paid for at the contract unit price per foot for OUTDOOR RATED NETWORK CABLE, which price shall be payment in full for furnishing, installing and making all connections necessary for proper operations.

**VIDEO DETECTION SYSTEM (CITY OF ELGIN)**

City of Elgin, Revised: 6/13/2025

This specification sets forth the minimum requirements for a system that detects vehicles on a roadway using video imaging of vehicle traffic and includes all color video cameras, video processors, cables, mounting hardware, accessories, and installation at an intersection. The system shall be capable of connecting at least four (4) cameras to an Ethernet network utilizing a multiple IP addresses.

System Hardware.

The video detection system shall consist of the following components:

- Camera: 2MP Infrared Lens, must be compatible with provided traffic controller per the manufacturer – As shown on plans
- Pole Mount Adapter: One (1) Per Camera
- MicroSD Card: 256GB certified to be compatible with provided camera – One (1) Per Camera
- PoE Injector: 60 Watt certified to be compatible with provided camera – One (1) Per Camera
- Surge Protector: One (1) Per Camera
- Riser Arm: Skybracket or Pelco (10-foot arm) – One (1) Per Camera

System Software.

The system shall include software that detects vehicles in multiple lanes using only the video image. Detection zones shall be defined using:

- embedded web servers on the video camera, Or
- traffic controller interface software

to place the zones on a video image. Up to 32 detection zones per camera shall be available. The system software shall support Browser Mode programming and monitoring via the Ethernet remote operation and monitoring network.

The traffic controller interface software shall be built into the controller's operating system. Updates to the software and camera firmware shall be available from the supplier without charge for the supported life of the product.

Functional Capabilities.

The detection system shall detect the presence of vehicles with a minimum of 32 detection zones per camera. A detection zone shall be the width and length of one car. See Plan for minimum coverage requirements. Each travel lane, turn lane, red light running zone, and counting zone (if applicable) shall be programmed to a separate detector channel output.

The detection system shall be able to transmit the video signal, with minimal signal degradation, up to 500 feet under ideal conditions or up to 1000 feet if required per contract plans or desired camera placement locations.

The associated camera processing software shall default to a safe condition, such as a constant call on each active detection channel, in the event of loss of video signal.

The camera processing software shall be capable of automatically detecting a low-visibility condition such as fog and respond by placing all defined detection zones in a constant call mode. A user-selected output shall be active during the low-visibility condition that can be used to modify the controller operation if connected to the appropriate controller input modifier(s). The system shall automatically revert to normal detection mode when the low-visibility condition no longer exists.

System's interface software and video streaming shall be compatible for use and consumption from a Traffic Management Center (TMC). Streaming of video shall utilize H.264, H.265/HEVC and MPEG 4, part 10 standards with user definable bit rates with a frames per second of at least 30. RTSP streams shall be supported on a per camera basis and allow for processed video outputs to be transmitted simultaneously even with up to 8 concurrent streams. Using vendor defined RTSP streams, the video shall be accessible using 3<sup>rd</sup> party video player applications. Use of the Video System's interface software for live viewing/set-up or configuration of cameras shall be of similar or equal performance when performed from a TMC or locally at the system site.

#### Vehicle Detection.

A minimum of 32 detection zones shall be supported and each detection zone shall be user definable in size and shape to suit the site and the desired vehicle detection region.

A single detection zone shall be able to replace multiple inductive loops and the detection zones shall be OR'ed as the default or may be AND'ed together to indicate vehicle presence on a single phase of traffic movement.

Placement of detection zones shall be completed by using only a pointing device, and a graphical interface built into the detection system (or other allowable interfaces) and displayed on a computer monitor and/or traffic controller screen, to draw the detection zones on the video image from the video camera.

The cameras memory shall be non-volatile to prevent data loss during power outages. The cameras and detection system software shall continue to operate (e.g. detect vehicles) using the existing zone configurations even when the operator is defining/modifying a zone pattern. The new zone configuration shall not go into effect until the configuration is saved by the operator.

When a vehicle is detected crossing a detection zone, the detection zone will visually appear different indicating an intuitive to understand indication on the video overlay display screen to confirm the detection of the vehicle.

Detection shall be at least 98% accurate in clear weather conditions and at least 96% accurate under adverse weather conditions (rain, snow, or fog). Detection shall be able to distinguish between shadows created by the site or by moving traffic and shall prevent false calls from shadows. Similarly, Detection shall be able to differentiate between a car, bike, or pedestrian and be able to map zones or outputs dependent upon the detection type.

The cameras shall provide up to 32 channels of vehicle presence detection per camera via the NTCIP protocol. The traffic controller interface software shall be configured to translate NTCIP data from the cameras to the traffic controller.

The traffic controller interface software shall output a constant call for each enabled detector output channel if a loss of video signal occurs.

Detection zone outputs shall be configurable to allow the selection of presence, pulse, extend, and delay outputs. Timing parameters of pulse, extend, and delay outputs shall be user definable.

The system shall be able to be programmed with a variety of detector types which can perform the following functions:

- Presence/passage detection of moving and stopped vehicles.
- Detection based on the direction of travel.
- Measure vehicle speed and length and provide five (5) classes of vehicles based on length.

#### Video Cameras.

The video cameras shall combine an integrated high-speed, color imaging array with zoom lens optics, image-processing hardware (internal), and a general-purpose CPU bundled into a sealed enclosure. The camera shall be equipped with a sun shield to reflect solar heat and to shield the faceplate and lens from direct exposure to the sun. The camera shall also be equipped with a faceplate heater to prevent accumulated ice, snow, or condensation from obscuring the view of the camera. The general-purpose CPU shall directly control the optics and camera electronics. Camera shall be rated with an IP rating of 67 or better.

The camera lens shall have a treatment or mechanical means to minimize accumulation of snow, ice, frost, rain, and debris. A wiper shall not be allowed unless approved by the engineer.

The zoom optics shall maintain focus throughout the operating range of at least 1x to 12x. Manual and automatic focus features shall be user defined during set-up. Zoom shall be a function modifiable from the Communications hub or standard user interface where detection zones are modified.

The video cameras shall provide color video output at least 30 frames per second and shall process a minimum of thirty-two (32) detector zones placed anywhere in the field of view of the sensor. The video output shall provide graphics overlay that indicates the current real-time detection state and detector channel output.

The camera shall output full motion video and shall operate on 115 VAC at 50/60 Hz, 12 or 24 or 48 VDC.

The Camera shall have automatic Wide Dynamic Range (WDR), digital image stabilization or VDC corrections for vibrations/oscillations in camera position, and automatic day/night cycle correction. Additionally, the camera shall have infrared (IR) illumination for a minimum of 262-feet.

The camera enclosure shall be equipped with weather-tight connections for power and communication cables at the rear of the enclosure or any connection point between the camera and the signal controller cabinet. These connections shall also allow for diagnostic testing, zooming, and viewing of video and radar (if applicable), at the camera while the camera is installed on a mast arm or pole using tools integrated into the software provided as part of the VDP or communications module. A separate zooming tool will not be allowed for the cameras.

Recommended camera placement height shall be 33 feet (or 10 meters) above the roadway, and over the traveled way on which vehicles are to be detected. For optimum detection, the camera should be centered above the traveled roadway, ideally positioned on a signal mast arm, on an 8-foot-long riser pole, between the projection of the inside most through lane and the nearest left turn lane.

The camera Imager shall have a minimum video effective video output of 1920(h) by 1080(v) pixels.

#### Demand Presence Detection Performance.

The system shall be able to accurately provide demand presence detection. The demand presence accuracy shall be based on the ability to enable a protected turning movement on an intersection stop line when a demand exists. The probability of not detecting a vehicle for demand presence shall be less than 1% error under all operating conditions. In the presence of artifact conditions, the system shall minimize extraneous (false) protected movement calls to less than 7%.

#### Installation.

The cable to be used between the camera and the VDP in the traffic cabinet shall be shielded and ruggedized for minimal communication degradation or crosstalk. If the Detection System Vender offers cable or connectors for their sensors, they shall be used. The cable shall be a continuous unbroken run from the camera to the VDP. Should the cable run need to be broken to install a power or communication boosting device, this device shall be in an above ground handhole or separately procured NEMA 4X cabinet, paid for as part of this system. This cable shall be suitable for installation in conduit or overhead with appropriate span wire. The manufacturer's instructions must be followed to ensure proper connection of the connectors required on the cable.

The cabling shall comply with the OUTDOOR RATED NETWORK CABLE specification included with this project. The use of a junction box for splicing the cable shall not be allowed. Cameras may not acquire power from any other source other than the controller cabinet.

The video detection system shall be installed by supplier factory certified installers and as recommended by the supplier and documented in installation materials provided by the supplier. Proof of factory certification shall be provided. All available user manuals and user software shall be provided in digital format (on USB storage drive) and left in each signal cabinet where installed.

Lane by Lane stop bar Count and red light running (RLR) zones shall be programmed for each approach and programmed into separate controller detector channels.

Limited Warranty.

The supplier shall provide a limited five-year warranty on the video detection system. See suppliers standard warranty included in the Terms and Conditions of Sale documentation.

During the warranty period, technical support shall be available from the supplier via telephone within 4 hours of the time a call is made by a user, and this support shall be available from factory-certified personnel or factory-certified installers.

Maintenance and Support.

The supplier shall maintain an adequate inventory of parts to support maintenance and repair of the video detection system. These parts shall be available for delivery within 30 days of placement of an acceptable order at the supplier's then current pricing and terms of sale for said parts.

The supplier shall maintain an ongoing program of technical support for the video detection system. This technical support shall be available via telephone, or via personnel sent to the installation site upon placement of an acceptable order at the supplier's then current pricing and terms of sale for on-site technical support services.

A factory authorized representative shall provide installation or training support.

Basis of Payment.

This item will be paid for at the contract unit price each for VIDEO VEHICLE DETECTION SYSTEM COMPLETE, which price shall be payment in full for furnishing all associated equipment required including lead-in cables, installing the system at one signalized intersection, and placing the system in operation to the satisfaction of the Engineer.

**ETHERNET SWITCH, TYPE 1 (CITY OF ELGIN)**

City of Elgin, Revised June 7, 2024

Description

This work shall include all materials and work necessary to install an Ethernet Managed Switch, Type 1 in a traffic signal cabinet. The Ethernet Managed Switch, Type 1 will connect the equipment in the field cabinet to the City of Elgin IT network.



Materials

The Ethernet Managed Switch, Type 1 is a managed edge switch configured with a minimum of the following ports:

- 12 RJ-45 10/100/1000 Communication ports;
- 4 Single-Mode 1000 base fiber optic communication ports through utilization of modular SFP slots (RJ45/SFP combo ports)

The switch shall be an Extreme Networks Model 4220-12P-4X.

Compatibility

If requested by the Engineer, the Contractor shall provide an off-the-shelf factory model of the proposed switch and demonstrate that the proposed switch will operate transparently and with full functionality in the existing ITS data-comm network. The demonstration will take place prior to ordering any data-comm equipment.

Construction

The Contractor shall locate shelf space or other suitable mounting location in the traffic signal cabinets or as identified on the plans. The Contractor shall secure the Ethernet Switch as appropriate and approved by the engineer.

The Contractor shall install all necessary patch cords, optical transceivers, connectors, power supplies, communication transformers, or auxiliary equipment necessary to complete the communication circuits at full functional potential. The Contractor shall connect the switch to the field devices as indicated on the plans.

The City shall be responsible for all network programming of the network switches and communicating elements within the traffic signal cabinet.

The Contractor will demonstrate that the switches are correctly installed and configured as specified in other special provisions for this project.

Basis of Payment

This work shall be paid for at the contract unit price each for ETHERNET SWITCH, TYPE 1, which price shall be payment in full for furnishing and installing an Ethernet Managed Switch as specified.

**REMOTE CONTROLLED VIDEO SYSTEM (CITY OF ELGIN)**

City of Elgin, Revised: 6/13/2025

Description.

This work shall consist of furnishing and installing an IP based remote controlled video system at a location designated by the Traffic Engineer. The work shall include a color camera, dome assembly, all mounting hardware, connectors, cables, power injectors, and related equipment necessary to complete the installation according to the manufacturer's specifications. Any

licensing required for adding the camera to the City's Genetec video surveillance system will be provided by the City. Configuration of the camera into the centralized system shall be part of this pay item.

Materials.

The PTZ camera shall be one of the following approved models:

- AXIS Q6355-LE
- BOSCH FLEXIDOME 8100i (IR) – X SERIES

The camera shall have a minimum video resolution of 1920x1080 and have full compatibility with the Genetec Omnicast video management system. The Contractor shall furnish the required number of power injectors for the camera make and model selected, including operation of the camera heater, as well as all required mounting hardware, connectors, patch cables, and power supplies. The system shall have anonymous FTP capabilities disabled by the vendor/equipment supplier or provide a feature for the user to disable the functionality through the standard internal menu.

Installation.

The camera shall be installed as shown on the plans, either on the luminaire arm near the luminaire, or on the combination mast arm assembly pole, angled toward the center of the intersection using a mounting bracket compatible with the camera and procured from one of the approved camera manufacturers. When installed on the pole, the camera shall be mounted to provide a minimum of 12 inches clear space between face of the pole and the camera housing. When installed on the luminaire arm, the camera shall be installed with a 30-degree tilt-adjustable bracket. The camera and any external hardware and housing shall be installed with stainless steel straps.

All holes drilled into signal poles, mast arms, or posts shall require rubber grommets to prevent the chafing of wires.

The Contractor shall contact the Traffic Engineer prior to installing the camera and associated wiring, to receive final approval on the camera location. If the Remote Controlled Video System will be connected to the City's network, then a Layer II and/or a Layer III network switch shall be required. Layer II and Layer III switches shall be installed as shown on the plans. Contractor to coordinate with the City's Traffic Signal Consultant and Network engineer for proper set up and IP configuration. The remote controlled video system shall be warrantied, free from material and workmanship defects for a period of three years from final acceptance.

Basis of Payment.

This work will be paid for at the contract unit price per each for REMOTE CONTROLLED VIDEO SYSTEM, The unit price shall include all associated equipment, hardware, cables, materials and labor required to install the complete system in place and in operation to the satisfaction of the Traffic Engineer. The OUTDOOR RATED NETWORK cable from the traffic signal cabinet will be paid for separately. If required, the ETHERNET MANAGED SWITCH, TYPE 1 and/or the ETHERNET MANAGED SWITCH, TYPE 2 will be paid for separately.

**CAMERA MOUNTING ASSEMBLY (CITY OF ELGIN)**

City of Elgin, Revised: 6/24/2025

**Description.**

This work shall consist of modifying an existing traffic signal mast arm pole to accommodate an extension pole suitable for mounting a CCTV Camera and/or wireless point-to-point antenna.

**Materials.**

The pole extension shall be a Schedule 40 galvanized steel pipe, 20 feet in length and 4 inch in diameter.

**General.**

The pole extension shall be fastened to the existing mast arm pole with adjustable, galvanized steel clamps as shown on the plan detail. The galvanized clamps shall fit securely around the tapered mast arm. The contractor shall use galvanized shims and shall modify clamps as required to maintain a plumb vertical alignment of the camera mounting assembly pole. The exposed wires shall be trained into a drip loop and protected with black plastic spiral cable wrap. Relocation, adjustments or any temporary removal and reinstallation of any mast arm mounted sign panels or any other equipment in conflict with the installation of Camera Mounting Assembly shall be part of this pay item and included in the unit price.

All holes drilled into signal poles, mast arm, or posts shall require a rubber grommets to prevent the chafing of wires.

Powder coating by the manufacturer will be required over the galvanization in accordance with 851.01TS TRAFFIC SIGNAL PAINTING Special Provisions.

**Basis of Payment.**

This work will be paid for at the contract unit price each for CAMERA MOUNTING ASSEMBLY. The unit price shall include all equipment, materials, mounting hardware, shims, gromets, cable wrap, components, and labor required to securely fasten the assembly to an existing pole and place the camera into operation to the satisfaction of the Traffic Engineer. The camera and cables will be paid for separately as part of unit price for REMOTE CONTROLLER VIDEO SYSTEM, and OUTDOOR RATED NETWORK CABLE.

**TRAFFIC SIGNAL POST**

Effective: May 22, 2002

Revised: March 1, 2025

875.01TS

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

- (c) Anchor Rods. The anchor rods shall be a minimum of 5/8 in. in diameter and 16 in. long and shall be according to Article 1006.09. The anchor rods shall be threaded approximately 6 in. at one end and have a bend at the other end. The first 12 in. at the threaded end shall be galvanized. One each galvanized nut and trapezoidal washer shall

be furnished with each anchor rod. The washer shall be properly sized to fully engage and sit flush on all sides of the slot of the base plate.

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

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

### **TRAFFIC SIGNAL PAINTING**

Effective: May 22, 2002

Revised: March 1, 2025

851.01TS

#### **Description.**

This work shall include surface preparation, powder coated finish application and packaging of new galvanized steel traffic signal mast arm poles and posts assemblies. All work associated with applying the painted finish shall be performed at the vendor's facility for the pole assembly or post or at a painting facility approved by the Engineer. Traffic signal mast arm shrouds and post bases shall also be painted the same color as the pole assemblies and posts, including pedestrian posts.

#### **Surface Preparation.**

All weld flux and other contaminants shall be mechanically removed. The traffic mast arms and post assemblies shall be degreased, cleaned, and air dried to assure all moisture is removed.

#### **Painted Finish.**

All galvanized exterior surfaces shall be coated with a urethane or triglycidyl isocyanurate (TGIC) polyester powder to a dry film thickness of 2.0 mils. Prior to application, the surface shall be mechanically etched by brush blasting (Ref. SSPC-SP7) and the zinc coated substrate preheated to 450 °F for a minimum one (1) hour. The coating shall be electrostatically applied and cured by elevating the zinc-coated substrate temperature to a minimum of 400 °F.

The finish paint color shall be one of the vendor's standard colors and shall be as selected by the local agency responsible for paint costs. The Contractor shall confirm, in writing, the color selection with the local responsible agency and provide a copy of the approval to the Engineer and a copy of the approval shall be included in the material catalog submittal.

Painting of traffic signal heads, pedestrian signal heads and controller cabinets is not included in this pay item.

Any damage to the finish after leaving the vendor's facility shall be repaired to the satisfaction of the Engineer using a method recommended by the vendor and approved by the Engineer. If while at the vendor's facility the finish is damaged, the finish shall be re-applied at no cost to the contract.

Warranty.

The Contractor shall furnish in writing to the Engineer, the paint vendor's standard warranty and certification that the paint system has been properly applied.

Packaging.

Prior to shipping, the poles and posts shall be wrapped in ultraviolet-inhibiting plastic foam or rubberized foam.

Basis of Payment.

This work shall be paid for at the contract unit price each for PAINT NEW MAST ARM AND POLE, UNDER 40 FEET (12.19 METER), PAINT NEW MAST ARM AND POLE, 40 FEET (12.19 METER) AND OVER, PAINT NEW COMBINATION MAST ARM AND POLE, UNDER 40 FEET (12.19 METER), PAINT NEW COMBINATION MAST ARM AND POLE, 40 FEET (12.19 METER) AND OVER, PAINT NEW TRAFFIC SIGNAL POST or PAINT NEW PEDESTRIAN PUSH-BUTTON POST of the length specified, which shall be payment in full for painting and packaging the traffic signal mast arm poles and posts described above including all shrouds, bases and appurtenances.

**RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT**

Effective: January 1, 2002

Revised: July 1, 2015

887.03TS

This item shall consist of relocating the existing emergency vehicle priority system phasing unit from an existing traffic signal controller cabinet to a new traffic signal controller cabinet, as indicated in the plans or as directed by the Engineer.

The work shall include disconnecting the emergency vehicle priority system phasing unit(s) and reconnecting it into the new traffic signal controller cabinet.

The emergency vehicle system is not to be inoperative for more than 8 hours and the Contractor must notify the Municipality or Fire Protection District 72 hours prior to the disconnection of the equipment. The Contractor must demonstrate to the satisfaction of the Engineer that the emergency vehicle system operates properly.

Basis of Payment.

This item will be paid for on a basis of one (1) each per intersection for RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT.

**REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT (CITY OF ELGIN)**

City of Elgin, Revised: 9/16/2024

Add the following to Article 895.05 of the Standard Specifications:

The traffic signal equipment which is to be removed and is to become the property of the Contractor shall be disposed of outside the right-of-way at the Contractor's expense.

All equipment to be returned to the City shall be delivered by the Contractor to the City's Traffic Signal Consultant (Hampton, Lenzini and Renwick, Inc. 1707 N. Randall Road, Suite 100, Elgin, Illinois 60123). The Contractor shall contact the City's Traffic Signal Consultant to schedule an appointment to deliver the equipment. No equipment will be accepted without a prior appointment. All equipment shall be delivered within 30 days of removing it from the traffic signal installation. The Contractor shall provide one hard copy and one electronic file of a list of equipment that is to remain the property of the City, including model and serial numbers, where applicable. The Contractor shall also provide a copy of the Contract plan or special provision showing the quantities and type of equipment. Controllers and peripheral equipment from the same location shall be boxed together (equipment from different locations may not be mixed) and all boxes and controller cabinets shall be clearly marked or labeled with the location from which they were removed. If equipment is not returned according to these requirements, it will be rejected by the City's Traffic Signal Consultant. The Contractor shall be responsible for the condition of the traffic signal equipment from the time Contractor takes maintenance of the signal installation until approval by the City's Traffic Signal Consultant.

Traffic signal equipment which is lost, damaged, or not returned to the City for any reason shall be replaced with new equipment meeting the requirements of these Specifications at no cost to the contract.

#### **ADVANCED TRANSPORTATION CONTROLLER AND CABINET (CITY OF ELGIN)**

City of Elgin, Revised: 12/11/2025

##### Description.

This work shall consist of furnishing and installing a traffic actuated solid state digital controller in an Advanced Transportation Controller (ATC) cabinet of the type specified, meeting the requirements of Section 857 of the Standard Specifications, and as modified herein, including Output Assembly, Input Assembly, Service Assembly, DC Power/Communications Bus, AC Clean Power Bus, Field Output Panel (FOP), and all necessary connections for proper operation. This specification describes the shelf mount versions of the ATC cabinet, which uses a NEMA-style cabinet with ATC subassemblies mounted either on a shelf or on the cabinet side walls.

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

##### Materials.

Add the following to Article 857.02 of the Standard Specifications:

“Controllers shall be Yunex Blade unless specified otherwise on the plans or elsewhere on these specifications. Only controllers supplied by one of the District One approved Vendors will be allowed. The controller shall be of the most recent approved model and software version supplied by the Vendor at the time of the traffic signal TURN-ON unless specified otherwise on the plans or these specifications. A removable controller data key shall also be provided. The controller shall be equipped with a 2070 series controller module for proper operation in an ATC cabinet. The controller shall prevent phases from being omitted during program changes and after all preemption events and shall inhibit

simultaneous display of circular yellow and yellow arrow indications.

For integration into the Yunex Tactics/Studio Advanced Traffic Management System (ATMS), the controller shall have the latest version of approved NTCIP software installed. For operation prior to integration into an ATMS, the controller shall maintain existing communications. Additionally, five (5) years of access to Signal Performance Measures (SPMs) shall be accessible via the manufacturer's cloud service. SPMs shall be accessible for both the traffic controller front panel and traffic controller internal webpage for the lifetime of the device. ”

Add the following to Article 1074.03 of the Standard Specifications:

(a) The cabinet shall be designed and manufactured with materials that will allow rigid mounting. The cabinet shall be base mounted only. The cabinet shall not flex on its mount. The subassemblies in the cabinet shall be removable with simple hand tools, such as a screwdriver, and without removing any other equipment. Any components over 50 V with exposed terminals shall be protected from incidental contact per NEC requirements. All equipment in the cabinet shall be clearly and permanently labeled. All marker strips shall be made of material that can be easily written on using a pencil or ballpoint pen. Marker strips shall be located immediately below the item they are to identify and must be clearly visible with the items installed. Card guides (top and bottom) shall be provided for the plug-ins. All circuit boards shall be conformal coated to protect the boards from moisture. All switches shall be guarded.

Each cabinet assembly shall be tested as a complete entity under signal load. The cabinet shall be assembled and tested by the Manufacturer or Vendor to ensure proper component integration operation.

Revise the table in Article 1074.03 (a) (1) to read:

Type	Approx. Volume cu ft (cu m)	Police Door	Mounting	Ventilation	Remark
I	Reserved				
II	5.0 (0.14)	Yes	Post Top	Filtered Air Intake and One Thermo- Statically Controlled Fan	
III	11.5 (0.33)	Yes	Ground Mount	Filtered Air Intake and One Thermo- Statically	For Traffic Actuated Controller.

				Controlled Fan	
IV	29.0 (0.82)	Yes	Ground Mount	Filtered Air Intake and Two Thermo-Statically Controlled Fan	For Traffic Actuated Controller. Back Panel with Minimum 12 Load Switch Positions or ATC Cabinet.
V	44.0 (1.25)	Yes	Ground Mount	Filtered Air Intake and Two Thermo-Statically Controlled Fan	For Traffic Actuated Controller. Back Panel with Minimum 12 Load Switch Positions or ATC Cabinet.

Add the following to Article 1074.03 of the Standard Specifications:

(a) (1) A “Type 4.5/Type IV Stretched” cabinet shall be provided. This cabinet has the same dimensions as a Type IV cabinet with an additional height. Additionally, the cabinet shall include a front and rear door with double, vented overhangs for protection from water intrusion.

(a) (2) a. The gaskets shall be permanently bonded to the cabinet. The gaskets shall include a polyester film to prevent the gaskets from sticking to the cabinet surface.

(a) (2) e. A rain channel shall be incorporated into the design of the main door opening to prevent liquids from entering the enclosure. The cabinet door opening shall be a minimum of 80 percent of the front surface of the cabinet. A stiffener plate shall be welded across the inside of the main door to prevent flexing.

(a) (2) f. The top of the cabinet shall incorporate a 1 in. slope towards the rear to prevent rain accumulation.

Revise Article 1074.03 (a) (3) paragraph “a” to read:

“Multiple Door-Stop. The main door on the cabinet shall be equipped with a three-point latching mechanism with nylon rollers. It shall include an automatic door stop mechanism capable of holding the door open at approximately 90°, 120°, and 180° under windy conditions. Manual placement of the mechanism shall not be required by field personnel.”

Add the following to Article 1074.03 of the Standard Specifications:

(a) (3) b. The main door shall utilize stainless steel hardware. The handle shall include a vertically-mounted hasp for the attachment of an optional padlock. The handle shall not extend beyond the perimeter of the main door at any time.



(a) (3) c. The lock assembly shall be positioned so that the handle does not cause any interference with the key when opening the cabinet door. All external fasteners shall be tamper-proof. The police door assembly shall be flush-mounted to the main door.

(a) (3) d. The cabinet shall be supplied with a natural aluminum mill finish. Sufficient care shall be taken in handling to ensure that scratches are minimized. All surfaces shall be free from weld flash. Welds shall be smooth, neatly formed, and free from cracks, blowholes, and other irregularities. All sharp edges shall be ground smooth.

(a) (3) e. The cabinet seams shall be sealed with a tack weld on the interior of the cabinet and a double flange at the top only. Optionally, the cabinet can be supplied as a UL listed version with double flanges all the way around, and continuous welding of all seams.

(a) (3) f. All cabinets shall be supplied with a minimum of two removable shelves manufactured from 5052-H32 aluminum. Shelves shall be a minimum of 10 in. deep. The shelves shall include two (2) 1U mounting positions to install 1U rack-mounted equipment. The rack mounting holes shall be tapped for #10-32 screws. Additionally, provisions shall provide for rack mounting an uninterruptable power supply inverter and safety automatic transfer switch.

(a) (3) g. Cabinets shall include a set of three vertical “C” channels mounted on each interior side wall of the cabinet for the purpose of mounting the cabinet components. The channels shall accommodate spring mounted nuts. All mounting rails shall extend 3-1/8 in. from the bottom of the cabinet. The sidewalls shall be supplied three channels, with the rear channel located at 8 in. from the back of the cabinet. Measured from center to center, the middle channel shall be 8-1/2 in. from the rear channel, and the front rail shall be 6 in. from the middle channel. The rear walls shall be supplied with three saw tooth rails, with the left-most rail located at 8 in. from the left side of the cabinet. Measured from center to center, the middle rail shall be located 9 in. from the left-most rail, and the right-most rail shall be 19-1/2 in. from the middle rail. The saw tooth rails on back wall shall allow shelf adjustments in 1/2 in. increments.

(a) (3) h. The lower section of the cabinet shall be equipped with a louvered air entrance. The air inlet shall be large enough to allow sufficient air flow per the rated fan capacity. Louvers shall satisfy the NEMA rod entry test for 3R ventilated enclosures. A removeable, disposable air filter shall be secured to the air entrance, as mentioned in 1074.03 (a) (2) paragraph “c”.

(a) (3) i. The roof of the cabinet shall incorporate an exhaust plenum with a vent screen. Perforations in the vent screen shall be 1/8 in. x 1/2 in. rectangular slots.

(a) (3) j. Anchor bolts shall be used to properly secure the cabinet to its base. The cabinet flange for securing the anchor bolts shall not protrude outward from the bottom of the cabinet. Four (4) 3/4 in. x 18 in. long right-angle anchor bolts shall be provided with the cabinet.

(a) (3) k. All cabinets shall be pre-wired for a minimum of eight (8) phases of vehicular, four (4) phases of pedestrian and four (4) phases of overlap operation.

Revise Article 1074.03 (a) (4) paragraph “a” to read:

“Surge Suppressor. The suppressor protecting the cabinet equipment shall consist of two stages: stage one which shall include a controller cabinet AC power protection and stage two which shall include AC circuit protection.”

Revise Article 1074.03 (a) (5) paragraph “a” to read:

“Signal Flash in Absence of Subassemblies. The cabinet shall be capable of remaining in flashing operation with any of the following subassemblies removed: Input Assembly, Output Assembly, Cabinet Power Supply, and Controller.”

Remove Article 1074.03 (a) (5) paragraphs “b”, “c”, and “d”.

Replace Article 1074.03 (b) to read:

(b) ATC Cabinet Subassemblies.

(1) Output Assembly.

- a. The Output Assembly shall accommodate 3U plug-in cards and be mounted on the shelf. The shelf mounting shall include mounting flanges to allow the rack to be bolted to the shelf.
- b. The Output Assembly shall accommodate eight (8) Model 2202 High-Density Switch Pack/Flasher Units (HDSP/FU), providing a total of 48 output channels.
- c. The Output Assembly shall accommodate one (1) Model 2218 Serial Interface Unit (SIU) to provide interface and control via system SB1/SB2.
- d. The Output Assembly shall accommodate one (1) Model 2212 Cabinet Monitor Unit (CMUip).
- e. The Output Assembly shall include a hinged front panel with four (4) Circuit Breakers. The front panel shall be attached with thumb screws to allow access to the wiring. The circuit breakers shall be rated at 5 A. The breakers shall be Carling Technologies “B” series or approved equal. Each breaker shall protect two (2) HDSPs. The breakers shall be protected by a flip-up cover to protect against accidental activation.

- f. The Output Assembly shall utilize four (4) 24-pin connectors (Molex 39-28-8240) or eight (8) 12-pin connectors (Molex 39-28-8120) to interface the HDSP outputs to the Field Output Panel (FOP).
- g. All exposed AC voltage on the Output Assembly circuit boards shall be protected using a removable Lexan cover mounted on standoffs.

For a 32-channel cabinet where a second Output Assembly is used, the second Output Assembly shall meet the same requirements as the first Output Assembly, with the exception of accommodating a CMUip.

(2) Field Output Panel (FOP).

- a. The 16-Channel FOP shall be coupled with its respective 16-Channel Output Assembly to provide pluggable connectors for the signal output field terminals, flash programming, and flash transfer relays.
- b. The FOP shall house eight (8) Model 21H High-Density Flash Transfer Relays (HDFTRs) and sixteen (16) Flash Program Blocks (FPBs). The HDFTRs and FPBs shall be provided to control and select the color (red, yellow, or dark) during flashing operation.
- c. HDSP Suppressors shall be provided at the field terminals for the protection of the HDSP. These suppressors shall plug in on the back side of the FOP.
- d. Each HDFTR position shall be labeled with the number of its associated HDSP. Each FPB position shall be labeled with the number of its associated channel.
- e. The FOP shall be provided with sixteen (16) 6-position Phoenix Contact terminal block model number 1777765 plugs and 1720615 sockets. Each Field Terminal Block socket shall be labeled with the number of its associated channel. Additional labels shall be provided to clearly indicate which terminals correspond to the red, yellow, and green switch pack outputs.
- f. The FOP shall be mounted on the sawtooth rails on the back wall and shall swing down using thumbscrews to provide access to the HDSP Suppressors and the wiring for the FOP. The panel shall be angled to allow easy access to the field terminals.
- g. The FOP shall utilize eight (8) 12-pin connectors, Molex 39-28-8120, to interface the HDSP outputs to the FOP. The cables shall be long enough to allow the FOP to swing down with no interference.

For a 32-channel cabinet where a second FOP is used, the second FOP shall meet the same requirements as the first FOP.

(3) Combination Output Assembly-Field Output Panel Unit (16-Channel Loadbay).

The Output Assembly and Field Output Panel shall be optionally available as a combined unit, similar to a NEMA loadbay. This version is only available for a 16-channel configuration.

- a. The loadbay shall be mounted on the sawtooth rails at the back of the cabinet below the bottom shelf.
- b. The Output Assembly shall be mounted at the top of the loadbay.
- c. The Field Output Panel shall be mounted below the Output Assembly on an angled plate to allow easy access to the field terminals.
- d. All other requirements for the Output Assembly shall meet Article 1074.03 (b) (1).
- e. All other requirements for the Field Output Panel shall meet Article 1074.03 (b) (2).
- f. All Field Output cables shall have electric circuit protection to prevent accidental overloads and short circuits caused in Field Outputs. The circuit breakers shall be rated to maximum of 2 amps.

(4) Input Assembly.

- a. The Input Assembly shall be a 3U high shelf mounted assembly providing twelve (12) slots of 22/44 pin PCB sockets for utilizing input devices such as loop detectors, AC and DC isolators, and emergency vehicle preemption (EVP) equipment.
- b. The Input Assembly shall accommodate one (1) Model 2218 Serial Interface Unit (SIU) to provide interface and control between the controller and the input devices via system SB1/SB2.
- c. The Input Assembly shall house twelve (12) 2-channel detection modules, six (6) 4-channel detection modules, or a combination of 2 & 4 channel detection modules up to 24 channels.
- d. The Input Assembly shall utilize two (2) 26-position ribbon cable connectors, TE Connectivity model 102321-6, for connections to the Field Input Panel.

(5) Field Input Panel (FIP).

- a. The 24-Channel FIP shall be coupled with the 24-Channel Input Assembly. The FIP shall provide a convenient landing point with pluggable terminal blocks for the field input wires.

- b. The FIP shall have positions for landing twenty-four (24) two-wire inputs and their associated earth ground wires. The landing points shall be pluggable terminal blocks with 10 positions for each block. The terminal blocks shall be Phoenix Contact model 1757093 or approved equivalent.
- c. Each input terminal position shall be labeled with its associated channel number.
- d. The FIP shall have positions for twelve (12) pluggable Detection Module Suppressors. The Detection Module Suppressors shall be supplied with the cabinet if required by procurement.
- e. The circuit board shall be mounted on a 1/8 in. thick aluminum plate that includes mounting slots for channel mounting. The plate shall include pressed-in PEM standoffs to mount the circuit boards.

(6) Service Assembly.

The Service Assembly shall be modular and be accessible without the use of hand tools. It shall be mounted to the right-hand side of the cabinet. The Service Assembly shall house the following items:

- a. Two (2) Model 2202-HV High-Density Switch Pack/Flasher Units (HDSPs/FUs).
- b. Pluggable Cabinet Suppressor/Filter – Hesco RLS model HE1750 or approved equal.
- c. Main Contactor.
- d. Four (4) HDFU output fuses (16-channel version) or eight (8) HDFU output fuses (32-channel version).
- e. Six (6) Circuit Breakers. The circuit breakers shall be Carling Technologies “B” series or approved equal. The circuit breakers shall be protected by flip-up covers to protect against accidental activation. The circuit breakers shall be provided for the following functions:
  - 1. Main – 30 A
  - 2. Clean AC Power – 15 A
  - 3. Raw AC Power – 15 A
  - 4. Output Assembly – 15 A
  - 5. HDFU #1 – Maximum 15 A
  - 6. HDFU #2 – Maximum 15 A (optional, for 32-channel version only)
- f. GFCI duplex receptacle.

- g. Earth Ground and AC Neutral bus bars.
- h. Raw AC utility power input terminal block having five screw terminals.

(7) DC Power/Communication Bus.

- a. The DC Power/Communication Bus shall include eight (8) DB25 D-sub socket connectors, TE Connectivity model 5745886-2, to interconnect the SB1/SB2 communication ports of the assemblies and Controller. It shall include a termination circuit at the end of the connections (S8) to prevent radio frequency signal reflection.
- b. The DC Power/Communication Bus shall include eight Phoenix Contact connectors, model 1830635, to bring DC power to the Bus and distribute it to the cabinet subassemblies. The copper traces for the DC voltages shall support at least 10 Amp.
- c. The circuit board shall be protected by an aluminum cover that includes the cabinet mounting flanges.
- d. The DC Power/Communication Bus shall be mounted on the left side wall of the cabinet.

(8) AC Clean Power Bus.

The AC Clean Power Bus shall include eight (8) NEMA 5-15 receptacles to provide AC Clean Power to the ATC Cabinet Assemblies, the Controller, and Cabinet Power Supply.

(9) Switch Shield.

- a. The cabinet shall include a technician switch shield. This shield shall protect the police panel switch wiring and include technician test switches for Stop Time, Auto/Flash, and a 24 VDC Bypass Switch. This 24 VDC Bypass switch shall be a momentary push button switch that, when pressed, energizes the 24 VDC to the HDSPs during Flash Mode. The button shall be labeled "24 VDC BYPASS". This allows a technician to momentarily apply 24 VDC power to the HDSPs while in a Flash condition.
- b. The switch shield shall include a duplex receptacle with USB ports for device charging. This receptacle shall be powered by the Raw AC Power circuit breaker.

(10) Police Panel.

- a. The cabinet shall include a police panel with switches for Auto/Flash, Signals On/Off, and Auto/Manual. The Auto/Manual shall enable Manual Control Enable in the controller when in the Manual position.

- b. The cabinet shall include a hard-wired manual control cable with a 6 ft coiled cord. This cable shall enable Interval Advance in the controller when depressed.

(11) Slide-out Drawer/Shelf.

- a. A telescoping slide-out drawer shall be provided for document storage.
- b. The Slide-Out Drawer/Shelf shall be mounted underneath the shelf and include a lip or handle for pulling.
- c. The drawer shall have a hinged top cover.
- d. The drawer shall be capable of accommodating one (1) complete set of cabinet prints and manuals.
- e. The drawer shall support 50 lb (23 kg) in weight when fully extended.
- f. The drawer shall open and close smoothly.
- g. The drawer dimensions shall make maximum use of available depth offered by the controller shelf and be a minimum of 18 in. (610mm) wide.

Add the following to Article 1074.03 of the Standard Specifications:

(c) ATC Cabinet Plugins.

(1) Model 2202-HV High-Density Switch Pack/Flasher Unit (HDSP/FU).

- a. The HDSP/FU shall be compact, pluggable, modular PCB-based, and equipped with a DIN connector.
- b. The HDSP/FU shall be compatible with ultra-low power LED signal heads and shall have a current monitoring feature for each output of each channel.
- c. The HDSP/FU shall use real-time standardized high speed SB3 communications with the Cabinet Monitor Unit to send a complete set of RMS voltage and load current measurements.
- d. The HDSP/FU shall be 4.5 in. H x 6.5 in. D and shall be equipped with a handle, reset push button switch, six RYG LED indicators, four flasher LED indicators, one power LED indicator, and two Rx/Tx LED indicators.
- e. The HDSP/FU can function as either a switch pack (HDSP) or as a flasher unit (HDFU).

1. When installed in the Output Assembly, the HDSP shall provide two RYG channels of operation (6 individual field outputs).
2. When installed in the Service Assembly, the HDFU shall function as a four output flasher.

(2) Model 2212-HV Cabinet Monitor Unit (CMUip).

- a. The Cabinet Monitor Unit (CMUip) shall be compact, pluggable and modular.
- b. The CMUip shall use real-time standardized 614.4 kbps SDLC communications with the ATC to transfer command and response data on Serial Bus #1 (SB1).
- c. The CMUip shall be capable of monitoring up to 32 physical switch pack channels (RYG) and shall have optional four virtual channels.
- d. The CMUip shall provide a Flasher Alarm feature. This alarm shall not put the cabinet into a Flash condition.
- e. The CMUip shall analyze the ATC output commands and field input status to isolate the failure source by channel and color.
- f. The CMUip configuration programming shall be provided by an interchangeable Datakey nonvolatile memory device. This rugged key shall store all CMUip configuration parameters and shall eliminate programming using jumpers, diodes, or DIP switches.
- g. The CMUip shall maintain a nonvolatile event log recording the complete intersection status as well as time stamped previous fault events, AC Line events, configuration changes, monitor resets, cabinet temperature and true RMS voltages and currents for all field inputs.
- h. The signal sequence history log stored in nonvolatile memory graphically shall display up to 30 seconds of signal status prior to the fault trigger event with 50 ms resolution to ease diagnosing of intermittent and transient faults.

(3) Model 2218 Serial Interface Unit (SIU).

- a. The Model 2218 Serial Interface Unit (SIU) shall be a compact, pluggable and modular.
- b. The SIU shall use real-time standardized 614.4 kbps SDLC communications with the ATC to transfer command and response data on Serial Bus #1 (SB1).



- c. The SIU shall be equipped with 54 programmable input/output pins, four (4) optically isolated input pins, one line sync reference input pin, and four (4) address select input pins. The optically isolated inputs shall work with either 12 VAC or 24 VDC.
- d. The SIU outputs shall be rated at 150 mA continuous sink current. Each output shall provide a 500 mA typical current limit and shall be rated to 50 V and utilize a voltage clamp for inductive transient protection.
- e. The SIU shall be equipped with a front panel LED indicator that can report the current SIU assembly address assignment of the SIU for cabinet configuration verification.
- f. The SIU shall require a nominal supply voltage of 24 VDC (+/- 2 VDC). A voltage of 16 VDC or less shall be considered loss of power, and a voltage of 18 VDC or greater shall be considered adequate for operation. The SIU shall not require more than 300 mA over the voltage range of 16 VDC to 30 VDC and the power surge shall be limited to a maximum of 1.25 A from initial application of DC power. The SIU shall not be damaged by insertion to, or removal from, powered input or output assemblies. The SIU shall operate normally for 700 ms after power loss.

(4) Model 2220 Auxiliary Display Unit (ADU).

- a. The ADU shall install in a 1U height of the rack space and shall provide a menu driven user interface to the enhanced features of the CMUip monitor, including the built-in Diagnostic Wizard.
- b. The ADU shall provide 32 channels of Red, Yellow and Green LED indicators that display full intersection status and 32 Blue fault status LED indicators to identify faulty channels.
- c. The ADU shall provide proper electrical termination to SB3.
- d. The ADU shall have a 4 line by 20 character menu driven liquid crystal display with backlight and heater.
- e. The ADU built-in Diagnostic Wizard shall automatically pinpoint faulty signals, offer trouble-shooting guidance, and automatically isolate and identify problems.
- f. The ADU shall be equipped with Event Logging displaying the CMUip time-stamped nonvolatile event log records with the complete intersection status, as well as AC Line events, monitor resets, temperature and true RMS voltages and currents.

(5) Model 2216 Cabinet Power Supply (CPS).

- a. The Model 2216 Cabinet Power Supply is a modular 19 in. rack mounted power supply device providing the DC voltages necessary for operating the ATC Cabinet. Power Factor Correction shall be provided. The PS2216-24-HV provides a regulated 24 VDC output and a regulated 48 VDC output. The PS2216-2412-HV model provides a regulated 24 VDC output, a regulated 48 VDC output, and a regulated 12 VDC output option for powering the Input Assembly devices. Unless otherwise specified, all PS2216 requirements apply to both model types.
- b. The CPS shall be 1U in height maximum and designed to mount into a 19 in. EIA rack. The maximum depth of the PS2216 shall be less than 8 in.
- c. The CPS shall be powered from AC Line provided by an AC Line cord with NEMA Type 515 plug. The input voltage range shall be 80 to 270 VAC, 45 to 65 Hz. Power Factor Correction shall be greater than 0.95.
- d. The PS2216-2412 shall provide:
  1. 48 VDC +/- 2 VDC at 1 A maximum
  2. 24 VDC +/- 2 VDC at 4 A maximum
  3. 12 VDC +/- 1 VDC at 5 A maximum
- e. Each DC output shall be electrically isolated from AC Mains and Earth Ground. The 24 VDC and 12 VDC outputs share a common ground.
- f. The DC Output Ripple on each output shall be less than 300 mVpp when measured at 20 MHz of bandwidth using a 12 in. twisted pair-wire terminated with a 0.1  $\mu$ f & 47  $\mu$ f capacitor.
- g. The DC outputs shall attain regulated output levels within 500 ms of applied AC Line voltage of 110 VAC nominal across the operating temperature range and at rated full load.
- h. The DC outputs shall maintain regulated output level for a minimum of 50 ms across the operating temperature range and at rated full load.
- i. All indicators shall be clear LEDs. Clear LEDs shall not depend on a reflector or diffusion as part of its design. Clear LEDs shall not appear to be ON when exposed to ambient light. The following indicators shall be provided:
  1. A green AC Line indicator shall illuminate to indicate Operational input voltage is proper and the AC Line fuse is intact.
  2. A green indicator shall illuminate to indicate the 48 VDC output is active and the fuse is intact.
  3. A green indicator shall illuminate to indicate the 24 VDC output is active and the fuse is intact.

4. A green indicator shall illuminate to indicate the 12 VDC output is active and the fuse is intact (PS2216-2412 only).
- j. Banana style test jacks shall be provided on the front panel for each DC output and DC ground. Mating banana plug spring width shall be 0.175 in. Nominal.
- k. The output connector shall be a Phoenix Contact #1825161 and shall mate with a Phoenix Contact #1825352 or equivalent. Pin #1 shall be the right most pin when viewed from the rear of the supply.

Table 2 – Power Supply Connector Pin-Out

Pin	Function
1	+48VDC
2	48VDC Ground**
3	+24VDC
4	+12VDC (PS2216-2412 only)
5	24/12VDC Ground
6	Chassis Ground

\*\*The 48 VDC output shall be electrically isolated from the AC Line input and the 24VDC and 12 VDC outputs. The 48VDC Ground (pin #2) must be connected within the cabinet to the same AC Neutral that the Cabinet Monitor Unit (CMU) is connected to in the cabinet.

(6) MonitorKey Programming Tool.

- a. The Programming Tool provides the capability to read and write data from the CMUip Datakey device.
- b. The MonitorKey software shall be compatible with the CMUip-2212.

(7) Model 21H High-Density Flash Transfer Relay (HDFTR).

- a. The HDFTR shall be a Struthers-Dunn model 21XBXHL-48VDC or approved equal.
- b. The HDFTR shall have a hermetically sealed cover and shall be moisture proof.
- c. The HDFTR shall be filled with dry nitrogen to protect contacts from corrosion and to prevent condensation.
- d. The HDFTR shall have a cupronickel cover that is salt water resistant.

- e. The HDFTR contacts shall be rated at 10 A @ 120 VAC.
- f. The coil of the HDFTR shall be rated at 48 VDC.
- g. The HDFTR shall have an LED indicator to display contact transfer status.

(8) Main Contactor (MC).

- a. The MC shall be a combination solid-state and electromechanical relay in parallel and shall be rated at 60 A @ 120 VAC and 50 A @ 240 VAC. The coil of the MC shall be rated at 48 VDC.
- b. The MC shall be equipped with input indicator and shall have SPST- N.O. contacts.
- c. The MC shall be hermetically sealed.
- d. The MC shall be easily accessible without removing any covers or panels.
- e. The MC shall be mounted on the Service Assembly for access to the wiring and to view the LED indicator.

(9) Cabinet Suppressor-Filter.

- a. The cabinet shall be equipped with a pluggable Cabinet Suppressor–Filter mounted in the Service Assembly. The pluggable Cabinet Suppressor-Filter shall be an Asco Power SHA-1250, Hesco HE1750, or approved equivalent.
- b. The unit shall incorporate the use of warning and failure indicators and shall have a dry relay contact remote sensing circuit. The unit shall be modular and pluggable with a 12-position Beau 5412 connector.
- c. The unit shall be rated at continuous service current of 15 A and maximum clamp voltage of 390 VAC. The unit shall filter noise and spike from 10 KHz to 25 MHz and shall have a peak surge current of 48 kA.

(10) Detection Module Suppressor.

- a. The Detection Module Suppressor shall be Hesco model HE6LC-6 or Asco Power model MRA-6LC-6.
- b. The Detection Module Suppressor shall be modular and pluggable.
- c. The unit shall be epoxy encapsulated and equipped with 6-position 5.08 mm Phoenix Contact or approved equal connector.
- d. The unit shall be able to protect 6 circuits.

- e. The device operating voltage shall be 75 VAC and clamping voltage shall be 130 VDC.
- f. The device dimensions shall be 2 in. H x 7/10 in. W x 1-1/5 in. D.

(11) HDSP Protector.

- a. The HDSP Protector shall be modular and pluggable. The unit shall be a Hesco HE103C-9, Asco MPA303-9, or approved equal.
- b. The unit shall be epoxy encapsulated and equipped with 9-position 5.08 mm Phoenix Contact connector or approved equal.
- c. The unit shall be able to protect 6 circuits.
- d. The device operating voltage shall be 120 VAC and clamping voltage shall be 340 VAC.
- e. The unit dimensions shall be 2 in. H x 7/10 in. W x 2 in. D.

(d) Auxiliary Cabinet Equipment.

(1) Ventilation Fans.

- a. Two (2) thermostatically controlled fans shall be provided to ventilate the cabinet.
- b. The fans shall be equipped with ball or roller bearings and shall each have a minimum capacity of 100 cu ft of free air delivery per minute.
- c. The fans shall be protected by a finger guard.
- d. The fan circuit shall be protected at 125% of the fan motor ampacity.

(2) Heater.

- a. One (1) 400 W, thermostatically controlled, electric heater with automatic fan function. The heater shall have a dedicated control switch to either turn on or off the unit.

(3) Thermostat.

- a. The thermostat shall be manually adjustable between 80°F and 170°F with a differential of not more than 10°F between automatic turn on and off.
- b. The manual adjustment shall be graded in 10°F increment scale.

- c. The Thermostat shall be a Bud Industries TS-15-A or approved equal.

(4) Lighting.

- a. The cabinet shall include two (2) LED light panels to illuminate the interior of the cabinet.
- b. One LED panel shall be mounted on the fan panel, and the other shall be mounted underneath the lower shelf.
- c. Both LED panels shall illuminate whenever the cabinet door is opened.
- d. The LED panels shall be provided from an approved Vendor.

(5) Insulation.

- a. Minimum half inch polystyrene rigid board insulation with a minimum R-3 thermal resistance attached to the top of cabinet on the interior side.

(6) Communications Antenna.

- a. A low-profile, IP67 rated antenna shall be mounted to the top of the cabinet enclosure.
- b. The antenna shall be a multiple-input, multiple-output (MiMo) omnidirectional unit including two wide banded LTE antennas that cover 4G, 3G and 2G bands, one 2.4GHz Wi-Fi antenna, one DSRC antenna and one active GPS antenna.

(7) Power Distribution Unit.

- a. The power distribution unit shall have a minimum of eight (8) 120-volt NEMA 5-15 receptacles which are remotely switched and two (2) 120-volt NEMA 5-15 receptacles which are always on.
- b. Shall have a Network Interface through RJ-45 port Ethernet communications. Shall also support functionality for automatically pinging IP addresses with a programmable function to reboot user designated outlets.
- c. The unit shall be shelf rack-mounted in a 1U space.

(e) Spare Parts.

- (1) The contractor shall provide spare components of the following set of items listed below. When multiple cabinets are ordered as part of the project, the

contractor only has to provide one set of the spare components for the whole project.

- a. Four (4) – Model 2202-HV High-Density Switch Pack/Flasher Unit (HDSP/FU).
- b. Two (2) – Model 2218 Serial Interface Unit (SIU).
- c. One (1) – Model 2212-HV Cabinet Monitor Unit (CMUip).
- d. One (1) – Model 2216 Cabinet Power Supply (CPS).
- e. One (1) – Model 242L DC Isolator.
- f. One (1) – Output Assembly, as described in the revised section of 1074.03 (b)(1).
- g. One (1) – Input Assembly, as described in the revised section of 1074.03 (b)(2).

**Basis of Payment.**

This work will be paid for at the Contract unit price each for ADVANCED TRANSPORTATION CONTROLLER AND TYPE IV STRETCHED CABINET.

**UNINTERRUPTABLE POWER SUPPLY, SPECIAL (CITY OF ELGIN)**

City of Elgin, Revised: 6/9/2025

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

Add the following to Article 862.01 of the Standard Specifications:

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

Add the following to Article 862.02 of the Standard Specifications:

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

Add the following to Article 862.03 of the Standard Specifications:

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

Revise Article 862.04 of the Standard Specifications to read:

**Installation.**

When a UPS is installed at an existing traffic signal cabinet and/or unmodified foundation, the UPS cabinet shall partially rest on the lip of the existing controller cabinet foundation and be secured to the existing controller cabinet by means of at least four (4) stainless

steel bolts. The UPS cabinet shall be completely enclosed with the bottom and back constructed of the same material as the cabinet.

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

At locations where UPS is installed and an emergency vehicle priority system is in use, any existing incandescent confirmation beacons shall be replaced with LED lamps in accordance with the District One Emergency Vehicle Priority System specification at no additional cost to the Contract.

For a ground mounted UPS, the UPS shall be mounted on its own Type A concrete foundation which will be paid for separately. A concrete apron shall be provided with a dimension of 36 in. in front of the UPS cabinet, 5 in. deep, and a width sized appropriately to the width of the concrete foundation. The concrete apron shall follow Articles 424 and 202 of the Standard Specifications.

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

#### Materials.

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

“The UPS shall be line interactive or double conversion and provide voltage regulation and power conditioning when utilizing utility power. The UPS shall be sized appropriately for the intersection(s) normal traffic signal operating load. The UPS must be able to maintain the intersection’s normal operating load plus 20 percent of the intersection’s normal operating load. When installed at a railroad-interconnected intersection, the UPS must maintain the railroad preemption load, plus 20 percent of the railroad preemption-operating load. The total connected traffic signal load shall not exceed the published ratings for the UPS. The UPS shall provide a minimum of six (6) hours of normal operation run-time for signalized intersections with LED type signal head optics at 77 °F (25 °C) (minimum 1000 W active output capacity, with 86 percent minimum inverter efficiency).”

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

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

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

“When the intersection is in battery backup mode, the UPS shall bypass all internal cabinet lights, ventilation fans, cabinet heaters, service receptacles, luminaires, any lighted street



name signs, any automated enforcement equipment and any other devices directed by the Engineer.”

Revise Article 1074.04(b)(2) paragraph “b.” of the Standard Specifications to read:

“Batteries, inverter/charger and power transfer relay shall be housed in a separate NEMA Type 3R cabinet. The cabinet shall be Aluminum alloy, 5052-H32, 0.125 in. thick and have a natural mill finish. When the UPS is installed along with a new Advanced Transportation Controller (ATC) cabinet, the inverter/charger and power transfer relay shall be housed inside the ATC cabinet with the batteries in a separate cabinet.”

Revise Article 1074.04(b)(2) paragraph “c.” of the Standard Specifications to read:

“No more than three (3) batteries shall be mounted on individual shelves for a cabinet housing six batteries and no more than four (4) batteries per shelf for a cabinet housing eight batteries.”

Revise Article 1074.04(b)(2) paragraph “e.” of the Standard Specifications to read:

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

Revise Article 1074.04(b)(2) paragraph “g.” of the Standard Specifications to read:

“The door shall open to the entire cabinet, have a neoprene gasket, an Aluminum continuous piano hinge with stainless steel pin, and a three point locking system. The door shall be equipped with a two position doorstop, one a 90° and one at 120°. The cabinet shall be provided with a main door lock which shall operate with a traffic industry conventional No. 2 key. Provisions for padlocking the door shall be provided.”

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

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

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

- (8) The UPS shall include a tip or kill switch installed in the battery cabinet, which shall completely disconnect power from the UPS when the switch is manually activated.
- (9) The UPS shall include an internal Ethernet interface. A CAT 5E outdoor rated cable shall be included and installed for connecting to an Ethernet switch.
- (10) The UPS shall incorporate a flanged electric generator inlet for charging the batteries and operating the UPS. The generator connector shall be male type, twist-lock, rated as 15A, 125VAC with a NEMA L5-15P configuration and weatherproof lift cover plate.

Access to the generator inlet shall be from a secured weatherproof lift cover plate or behind a locked battery cabinet police panel.

- (11) The bypass switch shall include an internal power transfer relay that allows removal of the battery back-up unit, while the traffic signal is connected to utility power, without impacting normal traffic signal operation.

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

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

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

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

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

- (9) The UPS shall consist of an even number of batteries that are capable of maintaining normal operation of the signalized intersection for a minimum of six (6) hours. Calculations shall be provided showing the number of batteries of the type supplied that are needed to satisfy this requirement. A minimum of four (4) batteries shall be provided.

- (10) Battery heater mats shall be provided when gel cell type batteries are supplied.

Add the following to Article 1074.04 of the Standard Specifications:

- (e) Warranty. The warranty for an uninterruptable power supply (UPS) and batteries (full replacement) shall cover a minimum of five (5) years from date the equipment is placed in operation.
- (f) Installation. Bypass switch shall completely disconnect the traffic signal cabinet from the utility provider. A test circuit breaker shall installed inside the traffic signal cabinet to provide a means of disconnecting electrical service in order to test the operation of the UPS.
- (g) The UPS shall be set-up to run the traffic signal continuously for six (6) hours without going to a red flashing condition when switched to battery power unless otherwise directed by the Engineer. After six hours (6), the UPS shall place the traffic signal into a red flash condition per the standards of the current adopted Manual on Uniform Traffic Control Devices. The Contractor shall confirm set-up with the Engineer. The continuous operation mode when switched to battery may require modification to unit connections and these modifications are included in the unit price for this item.

Revise Article 862.04 of the Standard Specifications to read:

Basis of Payment.

This work will be paid for at the Contract unit price per each for UNINTERRUPTABLE POWER SUPPLY, SPECIAL, UNINTERRUPTABLE POWER SUPPLY, GROUND MOUNTED, or UNINTERRUPTABLE POWER SUPPLY AND CABINET, SPECIAL. Replacement of emergency vehicle priority system confirmation beacons and any required modifications to the traffic signal controller shall be included in the cost of the UNINTERRUPTABLE POWER SUPPLY, SPECIAL, UNINTERRUPTABLE POWER SUPPLY, GROUND MOUNTED, or UNINTERRUPTABLE POWER SUPPLY AND CABINET, SPECIAL item.

**LR107-4: SPECIAL PROVISION FOR INSURANCE**

LR107-4  
Page 1 of 1

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

**SPECIAL PROVISION  
FOR  
INSURANCE**

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

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

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

CITY OF ELGIN, ILLINOIS

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

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

Effective: June 2, 2017

Revised: April 1, 2019

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

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

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

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

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

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

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

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

Equipment will be the same as for a minor delay, except Contractor-owned equipment will be limited to two weeks plus the cost of move-out to either the

Contractor's yard or another job and the cost to re-mobilize, whichever is less. Rental equipment may be paid for longer than two weeks provided the Contractor presents adequate support to the Department (including lease agreement) to show retaining equipment on the job is the most economical course to follow and in the public interest.

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

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

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

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

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

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

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

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

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

Add the following to Section 109 of the Standard Specifications.

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

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

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

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

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

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

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

(c) Extended Traffic Control. Traffic control required for an extended period of time due to the delay will be paid for according to Article 109.04.

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

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

80384



## CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)

Effective: June 1, 2010

Revised: January 1, 2025

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

Contractor and subcontractor diesel powered off-road equipment assigned to the contract shall be retrofitted according to the table below.

Horsepower Range	Model Year and Older
50-99	2003
100-299	2002
300-599	2000
600-749	2001
750 and up	2005

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

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

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

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

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

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

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

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

### **Diesel Retrofit Deficiency Deduction**

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

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

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

80261

## REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES (BDE)

Effective: January 1, 2024

Revised: April 1, 2024

Revise the first paragraph of Article 669.04 of the Standard Specifications to read:

**“669.04 Regulated Substances Monitoring.** Regulated substances monitoring includes environmental observation and field screening during regulated substances management activities. The excavated soil and groundwater within the work areas shall be managed as either uncontaminated soil, hazardous waste, special waste, or non-special waste.

As part of the regulated substances monitoring, the monitoring personnel shall perform and document the applicable duties listed on form BDE 2732 “Regulated Substances Monitoring Daily Record (RSM DR)”.

Revise the first two sentences of the nineteenth paragraph of Article 669.05 of the Standard Specifications to read:

“The Contractor shall coordinate waste disposal approvals with the disposal facility and provide the specific analytical testing requirements of that facility. The Contractor shall make all arrangements for collection, transportation, and analysis of landfill acceptance testing.”

Revise the last paragraph of Article 669.05 of the Standard Specifications to read:

“The Contractor shall select a permitted landfill facility or CCDD/USFO facility meeting the requirements of 35 Ill. Admin. Code Parts 810-814 or Part 1100, respectively. The Department will review and approve or reject the facility proposed by the Contractor based upon information provided in BDE 2730. The Contractor shall verify whether the selected facility is compliant with those applicable standards as mandated by their permit and whether the facility is presently, has previously been, or has never been, on the United States Environmental Protection Agency (U.S. EPA) National Priorities List or the Resource Conservation and Recovery Act (RCRA) List of Violating Facilities. The use of a Contractor selected facility shall in no manner delay the construction schedule or alter the Contractor's responsibilities as set forth.”

Revise the first paragraph of Article 669.07 of the Standard Specifications to read:

**“669.07 Temporary Staging.** Soil classified according to Articles 669.05(a)(2), (b)(1), or (c) may be temporarily staged at the Contractor's option. All other soil classified according to Articles 669.05(a)(1), (a)(3), (a)(4), (a)(5), (a)(6), or (b)(2) shall be managed and disposed of without temporary staging to the greatest extent practicable. If circumstances beyond the Contractor's control require temporary staging of these latter materials, the Contractor shall request approval from the Engineer in writing.

Topsoil for re-use as final cover which has been field screened and found not to exhibit PID readings over daily background readings as documented on the BDE 2732, visual staining or

odors, and is classified according to Articles 669.05(a)(2), (a)(3), (a)(4), (b)(1), or (c) may be temporarily staged at the Contractor's option."

Add the following paragraph after the sixth paragraph of Article 669.11 of the Standard Specifications.

"The sampling and testing of effluent water derived from dewatering discharges for priority pollutants volatile organic compounds (VOCs), priority pollutants semi-volatile organic compounds (SVOCs), or priority pollutants metals, will be paid for at the contract unit price per each for VOCS GROUNDWATER ANALYSIS using EPA Method 8260B, SVOCS GROUNDWATER ANALYSIS using EPA Method 8270C, or RCRA METALS GROUNDWATER ANALYSIS using EPA Methods 6010B and 7471A. This price shall include transporting the sample from the job site to the laboratory."

Revise the first sentence of the eight paragraph of Article 669.11 of the Standard Specifications to read:

"Payment for temporary staging of soil classified according to Articles 669.05(a)(1), (a)(3), (a)(4), (a)(5), (a)(6), or (b)(2) to be managed and disposed of, if required and approved by the Engineer, will be paid according to Article 109.04."

80455

## **SIGN PANELS AND APPURTENANCES (BDE)**

Effective: January 1, 2025

Revised: January 1, 2026

Add Article 720.02(c) of the Standard Specifications to read:

“(c) Aluminum Epoxy Mastic .....1008.03”

Revise the second and third paragraphs of Article 720.02 of the Standard Specifications to read:

“The sign mounting support channel shall be manufactured from steel or aluminum and shall be according to Standard 720001.

Steel support channels shall be according to ASTM A 1011 (A 1011M), ASTM A 635 (A 635M), ASTM A 568 (A 568M), or ASTM A 684 (A 684M), and shall be galvanized. Galvanizing shall be according to ASTM A 653 (A 653M) when galvanized before fabrication, and AASHTO M 111 (M 111M) when galvanized after fabrication. Field or post fabricated drilled holes shall be spot painted with one coat of aluminum epoxy mastic paint prior to installation.”

Revise the fifth paragraph of Article 720.02 of the Standard Specifications to read:

“The stainless steel banding for mounting signs or sign support channels to light or signal standards shall be according to ASTM A 240 (A 240M) Type 302 stainless steel.”

Revise the first sentence of the tenth paragraph of Article 720.03 of the Standard Specifications to read:

“The backs of all sign panels shall be marked in a manner designed to last as long as the sign face material, in letters and numerals at least 3/8 in. (9.5 mm) but no more than 3/4 in. (19 mm) in height with the month and year of manufacture, the name of the sign manufacturer, the name of the sign sheeting manufacturer, the method of manufacture (“screened”, “EC film”, “direct applied”, or “digital print”), and the initials IDOT.”

Revise the first sentence of the fourth paragraph of Article 1091.03(a)(10) of the Standard Specifications to read:

“Transparent colors screened, or transparent acrylic electronic cutting films, or digital printing on white sheeting, shall meet the minimum initial coefficient of retroreflection values of the 0.2 degree observation angle, -4.0 degree entrance angle values as listed in the previous tables for the color being applied.”

Add the following after the fourth paragraph of Article 1091.03(a)(10) of the Standard Specifications:

“Digitally printed signs shall be produced using digital print technologies and ink systems, products and processes that comply with the sheeting manufacturer’s recommendation. The digitally printed signs shall be fabricated with a full sign protective overlay film designed to provide a smooth surface needed for retroreflectivity, and to protect the sign from fading and UV degradation. The overlamine shall comply with the sheeting manufacturer’s recommendations to ensure proper adhesion and transparency.”

Add the following after the third paragraph of Article 1106.01 of the Standard Specifications:

“Digitally printed signs may omit protective overlay film.”

80462

## SOURCE OF SUPPLY AND QUALITY REQUIREMENTS (BDE)

Effective: January 2, 2023

Revised: January 1, 2026

Revise the third through ninth paragraphs of Article 106.01 of the Standard Specifications to read:

“Articles, materials, and supplies shall be classified into only one of the following categories.

- (a) Iron and Steel. All iron and steel products, which are to be incorporated into the work, shall be domestically manufactured or produced and fabricated, unless an exception is expressly permitted under Federal and/or State law and written permission is given by the Department. The Contractor shall obtain from the iron or steel producer and/or fabricator, in addition to the mill analysis, a certification that all iron or steel materials meet these domestic source requirements.

The applications of all coatings, epoxy, galvanizing, painting, etc. to iron and steel products shall be domestically applied.

- (b) Manufactured Products. Manufactured products shall include articles, materials or supplies that have been processed into a specific form or shape; or have been combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies. Manufactured products incorporated into the work shall have the final assembly for the manufacturing process occur domestically.

A manufactured product may include components that are construction materials, iron or steel products, or exempt materials.

Precast concrete products and intelligent transportation systems (ITS) or other electronic hardware systems shall comply with the requirements of Article 106.01(a) in addition to the requirements of manufactured products.

- (c) Construction Materials. All manufacturing processes for construction materials shall occur within the United States. Construction materials shall include an article, material, or supply consisting of only one of the following.

- (1) Non-ferrous metals;

- (2) Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);

- (3) Glass (including optic glass);

- (4) Fiber optic cable (including drop cable);

- (5) Optical fiber;

(6) Lumber;

(7) Drywall;

(8) Engineered wood.

Minor additions of articles, materials, supplies, or binding agents to a construction material do not change the categorization of the construction material.

(d) Exempt Materials. Materials exempt from domestic production requirements are cement or cementitious materials, aggregates, aggregate binding agents or additives, or items not permanently incorporated into the work. Exempt materials may be combined with other materials into a final form to produce a manufactured product.”

80448



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

Effective: April 2, 2018

Add the following to Section 109 of the Standard Specifications.

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

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

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

80397

## **SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)**

Effective: November 2, 2017

Revised: April 1, 2019

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

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

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

80391

## **SUBMISSION OF BIDDERS LIST INFORMATION (BDE)**

Effective: January 2, 2025

Revised: March 2, 2025

In accordance with 49 CFR 26.11(c) all DBE and non-DBEs who bid as prime contractors and subcontractors shall provide bidders list information, including all DBE and non-DBE firms from whom the bidder has received a quote or bid to work as a subcontractor, whether or not the bidder has relied upon that bid in placing its bid as the prime contractor.

The bidders list information shall be submitted with the bid using the link provided within the “Integrated Contractor Exchange (iCX)” application of the Department’s “EBids System”.

80463

## **SUBMISSION OF PAYROLL RECORDS (BDE)**

Effective: April 1, 2021

Revised: November 2, 2023

FEDERAL AID CONTRACTS. Revise the following section of Check Sheet #1 of the Recurring Special Provisions to read:

### **“STATEMENTS AND PAYROLLS**

The payroll records shall include the worker’s name, social security number, last known address, telephone number, email address, classification(s) of work actually performed, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof), daily and weekly number of hours actually worked in total, deductions made, and actual wages paid.

The Contractor and each subcontractor shall submit certified payroll records to the Department each week from the start to the completion of their respective work, except that full social security numbers, last known addresses, telephone numbers, and email addresses shall not be included on weekly submittals. Instead, the payrolls need only include an identification number for each employee (e.g., the last four digits of the employee’s social security number). The submittals shall be made using LCPTracker Pro software. The software is web-based and can be accessed at <https://lcptracker.com/>. When there has been no activity during a work week, a payroll record shall still be submitted with the appropriate option (“No Work”, “Suspended”, or “Complete”) selected.”

STATE CONTRACTS. Revise Item 3 of Section IV of Check Sheet #5 of the Recurring Special Provisions to read:

- “3. Submission of Payroll Records. The Contractor and each subcontractor shall, no later than the 15<sup>th</sup> day of each calendar month, file a certified payroll for the immediately preceding month to the Illinois Department of Labor (IDOL) through the Illinois Prevailing Wage Portal in compliance with the State Prevailing Wage Act (820 ILCS 130). The portal can be found on the IDOL website at <https://www2.illinois.gov/idol/Laws-Rules/CONMED/Pages/Prevailing-Wage-Portal.aspx>. Payrolls shall be submitted in the format prescribed by the IDOL.

In addition to filing certified payroll(s) with the IDOL, the Contractor and each subcontractor shall certify and submit payroll records to the Department each week from the start to the completion of their respective work, except that full social security numbers shall not be included on weekly submittals. Instead, the payrolls shall include an identification number for each employee (e.g., the last four digits of the employee’s social security number). In addition, starting and ending times of work each day may be omitted from the payroll records submitted. The submittals shall be made using LCPTracker Pro software. The software is web-based and can be accessed at <https://lcptracker.com/>.

When there has been no activity during a work week, a payroll record shall still be submitted with the appropriate option (“No Work”, “Suspended”, or “Complete”) selected.”

80437

## **SURVEYING SERVICES (BDE)**

Effective: April 1, 2025

Delete the fourth paragraph of Article 667.04 of the Standard Specifications.

Delete Section 668 of the Standard Specifications.

80465

## **VEHICLE AND EQUIPMENT WARNING LIGHTS (BDE)**

Effective: November 1, 2021

Revised: November 1, 2022

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

“The Contractor shall equip all vehicles and equipment with high-intensity oscillating, rotating, or flashing, amber or amber-and-white, warning lights which are visible from all directions. In accordance with 625 ILCS 5/12-215, the lights may only be in operation while the vehicle or equipment is engaged in construction operations.”

80439

**WORKING DAYS (BDE)**

Effective: January 1, 2002

The Contractor shall complete the work within            working days.

80071



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

- I. General
- II. Nondiscrimination
- III. Non-segregated 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. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

**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, United States Code, as required in 23 CFR 633.102(b) (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). 23 CFR 633.102(e).

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. 23 CFR 633.102(e).

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) in accordance with 23 CFR 633.102. 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 solicitation-for-bids or request-for-proposals 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). 23 CFR 633.102(b).

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. 23 CFR 633.102(d).

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. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

**II. NONDISCRIMINATION** (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A 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 Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), 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 Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), 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 Part 230, Subpart A, 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 (see 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 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 Part 35 and 29 CFR Part 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. 23 CFR 230.409 (g)(4) & (5).

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, sexual orientation, gender identity, 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 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 or other knowledgeable company official.

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, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure 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. 23 CFR 230.409. 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, sexual orientation, gender identity, 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, sexual orientation, gender identity, 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 thereunder. Employers must provide reasonable accommodation in all employment situations 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, sexual orientation, gender identity, 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, 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. Assurances Required:**

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. 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 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 recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

**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 more than \$10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, 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, sexual orientation, gender identity, 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), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway

Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

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 (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), 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 basic hourly 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. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act ([40 U.S.C. 3141\(2\)\(B\)](#)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. 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 must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. 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 classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH-1321) must 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. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in [29 CFR part 1](#), a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

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

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must 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 be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate 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 used 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) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) 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 will be sent by the contracting officer by email to [DBAconformance@dol.gov](mailto:DBAconformance@dol.gov). 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.

(4) 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 will, by email to [DBAconformance@dol.gov](mailto:DBAconformance@dol.gov), refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The 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.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division

under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must 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.

d. *Fringe benefits not expressed as an hourly rate.*

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 may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* 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, in accordance with the criteria set forth in § 5.28, 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.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

## 2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and 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.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901–3907](#).

### 3. Records and certified payrolls (29 CFR 5.5)

a. *Basic record requirements* (1) *Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) *Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; 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 [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section 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 [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the contractor must 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.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. *Certified payroll requirements* (1) *Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting

agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <https://www.dol.gov/sites/dolgov/files/WHDL/legacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in [29 CFR part 3](#); and

(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(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) *Use of Optional Form WH-347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.



(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under [18 U.S.C. 1001](#) and [31 U.S.C. 3729](#).

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, 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, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under [29 CFR part 6](#) any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address

of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

#### **4. Apprentices and equal employment opportunity (29 CFR 5.5)**

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform 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 (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must 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, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeymen on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must 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 this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeymen under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and [29 CFR part 30](#).

c. 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. 23 CFR 230.111(e)(2). 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 as provided in 29 CFR 5.5.

**6. Subcontracts.** The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 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 as provided in 29 CFR 5.5.

**9. Disputes concerning labor standards.** As provided in 29 CFR 5.5, 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 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 [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, [18 U.S.C. 1001](#).

**11. Anti-retaliation.** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#); or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#).

## **V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

Pursuant to 29 CFR 5.5(b), 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 watchpersons 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. 29 CFR 5.5.

**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 and interest from the date of the underpayment. 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 watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)\* 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.

\* \$31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

### 3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, 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 that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

**4. Subcontracts.** The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the

event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

**5. Anti-retaliation.** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

## VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

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" in paragraph 1 of Section VI 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: (based on longstanding interpretation)

- (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. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), 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. Pursuant to 23 CFR 635.116(c), 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. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

## **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 Part 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. 23 CFR 635.108.

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 Part 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). 29 CFR 1926.10.

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 Part 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 11, 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 (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)**

This provision is applicable to all Federal-aid construction contracts in excess of \$150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

**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. 2 CFR 180.220 and 1200.220.

**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. 2 CFR 180.320.

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. 2 CFR 180.325.

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. 2 CFR 180.345 and 180.350.

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, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient 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 recipient or subrecipient 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. 2 CFR 180.330.

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. 2 CFR 180.220 and 180.300.

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. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. 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 System for Award Management website (<https://www.sam.gov/>). 2 CFR 180.300, 180.320, and 180.325.

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 CFR 180.325.

\* \* \* \* \*

## **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 CFR 180.335;.

(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, 2 CFR 180.800;

(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, 2 CFR 180.700 and 180.800; 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. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

\* \* \* \* \*

## **3. 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). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant 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. 2 CFR 180.365.

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, Subpart I, 180.900 – 180.1020, 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 recipient or subrecipient of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient 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. 2 CFR 1200.220 and 1200.332.

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. 2 CFR 180.220 and 1200.220.

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 System for Award Management website (<https://www.sam.gov>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

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. 2 CFR 180.325.

\* \* \* \* \*

#### **4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should 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 Part 20, App. A.

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.

#### **XII. USE OF UNITED STATES-FLAG VESSELS:**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor 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. 46 CFR 381.7.

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 Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS  
PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY  
SYSTEM OR APPALACHIAN LOCAL ACCESS**

**ROAD CONTRACTS** (23 CFR 633, Subpart B, Appendix B)  
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.