136

Letting January 20, 2023

Notice to Bidders, Specifications and Proposal

Contract No. 89826
PEORIA County
Section 16-00058-10-PV
Routes FAS 384 & FAS 1387A (Old Galena Road)
Project E750-768 ()
District 4 Construction Funds

Prepared by	F
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 20, 2023 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. 89826
   PEORIA County
   Section 16-00058-10-PV
   Project E750-768 ()
   Routes FAS 384 & FAS 1387A (Old Galena Road)
   District 4 Construction Funds

   PCC pavement reconstruction, PCC Shoulders, curb & gutter, storm sewer replacement, traffic signal installation and lighting on Old Galena Road from IL 29 north to Neal Lane with a 0.26 mile omission north of IL 29 to south of Engine Drive.

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

   (b) State law, and, if the work is to be paid wholly or in part with Federal-aid funds, Federal law requires the bidder to make various certifications as a part of the proposal and contract. By execution and submission of the proposal, the bidder makes the certification contained therein. A false or fraudulent certification shall, in addition to all other remedies provided by law, be a breach of contract and may result in termination of the contract.

4. **AWARD CRITERIA AND REJECTION OF BIDS**. This contract will be awarded to the lowest responsive and responsible bidder considering conformity with the terms and conditions established by the Department in the rules, Invitation for Bids and contract documents. The issuance of plans and proposal forms for bidding based upon a prequalification rating shall not be the sole determinant of responsibility. The Department reserves the right to determine responsibility at the time of award, to reject any or all proposals, to re-advertise the proposed improvement, and to waive technicalities.

By Order of the
Illinois Department of Transportation

Omer Osman,
Secretary

CONTRACT 89826

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2023

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 1-1-23)

SUPPLEMENTAL SPECIFICATIONS

RECURRING SPECIAL PROVISIONS

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

LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS

Table of Contents

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.

	File Name	Pg.		Special Provision Title	Effective	Revised
	80099		☐	Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2022
	80274		☐	Aggregate Subgrade Improvement	April 1, 2012	April 1, 2022
	80192		☐	Automated Flagger Assistance Device	Jan. 1, 2008	
	80173		☐	Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2017
	80426		☐	Bituminous Surface Treatment with Fog Seal	Jan. 1, 2020	Jan. 1, 2022
	80436	102	☒	Blended Finely Divided Minerals	April 1, 2021	
	80241		☐	Bridge Demolition Debris	July 1, 2009	
	5053I		☐	Building Removal	Sept. 1, 1990	Aug. 1, 2022
	5026I		☐	Building Removal with Asbestos Abatement	Sept. 1, 1990	Aug. 1, 2022
	80384	103	☒	Compensable Delay Costs	June 2, 2017	April 1, 2019
	80198		☐	Completion Date (via calendar days)	April 1, 2008	
	80199		☐	Completion Date (via calendar days) Plus Working Days	April 1, 2008	
	80261		☐	Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
	80434		☐	Corrugated Plastic Pipe (Culvert and Storm Sewer)	Jan. 1, 2021	
	80029	107	☒	Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Mar. 2, 2019
	80229		☐	Fuel Cost Adjustment	April 1, 2009	Aug. 1, 2017
*	80447		☐	Grading and Shaping Ditches	Jan 1, 2023	
	80433		☐	Green Preformed Thermoplastic Pavement Markings	Jan. 1, 2021	Jan. 1, 2022
	80443		☐	High Tension Cable Median Barrier Removal	April 1, 2022	
	80446		☐	Hot-Mix Asphalt – Longitudinal Joint Sealant	Nov. 1, 2022	
	80438		☐	Illinois Works Apprenticeship Initiative – State Funded Contracts	June 2, 2021	Sept. 2, 2021
	80045		☐	Material Transfer Device	June 15, 1999	Jan. 1, 2022
*	80441	117	☒	Performance Graded Asphalt Binder	Jan 1, 2023	
	3426I		☐	Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2022
	80445	122	☒	Seeding	Nov. 1, 2022	
*	80448	128	☒	Source of Supply and Quality Requirements	Jan. 2, 2023	
	80340		☐	Speed Display Trailer	April 2, 2014	Jan. 1, 2022
	80127		☐	Steel Cost Adjustment	April 2, 2014	Jan. 1, 2022
	80397	129	☒	Subcontractor and DBE Payment Reporting	April 2, 2018	
	80391	130	☒	Subcontractor Mobilization Payments	Nov. 2, 2017	April 1, 2019
	80437	131	☒	Submission of Payroll Records	April 1, 2021	Nov. 1, 2022
*	80435		☐	Surface Testing of Pavements – IRI	Jan. 1, 2021	Jan. 1, 2023
	80410		☐	Traffic Spotters	Jan. 1, 2019	
	20338	133	☒	Training Special Provisions	Oct. 15, 1975	Sept. 2, 2021
	80429		☐	Ultra-Thin Bonded Wearing Course	April 1, 2020	Jan. 1, 2022
	80439	136	☒	Vehicle and Equipment Warning Lights	Nov. 1, 2021	Nov. 1, 2022
	80440		☐	Waterproofing Membrane System	Nov. 1, 2021	
	80302	137	☒	Weekly DBE Trucking Reports	June 2, 2012	Nov. 1, 2021
	80427	138	☒	Work Zone Traffic Control Devices	Mar. 2, 2020	
	80071	140	☒	Working Days	Jan. 1, 2002	

STATE OF ILLINOIS

SPECIAL PROVISIONS

The following Special Provision 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 of Materials" in effect on the date of invitation of bids, and the Supplemental Specification and Recurring Special Provisions indicated on the Check Sheet included here in which apply to and govern the construction of the above named section, and in case of conflict with any parts, or parts of said Specifications, the said Special Provisions shall take precedence and shall govern.

LOCATION OF PROJECT

The Project is located in Mossville, IL between the intersections of Old Galena with IL Route 29 and E. Neal Lane, omitting the section from 715 Feet South of State Street Roundabout to Dickison Lane.

DESCRIPTION OF PROJECT

Reconstruction of 0.666 mi. net (0.931 mi. gross) of Old Galena Road including new signals at Engine Road. Work includes earthwork, pavement removal, PCC Paving, Curb and gutter, storm sewer, pavement marking, signing, traffic signal installation, erosion control and all collateral work.

UTILITIES – LOCATIONS/INFORMATION ON PLANS

Effective: November 8, 2013

The locations of existing water mains, gas mains, sewers, electric power lines, telephone lines, and other utilities as shown on the plans are based on field investigation and locations provided by the utility companies, but they are not guaranteed. Unless elevations are shown, all utility locations shown on the cross sections are based on the approximate depth supplied by the utility company. It shall be the Contractor’s responsibility to ascertain their exact location from the utility companies and by field inspection.

LOCATION OF NON-JULIE FACILITIES

The Contractor shall be responsible for locating existing and proposed IDOT, City of Peoria, Peoria County and Caterpillar, Inc. electrical and fiber optic facilities (for traffic signal, overhead lighting, Intelligent Transportation System, etc.) prior to performing any work. The Contractor shall also be liable for any damage to these facilities resulting from inaccurate locating.

The Contractor may obtain, on request, plans for existing electrical facilities from the Department.

The Contractor shall also be responsible for locating and providing protection for these facilities during all phases of construction. If at any time the facilities are damaged, the Contractor shall immediately notify the Department and make all necessary arrangements for repair to the satisfaction of the Engineer. This work will not be paid for separately, but shall be included in the contract bid price of the applicable pay item for which the locating and protection is needed.

POTHOLING FOR LOCATION OF EXISTING UNDERGROUND UTILITIES

Potholing to locate existing underground utilities shall be included in the contract bid price for the applicable pay item for which the potholing is needed.

Removal and replacement of existing sidewalk, pavement, and islands only for utility locating purposes will not be paid for separately, but shall also be included in the contract bid price for the applicable pay item for which the potholing is needed.

STATUS OF UTILITIES/UTILITIES TO BE ADJUSTED

Effective: January 21, 2005
Revised: January 1, 2022

The following utilities are located within the project limits. For relocations, the utility companies have provided the estimated dates.

Utility Company	Contact Name	Contact Phone	Contact Email
Ameren	Nathan Hill	618-301-5327	nhill2@ameren.com
AT&T	Vanessa Ross	217-381-4284	VF2021@ATT.COM
	Ken Caudill	-	Ken.Caudill@kci.com
	Bill Conover	309-550-8043	g05256@att.com
Caterpillar, Inc.	Heather Grichnik	309-635-3311	Grichnik _ Heather _A@cat.com
IL American Water (IAW)	Trip Barton	309-566-4148	charles.barton@amwater.com
iTV3	Engineering	309-670-0400	engineering@i3broadband.net
Metro Communications	Taylor Rich	217-728-3608	trich@metrocomm.com
Stratus Networks, Inc.	Tony Jordan	309-253-4374	tjordan@stratusnet.com

UTILITY	STATION	OFFSET	TYPE	RELOCATION NEEDED	CONFLICT	ESTIMATED DATE RELOCATION COMPLETED
iTV3/ Stratus	STA. 700+56.7	180 L	Fiber Optic	Caution	Storm Sewer	During Construction
	TO STA. 701+80.1	54 L				
	STA. 701+80.1	54 L	Hand Hole	Adjust	Grading	
	STA. 707+40.5	44 L	Fiber Optic	Relocate	Storm Sewer	
	TO STA. 707+62.4	44 L				
	STA. 707+62.4	44 L	Hand Hole	Adjust	Grading	
	STA. 725+21.2	36 L	Hand Hole	Adjust	Grading	
	STA. 732+81.5	44 L	Hand Hole	Adjust	Grading	
	STA. 737+46.1	35 L	Fiber Optic	Caution	Storm Sewer	
	STA. 740+87.5	42 L	Fiber Optic	Relocate	Storm Sewer	
IAW	STA. 708+19.1	67 L	Water Valve	Caution	Grading	During Construction
	STA. 708+20.8	67 L	Hydrant	Caution	Grading	
	STA. 726+09.4	33 L	Water Valve	Adjust	Grading	
	STA. 726+10.1	45 L	Hydrant	Adjust	Grading	
	STA. 729+48.5	42 L	Water Valve	Adjust	Grading	
	STA. 729+50.6	42 L	Water Valve	Adjust	Grading	
	STA. 730+91.3	42 L	Water Valve	Adjust	Grading	
	STA. 730+93.6	40 L	Water Valve	Adjust	Grading	
Metro	STA. 732+81.9	41 L	Hand Hole	Adjust	Grading	During Construction
Metro	STA. 737+46.3	46 L	Fiber Optic	Caution	Storm Sewer	
Metro	STA. 740+87.6	48 L	Fiber Optic	Relocate	Storm Sewer	

UTILITY	STATION	OFFSET	TYPE	RELOCATION NEEDED	CONFLICT	ESTIMATED DATE RELOCATION COMPLETED
Ameren Gas	STA. 723+69.7	47 R	Gas	Caution	Road	Before Construction Begins
	TO STA. 748+40.0	L				
	STA. 737+46.1	37 L	Gas	Caution	Storm Sewer	
	STA. 740+87.4	36 L	Gas	Relocate	Storm Sewer	
Ameren Electric	STA. 733+97.8	47 L	Power Pole	Caution	Grading	Before Construction Begins
	STA. 736+02.8	43 L	Power Pole	Relocate	Grading	
	STA. 737+08.1	43 L	Power Pole	Relocate	Grading	
	STA. 738+15.2	49 L	Power Pole	Relocate	Grading	
	STA. 739+60.9	55 L	Power Pole	Relocate	Grading	
	STA. 741+08.0	59 L	Power Pole	Relocate	Grading	
	STA. 742+14.0	60 L	Power Pole	Relocate	Grading	
	STA. 743+57.0	60 L	Power Pole	Relocate	Grading	
	STA. 745+05.3	57 L	Power Pole	Relocate	Grading	
	STA. 746+53.2	59 L	Power Pole	Relocate	Grading	

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

The estimated utility relocation dates should be part of the progress schedule submitted by the Contractor. If any utility adjustments or relocations have not been completed by the above dates specified and when required by the Contractor's operations after these dates, the Contractor should notify the Engineer in writing. A request for an extension of time will be considered to the extent the Contractor's critical path schedule is affected.

CONSTRUCTION LAYOUT RESPONSIBILITY

Effective April 26, 2015
Revised: January 1, 2022

This special provision is included in addition to Check Sheet #9 of the Recurring Special Provisions, Special Provision for Construction Layout Stakes, to clearly define the responsibility of the Contractor for construction layout.

As the Contractor is generating the survey layout model, all roadway elements shall be verified to fit within the final proposed slopes and right-of-way. If the Contractor determines a portion of the plans is incorrect or a portion does not agree with another portion, they shall contact the Engineer to have the problem resolved and additional work, if any, agreed upon. The Contractor shall not proceed until authority is received from the Engineer and problems are resolved. The Engineer shall contact the District Studies and Plans Section if need be.

The Contractor shall set all horizontal control points at the end of construction and provide cross ties in a hardback survey book to the Engineer.

The Contractor shall also set and provide the Engineer with a list of final benchmarks in a hardback survey book at the end of construction for future control.

No additional compensation will be allowed for complying with this Special Provision, but all costs shall be included in the contract Lump Sum price for CONSTRUCTION LAYOUT.

CONSTRUCTION LAYOUT UTILIZING GPS EQUIPMENT

Effective: April 26, 2015
Revised: January 1, 2022

If the Contractor opts to utilize GPS equipment for Construction Layout, the Contractor shall be required to complete the following in addition to the requirements of Check Sheet #9 of the Recurring Special Provisions and as directed by the Engineer.

1. Submit 3D drawings or show the Engineer the digital terrain model (or proof of some type) that the Contractor has generated all proposed information correctly for all parts of the job (Mainline, ramps, side roads, entrances, etc.) before starting any grading, structures, or paving work. This does not relieve the Contractor of responsibility of any possible errors made in the modeling.

2. The Contractor shall also submit a QC/QA written plan that they will be following to provide quality control on the actual layout and quality assurance checks of the layout during and after being completed. This will be required to be submitted at the beginning of construction and shall meet the approval of the Engineer.

3. Stationing lathes shall be placed and maintained along the right-of-way lines, centerline of the median, and agreed offset from other baselines such as interchange ramps and side roads, throughout the duration of the contract.

No additional compensation will be allowed for complying with this special provision, but all costs shall be included in the contract Lump Sum price for CONSTRUCTION LAYOUT.

CONSTRUCTION LAYOUT EQUIPMENT

Effective: April 26, 2015
Revised: November 6, 2015

General. The Contractor shall furnish articles of survey equipment to be used by the Department for independent monitoring and verification of construction layout stakes, reference points, and any other horizontal and vertical control set by the Contractor. All equipment will be for the exclusive use of the Department throughout the duration of the contract and will be returned to the Contractor at the end of the contract.

Equipment. The equipment to be furnished by the Contractor shall consist of one precision GNSS rover and a secondary GPS handheld controller. The precision GNSS rover must meet or exceed the capabilities of, and be compatible with the Contractor's equipment and meet the approval of the Engineer. The second GPS handheld controller shall also meet or exceed the capabilities of, and be compatible with the Contractor's equipment and meet the approval of the Engineer. The equipment provided shall include all software, data and any additional equipment (base station, repeaters, etc.) necessary to find any point on the project in station, offset and elevation with precision. The project data included in the equipment will be consistent with the data used by the Contractor for layout and grading. Any data revisions or software updates to the Contractor's equipment will also be applied to the Department's equipment by the Contractor.

The Contractor will be responsible for providing training for three members of the Department's staff on use of the equipment and software.

Basis of Payment. This work will not be measured separately, but shall be included in the contract Lump Sum price for CONSTRUCTION LAYOUT.

TRAFFIC CONTROL PLAN

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

Contractor Access

At road closure locations where Type III Barricades are installed in a manner that will not allow Contractor access to the project without relocation of one or more of the barricades, the arrangement of the barricades at the beginning of each work day may be relocated, when approved by the Engineer, in the manner shown on Highway Standard 701901 for Road Closed to Through Traffic. "Road Closed" signs (R11-2), supplemented by "Except Authorized Vehicles" signs (R3-I101), and shall be mounted on both the near-right and far-left barricade. At the end of each work day the barricades shall be returned to their in-line positions. This work will be included in the cost of the contract, and no extra compensation will be allowed.

Boy Scout Road (Neal Lane) and Dickison Lane are dead-end roads and shall remain open to traffic at all times.

The school has access via the entrance to the south and from Feleccia Rd. During the school year, both entrances shall remain fully accessible at all times. During summer break, one of the two entrances may be closed at a time.

The soccer fields cover two separate properties but operate as one facility, Mossville Soccer Complex operated by Peoria FC United. The reconstruction of the entrances shall be staged to provide full access at one entrance at all times. Before construction begins, the Contractor shall coordinate with Peoria FC United to determine the dates of any tournaments. During tournaments the facility shall have full access at each entrance.

Caterpillar has four entrances, including Engine Dr, along Old Galena Rd. Building H has access to Old Galena Rd. via an entrance at the north end of the building and via Engine Dr. The work shall be staged so that access to either Engine Dr. or the entrance is provided. There is a third entrance to Building H that can be closed for construction. The Contractor shall coordinate the closure with Caterpillar. The fourth entrance is the Truck Gate located across from Neal Ln. Full access to the Truck Gate shall be maintained at all times.

Work in front of the school entrance, the soccer fields and any of the Caterpillar entrances shall be coordinated to minimize closure times.

Special attention is called to Section 701 and Articles 107.09 and 107.14 of the "Standard Specifications for Road and Bridge Construction" and the following Highway Standards relating to traffic control:

701101	701422	701426	701427	701611	701701
701901	BLR 22-7				

TRAFFIC CONTROL AND PROTECTION, (SPECIAL)

This work shall consist of furnishing, installing, maintaining, relocating and removal of all traffic control required for the purpose of regulating, warning, detouring or directing traffic for construction activities. This work includes, but is not limited to, providing, relocating and removing signs and barricades. This work shall be done in accordance with Article 107.14 and Section 701 of the Standard Specifications, plan details, applicable Highway Standards and Special Provisions.

Existing regulatory traffic signing shall be removed or relocated as needed for each construction operation. The Contractor shall furnish, install and maintain any temporary regulatory or warning signs necessary. Temporary signs shall remain in place as required or until permanent signing has been installed.

Method of measurement. All traffic control and protection required will be measured for payment on a lump sum basis. No additional compensation will be allowed for alterations, or additions necessary to construct the various work items shown in the plans.

Basis of Payment. Work and materials required by this Special Provision will be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

TEMPORARY PAVEMENT

This item shall include all materials, labor and equipment necessary for the construction and subsequent removal of a temporary pavement in accordance with applicable sections of the Standard Specifications except as herein specified.

The temporary pavement shall be made of 5 inches of hot-mix asphalt over 8” aggregate base course Hot-Mix Asphalt shall be placed in accordance with applicable portions of Section 406 and shall be as specified in the Mix Design Table.

This work will be measured and paid for at the contract unit price per square yard for TEMPORARY PAVEMENT which price shall be payment in full for all materials, labor and equipment including but not limited to the hot-mix asphalt and aggregate necessary to perform the work as herein specified. Removal of Temporary Pavement will not be measured or paid for separately but shall be included in the cost of TEMPORARY PAVEMENT.

TEMPORARY PAVEMENT (VARIABLE DEPTH)

This work shall consist of the construction and subsequent removal of a variable thickness bituminous pavement, or ramp, to transition between the different pavement elevations created from constructing the pavement in stages. This work shall be performed in accordance with applicable portions of Section 406 of the Standard Specifications.

The Hot-mix Asphalt material used shall meet the approval of the Engineer. Cold milled tailings will not be acceptable. HMA material shall meet the requirements of Section 406 except the density requirements of Art. 406.07(c) will not apply. Density shall be to the satisfaction of the Engineer.

Method of measurement. The TEMPORARY PAVEMENT (VARIABLE DEPTH) will be measured for payment in tons.

Basis of Payment. This work will be paid for at the contract unit price per ton for TEMPORARY PAVEMENT (VARIABLE DEPTH).

WIDTH RESTRICTION SIGNING

Effective November 1, 2007
Revised January 1, 2019

Description. This work shall consist of providing, placing, maintaining, and removing width restriction signing as shown on the plans and special provisions. Width restriction signing shall be required when the roadway width will be less than 17'–6" as measured from face to face of temporary concrete barrier and a concrete parapet, guardrail or other fixed, immovable barrier. Width restriction signing may be required when the roadway width will be less than 17'–6" as measured from movable traffic control devices and a fixed object (concrete parapet, guardrail or other immovable roadside barrier). The contractor shall provide signing if the traffic control devices cannot be shifted (in areas of a fixed object and patching/paving/centerline work etc.) to accommodate a traveled way opening of 17'–6". The Contractor shall furnish all materials, equipment, labor, and other essentials necessary to accomplish this work and all other work described herein and as directed by the Engineer.

Materials. All sign post materials shall be in accordance with Articles/Sections: 1093.01(a), 10007.05. Galvanizing will not be required. The nominal size of wood posts shall be 4 in. x 4 in. (100 m x 100 m).

Equipment. All equipment shall be in accordance with Article/Section 1106.01.

Notification. The Contractor shall notify the Traffic Control Supervisor, in writing, when the Contractor receives an award letter for the contract. The letter shall state the anticipated start date of lane width restrictions. The twenty-one (21) day notice will start from the Award date. No width restrictions will be allowed until twenty-one (21) days after receiving notice from the Contractor. The Contractor may elect to provide the anticipated start date of lane width restrictions at the Preconstruction meeting so long as there is a minimum of twenty-one (21) days advanced notice.

Traffic Control Supervisor Don Hoffman (309) 671-4488

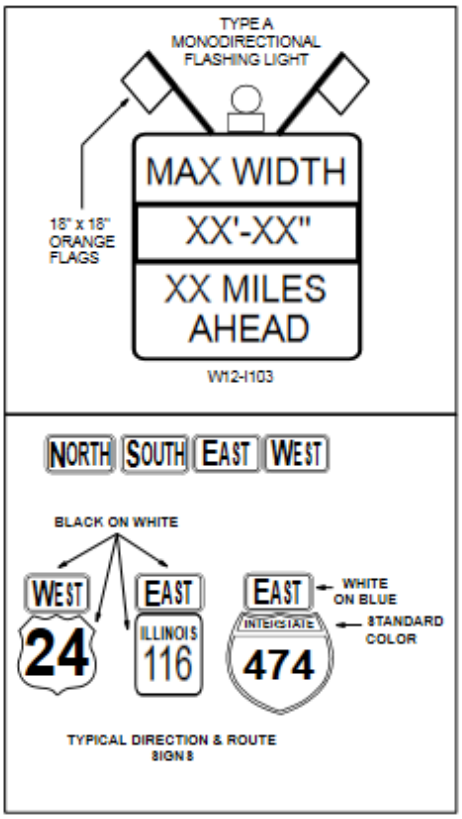
Failure to provide required advanced notice may delay project at the expense of the Contractor.

General. The Contractor shall provide the route and directional (North, South, East and West) signage. The route and directional signage shall be placed, maintained, and removed by the Contractor. The route sign shall visually be the same as the existing route signs as posted by IDOT. The directional signage shall be black lettering on a white background. Interstate signs shall have the cardinal direction signs with white on a blue background. The route and directional signage shall be placed below Sign W12- I103.

Locations, distances and quantity of signs and shall be as shown on the plan sheets or in the Traffic Control Plan. All final field locations will be marked by the Bureau of Operations, Traffic Control Supervisor.

It shall be the Contractor's responsibility to make arrangements for the J.U.L.I.E. locates.

Basis of Payment. This work will not be paid for separately but will be included in the cost of Traffic Control and Protection pay items. This work shall consist of providing, placing, maintaining, and removing width restriction signing as shown on the plans and special provisions and no additional compensation will be allowed.



REMOVE CONCRETE END SECTION

This work shall be in accordance with applicable articles of Section 501 of the Standard Specifications except the following paragraph shall be added to Article 501.07:

Removal of concrete end sections will be paid for at the contract unit price each for REMOVE CONCRETE END SECTION.

REMOVE SIGN COMPLETE

This work shall consist of the removal of various existing traffic control signs and sign posts at the locations shown on the plans. The Contractor shall be responsible for legally disposing of all materials. Postholes shall be backfilled where necessary as directed by the Engineer.

This work will be measured and paid for at the contract unit price each for REMOVE SIGN COMPLETE.

REMOVE INLET BOX

This work shall include the complete removal of the existing inlet box located in the median of Old Galena Rd. at the IL Route 29 approach. This work shall be in accordance with applicable articles of Section 501 of the Standard Specifications except the following paragraph shall be added to Article 501.07:

Removal of Inlet Boxes will be paid for at the contract unit price each for REMOVE INLET BOX.

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES

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

Contract Specific Work Areas
The excavated soil and groundwater within the work areas listed below and shown in the exhibits in Appendix A shall be managed as either “uncontaminated soil” or non-special waste.

HA-1 (Sta 737+89.58 to Sta 749+75.63, RT)
The Engineer has determined that this material meets the criteria of and shall be managed in accordance to Article 669.05(a)(2). Contaminants of concern sampling parameters: Metals (Manganese).

HA-2 (Sta 723+7.26 to Sta 737+89.58, RT)
The Engineer has determined that this material meets the criteria of and shall be managed in accordance to Article 669.05(a)(2). Contaminants of concern sampling parameters: Metals (Manganese).

HA-5 (Sta 703+8.39 to Sta 706+11.97, LT)
The Engineer has determined that this material meets the criteria of and shall be managed in accordance to Article 669.05(b)(1). The pH of the soil is greater than 9.0.

HA-6 (Sta 700+77.57 to Sta 703+8.39, LT)
The Engineer has determined that this material meets the criteria of and shall be managed in accordance to Article 669.05(a)(1). The pH of the soil is greater than 9.0. Contaminants of concern sampling parameters: Metals (Manganese).

Work Zones
Three distinct OSHA HAZWOPER work zones (exclusion, decontamination, and support) shall apply to projects adjacent to or within sites with documented leaking underground storage tank (LUST) incidents, or sites under management in accordance with the requirements of the Site Remediation Program (SRP), Resource Conservation and Recovery Act (RCRA), or Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), or as deemed necessary. For this project, the work zones apply for the following ISGS PESA Sites:

Site ID	Site Name	Address	Reason(s)
1	Caterpillar Cogeneration	1823 E. Boy Scout Road	TIER 2, RCRA listings, Industrial use, Adjacent to Project Corridor
2	Former Caterpillar Building BB	Just north of 1925 E. Engine Drive	Historic industrial use, Adjacent to Project Corridor
4	Caterpillar Building H	1925 E. Engine Drive	AIR PERMITS listing, SRP listing, Industrial use, Adjacent to Project Corridor
9	Vacant Lot	Just northwest of 11705 N. Old Galena Road	Potential association with former dumping/burning, RCRA listing, former spill, Adjacent to Project Corridor
11	Good Forest Timber Company	11705 N. Old Galena Road	Potential association with former dumping/burning, RCRA listing, former spill, Adjacent to Project Corridor

Additional information on the above sites collected during the Phase I Engineering process is available through the District's Environmental Studies Unit (DESU).

CONCRETE MEDIAN REMOVAL

This work shall consist of the complete removal and proper disposal of the monolithic concrete median and curb and gutter at locations and limits shown on the plans. The work of removal and disposal of the solid median shall be performed in accordance with applicable portions of Section 440 of the Standard Specifications.

Method of Measurement. Concrete median removal will be measured in square feet for the actual area of concrete median surface removed.

Basis of payment. This work will be paid for at the contract unit price per square foot for CONCRETE MEDIAN REMOVAL as indicated on the plans.

CONCRETE MEDIAN SURFACE REMOVAL

This work shall consist of the complete removal and proper disposal of the median surface at locations and limits shown on the plans. The work of removal and disposal of the concrete median surface shall be performed in accordance with applicable portions of Section 440 of the Standard Specifications.

Method of Measurement. Median surface removal will be measured in square feet for the actual area of concrete median surface removed.

Basis of payment. This work will be paid for at the contract unit price per square foot for CONCRETE MEDIAN SURFACE REMOVAL as indicated on the plans.

EMBANKMENT (RESTRICTIONS)

Effective January 21, 2005
Revised August 5, 2022

Replace the sixth and seventh paragraphs of Article 205.04 with the following:

> Alternating layers of suitable soil and restricted-use material will not be permitted. Restricted-use materials may only be incorporated into the embankment by using one of the following procedures:
>
> a. Restricted-use materials shall be placed in 4" lifts and disked with the underlying lift material until a uniform and homogenous material is formed having more than 35% passing the number 200 sieve.
>
> b. Sand, gravel or crushed stone embankment when placed on the existing ground surface will be drained using a 10' (3 m) by 10' (3 m) French drain consisting of nonwoven geotechnical fabric with 12” (0.3 m) of B-3 riprap. This shall be constructed on both sides of the embankment at the toe of the foreslope spaced 150’ (46 m) apart. At locations requiring a French drain the 3’ (1 m) cohesive cap shall not be installed within the 10' by 10' riprap area. If the Engineer determines that the existing ground is a granular free draining soil, the French drain may be deleted.
>
> c. Sand, gravel or crushed stone embankment when placed on top of a cohesive embankment will be drained with a permanent 4" (100 mm) underdrain system. The underdrain system shall consist of a longitudinal underdrain on both sides of the embankment and transverse underdrains spaced at 250' (75 m) centers. The underdrain shall consist of a 2' (0.6 m) deep by 1' (0.3 m) wide trench, backfilled with FA4 sand and a 4" (100 mm) diameter underdrain. In addition, both sides of

the embankment will have a 6” (150 mm) diameter pipe drain which will drain the underdrain system and outletted into a permanent drainage structure or outletted by a headwall at the toe of the embankment.

The above work will not be paid for separately but shall be included in the cost of EARTH EXCAVATION, FURNISHED EXCAVATION, or BORROW EXCAVATION.

PROOF ROLLING

Effective April 23, 2004 Revised January 1, 2007

This work shall consist of proof rolling the subgrade with a fully loaded tandem axle dump truck and driver at the direction of the Engineer. The truck shall travel the subgrade in all of the proposed lanes of traffic in the presence of the Engineer.

This work will not be paid for separately, but considered included in the various earthwork pay items.

SUBGRADE TREATMENT

Effective July 1, 1990
Revised: January 1, 2022

Revise first sentence of first paragraph of Article 301.04 as follows:

"When compacted, the subgrade shall have a minimum dry density of 95 percent of the standard laboratory dry density and a minimum immediate bearing value (IBV) of 4.5."

Delete the second paragraph (including subparagraphs a, b, and c) of Article 301.04 of the Standard Specifications and replace it with the following:

"In cut sections the Contractor responsible for the rough grading shall obtain not less than 95% of the standard laboratory density and not more than 110% of the optimum moisture for the top 1' (300 mm) of the subgrade. The Contractor may, at his/her option, add a drying agent to lower the moisture content as specified. The drying agent must be approved by the Engineer prior to use. Additional compensation will not be allowed for the use of a drying agent but will be considered as included in the cost of the various earthwork items."

INLETS, TYPE G-1, DOUBLE, SPECIAL

Effective October 1, 1995 Revised January 1, 2007

This work shall consist of furnishing equipment, labor, and materials for the construction of Type G-1, Double, Special Inlets and Combination Concrete Curb and Gutter in accordance with Section 602 and 606 of the Standard Specifications and the details in the plans.

Add "INLETS, TYPE G-1, DOUBLE, SPECIAL" to Article 602.16 of the Standard Specifications. Delete the first paragraph in Articles 606.14 and 606.15.

Payment for transitional Combination Concrete Curb and Gutter will be included in "INLETS, TYPE G-1, DOUBLE SPECIAL" in accordance with details shown in the plans.

This work will be paid for at the contract unit price Each for INLETS, TYPE G-1, DOUBLE, SPECIAL.

PCC QMP ELECTRONIC REPORT SUBMITTALS

Effective January 13, 2022

The Contractor’s QC personnel shall be responsible for electronically submitting the following reports to the Department: PRO and IND data for BMPR MI654 "Air, Slump, & Quantity"; PRO data for BMPR MI655 "PCC Strength"; and PRO data for BMPR MI504 "Field/Lab Gradation". The format for the electronic submittals will be the "QMP" reporting program which will be provided by the Department. Microsoft Office 2007 or newer is required for this program which must be provided by the Contractor.

PCC AUTOMATIC BATCHING EQUIPMENT

Effective April 23, 2010 Revised November 7, 2014

Portland cement concrete provided shall be produced from batch plants that conform to the requirements of Article 1103.03 (a) and (b) of the Standard Specifications for Road and Bridge Construction. Semi-automatic batching will not be allowed.

In addition, the batching plant shall be a computerized plant interfaced with a printer and shall print actual batch weights and aggregate mixtures, all water added, amount of each admixture or additive per batch, and percentage variance from design. The ticket shall also state the actual water-cement ratio as batched, and the amount of water that can be added to the batch without exceeding the maximum water-cement ratio. Truck delivery tickets will still be required as per Article 1020.11 (a)(7) of the Standard Specifications.

PCC SLIPFORM PAVING AGGREGATE OPTIMIZATION

Effective August 3, 2012 Revised: January 1, 2022

Delete Note 7/ of Article 1004.01(c) and replace Article 1004.02(d)(1) with the following:

For the slipform paving of concrete pavement, the Class PV concrete shall be uniformly graded. This may be accomplished by using a uniformly graded single coarse aggregate, or by blending two or more coarse aggregate sizes. As a minimum for multiple coarse aggregate sizes, CA 7 or CA 11 shall be blended with CA 13, CA 14, or CA 16. The final single coarse aggregate or combined coarse aggregate gradation shall have minimum 45 percent and maximum 60 percent passing the 1/2 in. (12.5 mm) sieve. However, the Contractor may propose for approval by the Engineer an alternate uniformly graded concrete mixture using the information in the "Portland Cement Concrete Level III Technician Course – Manual of Instructions for Design of Concrete Mixtures".

MEMBRANE CURING METHOD

Effective: July 29, 2016 Revised: November 17, 2017

Revise Article 1020.13(a)(4) paragraph 2 to read:

"After all finishing work to the concrete surface has been completed, the surface and all exposed edges shall be sealed with membrane curing compound of the type specified within ten minutes. The seal shall be maintained for the specified curing period. The edges of the concrete shall, likewise, be sealed within ten minutes after the forms are removed. Two separate applications, applied at least one minute and no more than fifteen (15) minutes apart, each at the rate of not less than 1 gal./250 sq. ft. (0.16L/sq. m) will be required upon the surfaces and edges of the concrete. These applications shall be made with the mechanical equipment specified. Type III compound shall be agitated immediately before and during the application.

COMBINATION CONCRETE CURB AND GUTTER, (VARIABLE WIDTH GUTTER FLAG)

This work consists of the construction of a combination concrete curb and gutter with a gutter of variable width. This work shall be completed in accordance with Section 606 of the Standard Specifications.

Method of Measurement. Combination concrete curb and gutter will be measured for payment in feet in the flow line of the gutter and along the face of concrete curb.

Basis of Payment. The combination concrete curb and gutter will be paid for at the contract unit price per foot for COMBINATION CONCRETE CURB AND GUTTER, (VARIABLE WIDTH GUTTER FLAG) of the type specified.

CONCRETE MEDIAN, TYPE SM (SPECIAL)

This work shall consist of furnishing all labor, equipment, and materials for the construction of a solid, PCC median in accordance with Section 606 of the Standard Specifications and the details in the plans.

Method of Measurement. This work will be measured in place and the area computed in square feet (square meters).

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

CONTRACT GUARANTEE

The Contractor shall guarantee all electrical equipment, apparatus, materials, and workmanship provided under the contract for a period of six (6) months after the date of final inspection according to Article 801.14.

All instruction sheets required to be furnished by the manufacturer for materials and supplies and for operations shall be delivered to the Engineer prior to the acceptance of the project, with the following warranties and guarantees:

1. The manufacturer's standard written warranty for each piece of electrical equipment or apparatus furnished under the contract.

2. The Contractor's written guarantee that, for a period of six (6) months after the date of final inspection of the project, all necessary repairs to or replacement of said warranted equipment, or apparatus shall be made by the Contractor at no cost to the Department.

3. The Contractor's written guarantee for satisfactory operation of all electrical systems furnished and constructed under the contract for a period of 6 months after final inspection of the project.

AS-BUILT DOCUMENTATION

The Contractor shall locate all proposed conduit, communication vaults, handholes, junction boxes, light poles, and camera poles every 100 feet using a GIS locating device that is accurate to the nearest foot.

The Contractor shall provide a GIS based map of the conduit route and a complete listing of all of map coordinates in an electronic format (Google Earth KML or KMZ shape file).

Basis of Payment. This work will not be paid for separately but shall be included in the contract bid price.

REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT

This work shall be in accordance with Section 895 of the Standard Specifications except as modified herein.

The Contractor shall remove the items as shown on the plan sheets. The list of removal items shown on the plan sheets should represent an accurate listing of removal items, however, it is the Contractor's responsibility to verify all quantities prior to bidding. There will be no additional compensation.

The Contractor shall dispose of all items off of the right-of-way and reflect the salvage value of this equipment in the unit bid price for this pay item.

Removal of existing handholes and removal of existing concrete foundations will be measured and paid for separately.

The above work will be paid for at the contract unit price each (per intersection) for REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT and shall be payment in full for removing, disposing of, and transporting the equipment described above, complete. No additional compensation will be allowed.

CONCRETE FOUNDATION

This work shall consist installing a Concrete Foundations in accordance with Section 878 of the Standard Specifications for Road and Bridge Construction and State Standard 878001. The soils reports indicate that the average unconfined compression strength is at or slightly less than the required 1.0 tsf. If testing during foundation drilling indicates that the average unconfined compressive strength is less than 1.0 tsf, the contractor shall submit a foundation design, for each location not meeting the strength requirements, sealed by an Illinois licensed Structural Engineer.

The proposed location of the Concrete Foundations may be moved in the field to avoid conflicts, or to place pedestrian push-buttons at the proper locations with the approval of the Engineer. If the foundation is moved to an area not within the removal limits shown on the plans, removal of the existing sidewalk or earth disturbance shall be completed in accordance with Section 895 of the Standard Specifications for Road and Bridge Construction and any applicable notes or Special Provisions provided in these construction documents.

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

LED MODULE AND HPS LAMPS RECYCLING

The Contractor shall recycle all LED modules and high pressure sodium lamps through a certified recycling company. The Contractor shall submit detailed information pertaining to LED module recycling to the Resident Engineer for review along with the electrical material submittals. The Contractor shall submit proof of recycling.

Basis of payment. This work will not be paid for separately, but shall be included in the contract unit price for the traffic signal removal items.

HANDHOLE, PORTLAND CEMENT CONCRETE

This work shall consist of furnishing the materials and constructing a handhole in accordance with the applicable Articles of Section 814 and 1088 of the Standard Specifications with the following modifications:

The lift ring for the cover shall consist of a solid closed ring of stainless steel at least 3/8 inch in diameter. The lift ring shall be attached to the cover by a loop of stainless steel at least 3/8 inch in diameter. The lift ring and loop shall be recessed in the cover.

The Contractor shall install heavy-duty, fully-galvanized hooks, with a minimum diameter of ½" in the proposed handhole. The Contractor shall submit this material to the Engineer prior to construction of the handholes.

The lid shall be marked with the legend "Traffic Signals".

Pre-cast handholes are not allowed.

All unsuitable materials shall be disposed of by the Contractor outside the job limits.

Basis of payment. This work will be paid for at the contract unit price each for HANDHOLE, PORTLAND CEMENT CONCRETE which price shall be payment in full for all labor, materials, and equipment required to provide the handhole described above as well as any necessary excavating, backfilling, disposal of unsuitable materials, and furnishing all materials within the limits of the handhole.

DOUBLE HANDHOLE, PORTLAND CEMENT CONCRETE

This work shall consist of furnishing the materials and constructing a double handhole in accordance with the applicable Articles of Section 814 and 1088 of the Standard Specifications with the following modifications:

The lift ring for the cover shall consist of a solid closed ring of stainless steel at least 3/8 inch in diameter. The lift ring shall be attached to the cover by a loop of stainless steel at least 3/8 inch in diameter. The lift ring and loop shall be recessed in the cover.

The Contractor shall install heavy-duty, fully-galvanized hooks, with a minimum diameter of ½" in the proposed handhole. The Contractor shall submit this material to the Engineer prior to construction of the handholes.

The lid shall be marked with the legend "Traffic Signals".

Pre-cast handholes are not allowed.

All unsuitable materials shall be disposed of by the Contractor outside the job limits.

Basis of payment. This work will be paid for at the contract unit price each for DOUBLE HANDHOLE, PORTLAND CEMENT CONCRETE which price shall be payment in full for all labor, materials, and equipment required to provide the handhole described above as well as any necessary excavating, backfilling, disposal of unsuitable materials, and furnishing all materials within the limits of the handhole.

ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR NO.6 1C

This work shall be in accordance with the applicable Articles of Sections 801, 806, 873, 1076, and 1088 of the Standard Specifications with the following modifications:

This work shall consist of furnishing and installing a grounding wire to bond all traffic signal handholes (lids and rings), mast arm assemblies, posts, light poles, cabinets and exposed metallic conduits.

The Contractor shall attach the proposed ground wire to the proposed traffic structures to ground and safety bond them in accordance with NEC requirements. All labor, materials, and equipment required to bond the proposed structures (wire, clamps, hardware, etc.) shall be included in the bid price for this pay item.

The Contractor shall also be responsible for locating all handholes and uncovering them as required to facilitate the work.

The proposed ground wire shall be an insulated #6 XLP copper conductor with green insulation.

Basis of payment. This work will be paid for at the contract unit price per Foot for ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C which price shall be payment in full for all labor, materials, and equipment required to provide the grounding cable described above.

FULL ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL

This work shall be in accordance with Sections 857, 1073, and 1074 of the Standard Specifications except as modified herein.

The controller and cabinet shall be compliant with NEMA TS-2 standards and NTCIP standards 1201 and 1202.

The cabinet shall be equipped with a cabinet riser that raises the cabinet approximately twelve inches above the concrete foundation. The riser shall bolt directly to the existing foundation anchor bolts and the riser shall be attached to the cabinet using galvanized steel hardware.

The traffic signal cabinet shall be equipped with a 15A one pole circuit breaker, terminal block, button photocell installed in cabinet overhang, and wiring for the proposed overhead lighting.

The traffic signal cabinet shall have a NEMA TS-2 back panel. The cabinet shall include a malfunction management unit to allow enhanced fault monitoring capabilities. The malfunction management unit shall support flashing yellow arrow operation and be a Reno A&E model MMU2-1600GE equipped with a graphical display and Ethernet port.

The controller shall be an Econolite Cobalt C-Series NEMA TS-2 Type 2 controller equipped with basic display, Ethernet ports, USB ports, and data key. The controller shall be equipped with the latest firmware.

The malfunction management unit shall be equipped with the latest software and firmware revisions. The cabinet shall be equipped with a plexi-glass shield that covers the power panel which houses the mercury bus relay, line filter, circuit breakers, and other electrical components.

The cabinet shall be equipped with a plexi-glass shield that covers the thermostat and a LED lighting assembly that turns on when the door is opened. The lighting assembly shall be mounted in a location that will not interfere with cabinet maintenance.

The traffic signal cabinet shall be equipped with a sixteen load switch back panel to accommodate future expansion.

The cabinet shall be furnished with a compact heater strip to be used for moisture reduction during cold weather. The heater shall be thermostatically controlled, operate at 120 volts, have a minimum wattage of 150 watts, a maximum wattage of 250 watts, have a shield to protect service personnel and equipment from damaging heat, be separately fused, and be mounted where it does not interfere with a person working in the cabinet.

The traffic signal cabinets shall be equipped with two non GFCI duplex NEMA 5-15R receptacles to be used to provide power to auxiliary equipment.

The cabinet shall be equipped with toggle switch guards for all switches located on the door to prevent accidental switching. The cabinet shall include a permanent re-usable washable air filter.

The cabinet shall be equipped with additional surge protection for the controller, malfunction management unit, and detector amplifiers, and/or video detection system. The surge protector shall be a Transtector model ACP100BWN3 and shall be included in addition to an EDCO SHA-1250 IRS protector. The EDCO SHA-1250 IRS surge protector is to be provided in accordance with Section 1085.47 A(4a) and shall be wired to provide surge protection for the controller, malfunction management unit, and detector amplifiers. The Transtector surge suppressor may be wired to the equipment protected power terminals of the EDCO SHA-1250 IRS unit provided that the controller, MMU, and detection system are protected.

The Contractor shall set up each cabinet in his or her shop for inspection by the Engineer. All phases that are utilized shall be hooked up to a light board to provide observation for each signal indication. The Engineer shall be notified when the setup is complete so that all pertinent timings may be entered into each traffic signal controller. The facility shall be subject to a seven day burn-in period before installation will be allowed.

After installing the cabinet in the field, prior to resuming normal signal operation, the Contractor shall test the cabinet by connecting a jumper to the cabinet field terminals to ensure that all conflicting signals will place the cabinet into conflict flash and to verify that the cabinet, controller, and malfunction management unit are operating correctly. The Contractor shall make arrangements with the local police agency to provide traffic control during the conflict test.

Basis of payment. This work will be paid for at the contract unit price each for FULL ACTUATED CONTROLLER AND TYPE IV CABINET SPECIAL and shall be payment in full for all labor, materials, and equipment required to remove the existing traffic signal cabinet and furnish, install, and test the traffic signal cabinet described above, complete.

TRAFFIC SIGNAL LED MODULE SPECIFICATIONS

The material requirement shall be in accordance with Sections 880 and 1078 of the Standard Specifications except as modified herein.

All traffic signal solid indication and arrow LED assemblies shall be designed for a fifteen year service life with enhanced power supplies and LEDs and shall have a fifteen year replacement warranty. Currently, the following manufacturers and models are approved for use:

- Dialight - 12” Long Life XL15 ITE Compliant Traffic Balls and 12” Long Life XOD15 ITE Compliant Omni-Arrows

- Leotek – 12” Extended Life DT Series Incandescent Look Ball and 12” Extended Life DT Series Incandescent Look Arrows

The LED assemblies for the red, yellow, and green solid and arrow indications shall meet or exceed the following minimum specifications:

Solid Indication LED Module Specifications

Compliance:	Fully compliant with ITE VTCSH LED Circular Signal Supplement specifications dated and adopted June 27, 2005
Compliance Verification:	Intertek ETL verified compliance – Product must be listed on the "Directory of LED Modules Certified Products" list located on the ETL website at http://www.intertek.com/lighting/performance-testing/traffic-signals/
Diameter:	12" (300mm)
Lens:	UV stabilized scratch resistant polycarbonate, tinted red or yellow, clear for green, uniform non-pixelated illumination, Incandescent Appearance
LEDS:	Hi-Flux
Operating Temperature Range:	-40 to +74C (-40 to +165F)
Operating Voltage Range:	80 to 135 V (60Hz AC)
Power Factor (PF):	> 90%
Total Harmonic Distortion (THD):	< 20%
Minimum Voltage Turn-Off:	35V
Turn-On/Turn-Off Time:	<75 ms
Nominal Power:	10.0 W (Red), 18.0W (Yellow), 12.5 W (Green)
Nominal Wavelength:	625-626 nm (Red), 589-590 nm (Yellow), 500-502 nm (Green)
Minimum Maintained Intensity:	365 Cd (Red), 910 Cd (Yellow), 475 Cd (Green)

Standard Conformance:	FCC compliant for electrical noise, MIL-STD-810F for moisture resistance, MIL-STD-883 for mechanical vibration, NEMA TS2 Transient Voltage Protection
Warranty:	15 year replacement (materials, workmanship, and intensity)

Arrow Indication LED Module Specifications (Red, Yellow, Green)

Compliance:	Fully compliant with ITE VTCSH LED Vehicle Arrow Supplement specifications adopted July 1, 2007
Compliance Verification:	Intertek ETL verified compliance – Product must be listed on the "Directory of LED Modules Certified Products" list located on the ETL website at http://www.intertek.com/lighting/performance-testing/traffic-signals/
Diameter:	12" (300mm)
Lens:	Clear Frosted, UV stabilized scratch resistant polycarbonate, tinted red or yellow, clear for green, uniform non-pixelated illumination, incandescent appearance, omni-directional
LEDS:	Hi-flux LEDs
Operating Temperature Range:	-40 to +74C (-40 to +165F)
Operating Voltage Range:	80 to 135 V (60Hz AC)
Power Factor (PF):	> 90%
Total Harmonic Distortion (THD):	< 20%
Minimum Voltage Turn-Off:	35V
Turn-On/Turn-Off Time:	<75 ms
Nominal Power:	5.0-7.0 W (Red), 6.0-12.5W (Yellow), 5.0-7.0 W (Green)
Nominal Wavelength:	625-628 nm (Red), 590 nm (Yellow), 500nm (Green)

Minimum Maintained Intensity:	56.8-58.4 Cd (Red), 141.6-146.0 Cd (Yellow), 73.9-76.0 Cd (Green)
Standard Conformance:	FCC compliant for electrical noise, MIL-STD-810F for moisture resistance, MIL-STD-883 for mechanical vibration, NEMA TS2 Transient Voltage Protection
Warranty:	15 year replacement (materials, workmanship, and intensity)

16” Pedestrian LED Module Specifications (Man/Hand with Countdown Timer)

Compliance:	Fully compliant with ITE PTCSI Part-2 LED Pedestrian Traffic Signal Modules specification adopted August 4, 2010
Compliance Verification:	Intertek ETL verified compliance – Product must be listed on the “Directory of LED Modules Certified Products” list located on the ETL website at http://www.intertek.com/lighting/performance-testing/traffic-signals/
Size:	16” x 18”
Configuration:	Man/Hand Overlay with Countdown Timer
Lens:	UV stabilized scratch resistant polycarbonate, uniform non-pixelated illumination, incandescent appearance
Operating Temperature Range:	-40 to +74C (-40 to +165F)
Operating Voltage Range:	80 to 135 V (60Hz AC)
Power Factor (PF):	> 90%
Total Harmonic Distortion (THD):	< 20%
Minimum Voltage Turn-Off:	35V
Turn-On/Turn-Off Time:	<75 ms
Nominal Power:	6.0-9.0 W (Man), 7.0-9.0W (Hand), 5.0-8.0 W (Timer)

Minimum Maintained Intensity:	1,400 Cd (Hand), 1,400 Cd (Timer), 2,200 Cd (Man)
Standard Conformance:	FCC compliant for electrical noise, MIL-STD-810F for moisture resistance, MIL-STD-883 for mechanical vibration, NEMA TS2 Transient Voltage Protection
Warranty:	5 year replacement (materials, workmanship, and intensity)

SIGNAL HEAD, LED

This work shall be in accordance with Sections 880 and 1078 of the Standard Specifications except as modified herein.

The traffic signal heads shall consist of 12" polycarbonate sections and shall be equipped with LED assemblies for all red bulb, yellow bulb, green bulb, red arrow, yellow arrow, and green arrow indications.

The traffic signal heads shall have a black finish with black doors and tunnel visors.

The LED signal faces shall be equipped with spade connectors and connected to the traffic signal head terminal block.

The LED modules shall conform to the specifications listed under the section TRAFFIC SIGNAL LED MODULE SPECIFICATIONS.

All costs associated with furnishing and installing new signal head bracketing shall be included in the cost of this pay item. The Contractor shall minimize the total number of holes drilled in a mast arm to no more than three.

Basis of payment. This work will be paid for at the contract unit prices each for SIGNAL HEAD, LED of the type specified and will be payment in full for all labor, equipment, and materials required to remove the existing signal heads and bracketing and furnish and install traffic signal heads equipped with LED indications and new bracketing as described above, complete.

TRAFFIC SIGNAL BACKPLATE, RETROREFLECTIVE

This work shall be in accordance with Sections 882 and 1078 of the Standard Specifications except as modified herein.

The traffic signal backplates shall be of the same material as the traffic signal heads as specified on the plans.

A three (3) inch wide strip of reflective sheeting shall be applied to the outside perimeter of the face of the backplates. The reflective tape shall be fluorescent yellow in color and shall consist of type AZ sheeting.

Basis of payment. This work will be paid for at the contract unit price each for TRAFFIC SIGNAL BACKPLATE, RETROREFLECTIVE and shall be payment in full for all labor, materials, and equipment required to furnish and install a traffic signal backplate with reflective tape as described above, complete.

WIRELESS ETHERNET RADIO

The Contractor shall furnish a wireless ethernet radio system and install it on an existing traffic signal mast arm or mast arm strain pole at the locations shown in the plans.

The Contractor shall furnish and install the wireless radio, surge arrestors, mounting brackets, hardware, cables, and all other items required for installation.

The Contractor shall install the radios in accordance with the manufacturer's recommendations and aim the radio antennas to ensure optimal signal strength and connectivity.

The wireless ethernet radio shall be an Ubiquiti Networks airFiber 60 LR 60 GHz radio that meets or exceeds the following minimum specifications:

Features:

- 60 GHz radio
- Low-interference 60 Ghz spectrum
- Long range, up to 12 km
- Up to 1.9 Gbps with low latency
- Integrated GPS
- Full and half bandwidth support

Mechanical
Dimensions: Ø413 x 360 mm (Ø16.3 x 14.2")
Weight: Without mount: 1.5 kg (3.3 lb), With mount: 2.7 kg (6 lb)
Enclosure materials: Aluminum, UV stabilized polycarbonate
Mount material: Galvanized steel
Mounting Precision Alignment Kit (included)
Pole compatibility: Ø25.4-76.2 mm (Ø1-3")
Wind loading: 420 N at 200 km/h (94.4 lbf at 125 mph)

Hardware
Processor: Quad-Core ARM® Cortex® A7
Memory: 256 MB DDR3
Networking interface: GbE RJ45 port
RF connections: Internal
Max. power consumption: 18W

Power method: Passive PoE 4-pairs (1, 2+; 3, 6-) (4, 5+; 7, 8-) or 2-pairs (4, 5+; 7, 8-)
Power supply: 48VDC, 0.65A gigabit PoE adapter (included)
Supported voltage range: 48VDC ± 10%
ESD/EMP protection: Air/contact: ± 24kV
Operating temperature: -40 to 60° C (-40 to 140° F)
Operating humidity: 5 to 95% noncondensing
Certifications: FCC, IC, CE

LEDs:
Power: Flashing white: bootup in progress; White: not connected to UISP™ console; Blue: connected to UISP console
Ethernet: Flashing blue: ethernet activity
GPS: Blue: receiving at least (4) GPS satellite signals
60G: Blue: active connection

Software:
OS: airOS®
Operating mode: PtP only
Ubiquiti specific features: Integrated 60 GHz radio, discovery protocol, Wave technology
Network: Bridge mode
Services: UISP, ping watchdog, NTP client, device discovery
Tools: Antenna alignment, discovery utility, ping, trace route, speed test
Software management: Bluetooth management for easy setup over UISP app, WEB UI
Minimum software requirements: Any modern WEB browser/iOS or Android based smartphone

System:
Maximum throughput: 1.95 Gbps
Maximum range: 12+ km
Encryption: WPA2-PSK (AES)

RF
Operating Frequency: 57~71 GHz (Depends on regulatory region)
GPS: Yes
Channel Bandwidth: 2160, 1080 MHz

Installation: The Contractor shall ensure that there is a clear line of sight between radios. The Contractor shall furnish and install outdoor, shielded Category 6 (or above) cabling and shielded RJ45 connectors. The Contractor shall furnish two Ethernet Surge Protectors (model ETH-SP-G2) and install one at each end of the cabling. The Contractor shall test all CAT6 cables after installation. The Department will program and configure the radios.

The Contractor shall install the stabilizer arms on the antennas and aim them towards the receiving antenna. The Contractor shall make adjustments to the antenna aiming to ensure optimal signal strength and radio link connectivity. The Contractor shall furnish all hardware and brackets required to install the radio antennas on the existing mast arm or strain pole.

Basis of Payment: This work will be paid for at the contract unit price per Each for WIRELESS ETHERNET RADIO which price shall be payment in full for all labor, materials, and equipment

required to furnish the wireless ethernet radio and install it on an existing traffic signal mast arm or strain pole at the locations shown in the plans.

CAT 6 ETHERNET CABLE

This work shall be in accordance with Sections 873, 1076, and 1088 of the Standard Specifications except as modified herein.

This work shall consist of furnishing and installing an outdoor rated CAT6E cable in conduits, handholes, and poles.

The cable shall meet the requirements for use in the installation of the wireless ethernet radios.

Approved Cable: Belden 7953A

The cable shall be rated for outdoor use and conform to the following specifications:

- 600V Rated
- Outdoor CMX Rated Jacket (climate/oil resistant jacket)
- UV Resistant Outer Jacket Material (PVC-UV, UV Stabilized)
- Outer Jacket Ripcord
- Designed for Outdoor Above- Ground or Conduit Duct applications
-
- Meets TIA/EIA 568b.2 Standard
- Shielded Twist Pair
- 4 Pairs, 8 Conductors
- 23AWG, Solid Core Copper
- UL 444 ANSI TIA/EIA-568.2 ISO/IEC 11801
- RoHS Compliant
- Water Blocking Gel

Basis of Payment: This work will not be paid for separately but shall be included in the unit bid price for WIRELESS ETHERNET RADIO.

CLOSED-CIRCUIT TELEVISION DOME CAMERA, HD

Description. This work shall consist of furnishing and installing an integrated Closed-Circuit Television (CCTV) Dome Camera Assembly, camera bracket, and all other items required for installation and operation. This assembly shall contain all components identified in the Materials Section and shall be configured as indicated on the plan sheets.

Materials.

The CCTV camera shall be an Axis Model Q6075-E Dome Camera Assembly for integration into the existing District 4 ITS system.

The Contractor shall provide all materials required to install the proposed camera on the proposed sign structure camera mast as shown on the plan sheets.

The Contractor shall submit catalog cut sheets to the Department for all items (mounting brackets, hardware, etc.) that will be utilized for review prior to commencing work.

The Department will program the cameras prior to installation.

The camera shall meet or exceed the following specifications:

CAMERA

VIDEO:	60 Hz (NTSC), 50 Hz (PAL)
IMAGE SENSOR:	1/2.8” progressive scan CMOS
LENS:	4.44–142.6 mm, F1.6–4.41 Horizontal angle of view: 62.8°–2.23° Vertical angle of view: 36.8°–1.3° Autofocus, auto-iris
DAY AND NIGHT:	Automatically removable infrared-cut filter
MINIMUM ILLUMINATION:	Color: 0.3 lux at 30 IRE F1.6 B/W: 0.03 lux at 30 IRE F1.6 Color: 0.5 lux at 50 IRE F1.6 B/W: 0.04 lux at 50 IRE F1.6
SHUTTER TIME: NTSC:	1/33000 s to 1/3 s with 50 Hz 1/33000 s to 1/4 s with 60 Hz
PAN/TILT/ZOOM:	Pan: 360° endless, 0.05° - 450°/s Tilt: 220°, 0.05°-450°/s 32x optical zoom and 12x digital zoom, total 384x zoom E-flip, 256 preset positions, Tour recording, Guard tour, Control queue, On-screen directional indicator, Set new pan 0°, Adjustable zoom speed

VIDEO

VIDEO COMPRESSION:	H.264 (MPEG-4 Part 10/AVC), Motion JPEG
RESOLUTIONS:	HDTV 1080p 1920x1080 to 320x180 HDTV 720p 1280x720 to 320x180

FRAME RATE (H.264):	Up to 60/50 fps (60/50 Hz) in HDTV 720p Up to 30/25 fps (60/50 Hz) in HDTV 1080p
VIDEO STREAMING:	Multiple, individually configurable streams in H.264 and Motion JPEG, Axis' Zipstream technology, Controllable frame rate and bandwidth, VBR/MBR H.264
IMAGE SETTING:	Manual shutter time, compression, color, brightness, sharpness, white balance, exposure control, exposure zones, fine tuning of behavior at low light, rotation: 0°, 180°, text and image overlay, 32 individual 3D privacy masks, image freeze on PTZ, automatic defog, backlight compensation Wide Dynamic Range (WDR): Up to 120 dB depending on scene, highlight compensation

NETWORK

SECURITY:	Password protection, IP address filtering, HTTPSa encryption, IEEE 802.1Xa network access control, Digest authentication, User access log, Centralized Certificate Management
PROTOCOLS:	IPv4/v6, HTTP, HTTPSa, SSL/TLSa, QoS Layer 3 DiffServ, FTP, CIFS/SMB, SMTP, Bonjour, UPnPTM, SNMP v1/v2c/v3 (MIB-II), DNS, DynDNS, NTP, RTSP, RTP, SFTP, TCP, UDP, IGMP, RTCP, ICMP,DHCP, ARP, SOCKS, SSH, NTCIP

SYSTEM INTEGRATION

APPLICATION PROG INTERFACE:	Open API for software integration, including VAPIX® and AXIS Camera Application Platform; specifications at www.axis.com, AXIS Video Hosting System (AVHS) with One-Click Connection, ONVIF Profile S, specification at www.onvif.org
ANALYTICS:	Video motion detection, Autotracking, Active Gatekeeper Basic Analytics (not to be compared with third-party analytics): Object removed, Enter/Exit detector, Fence detector, Object Counter, Highlight compensation, Support for AXIS Camera Application Platform enabling installation of third-party applications, see www.axis.com/acap
EVENT TRIGGERS:	Detectors: Live stream accessed, Video motion detection, Shock Detection, Object removed, Enter/Exit detector, Fence detector, Object counter; Hardware: Fan, Network, Temperature, Casing

	Open; PTZ: Autotracking, Error, Moving, Ready, Preset Reached; Storage: Disruption, Recording; System: System Ready; Time: Recurrence, Use Schedule; Input signal: Manual trigger, Virtual input
EVENT ACTIONS:	Day/night mode, overlay text, video recording to edge storage, pre- and post-alarm video buffering, send SNMP trap PTZ: PTZ preset, start/stop guard tour File upload via FTP, SFTP, HTTP, HTTPS network share and Email; Notification via email, HTTP, HTTPS and TCP
DATA STREAMING	Event data
BUILT IN INSTALLATION AIDS	Pixel Counter

GENERAL

CASING:	IP66-, NEMA 4X- and IK10-rated Metal casing (aluminum), polycarbonate (PC) clear dome, sunshield (PC/ASA)
SUSTAINABILITY:	PVC Ffree
MEMORY:	512 MB RAM, 128 MB Flash
POWER CAMERA:	Axis High PoE midspan 1–port: 100–240 V AC, max 74 W Camera consumption: typical 16 W, max 60 W
CONNECTORS:	RJ45 10BASE-T/100BASE-TX PoE, RJ45 Push-pull Connector (IP66) included
EDGE STORAGE:	Support for SD/SDHC/SDXC card Support for recording to dedicated network-attached storage (NAS); For SD card and NAS recommendations see www.axis.com
OPERATING CONDITIONS:	With 30 W midspan: -20 °C to 50 °C (-4 °F to 122 °F) With 60 W midspan: -50 °C to 50 °C (-58 °F to 122 °F) Maximum temperature (intermittent): 60 °C (140 °F) Arctic Temperature Control: Start-up as low as -40 °C (-40 °F) Humidity 10–100% RH (condensing)

APPROVALS:	EMC: EN 55022 Class A, EN 61000-3-2, EN 61000-3-3, EN 61000-6-1, EN 61000-6-2, EN 55024, FCC Part 15 Subpart B Class A, ICES-003 Class A, VCCI Class A, RCM AS/NZS CISPR 22 Class A, KCC KN32 Class A, KN35 Safety: IEC/EN/UL 60950-1, IEC/EN/UL 60950-22 Environment: EN 50121-4, IEC 62236-4, IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60721-4-3, NEMA 250 Type 4X, IEC 60068-2-30, IEC 60068-2-60, IEC 60068-2-78, IEC/EN 60529 IP66, NEMA TS-2-2003 v02.06, Subsection 2.2.7, 2.2.8, 2.2.9; IEC 62262 IK10, ISO 4892-2 Midspan: EN 60950-1, GS, UL, cUL, CE, FCC, VCCI, CB, KCC, UL-AR
WEIGHT:	3.7 kg (8.2 lb.)
INCLUDED ACCESSORIES:	Axis High PoE 60 W midspan 1-port, RJ45 Push-pull Connector (IP66), Sunshield, Installation Guide, Windows decoder 1-user license
VIDEO MANAGEMENT: SOFTWARE:	AXIS Camera Companion, AXIS Camera Station, Video management software from Axis' Application Development Partners available on www.axis.com/techsup/software
WARRANTY:	Axis 3-year warranty and AXIS Extended Warranty option

Environmental Enclosure/Housing

The environmental enclosure shall be designed to physically protect the integrated camera from the outdoor environment and moisture via a sealed enclosure. If the option exists in the standard product line of the manufacturer, the assembly shall be supplied with an integral sun shield. The enclosure shall be fully water and weather resistant with a NEMA 4 rating or better.

The camera dome shall be constructed of distortion free acrylic or equivalent material that must not degrade from environmental conditions. The environmental housing shall include a camera-mounting bracket. In addition, the environmental housing shall include a heater, blower, and power surge protector. An integral fitting compatible with a standard 1-1/2 in (38.1 mm) NPT pipe, suitable for outdoor pendant mounting shall also be provided.

The enclosure shall be equipped with a heater controlled by a thermostat. The heater shall turn on when the temperature within the enclosure falls below 40° F (4.4°C). The heater shall turn

off when the temperature exceeds 60°F (15.6°C). The heater will minimize internal fogging of the dome faceplate when the assembly is operated in cold weather.

In addition, a fan shall be provided as part of the enclosure. The fan will provide airflow to ensure effective heating and to minimize condensation.

The enclosure shall be equipped with a hermetically sealed, weatherproof connector, located near the top for external interface with power, video, and control feeds.

CCTV Dome Camera Mounting Supports

The Contractor shall furnish and install an Axis Pole Mount Bracket T91L61 (Part Number 5801-721) for camera installation on traffic signal mast arms and CCTV camera poles and stainless steel banding as required.

Mounting supports shall be configured as shown on the camera support detail plans and as approved by the Engineer. Mount shall be of aluminum construction with enamel or polyester powder coat finish. Braces, supports, and hardware shall be stainless steel. Wind load rating shall be designed for sustained gusts up to 90 mph (145 km/hr), with a 30% gust factor. Load rating shall be designed to support up to 75 lb (334 N). For roof or structural post/light pole mounting, mount shall have the ability to swivel inward for servicing. The mounting flange shall use standard 1-1/2 inch (38.1 mm) NPT pipe thread.

Connecting Cables

The Contractor shall furnish and install outdoor rated, shielded CAT 5E cable at the locations shown on the plan sheets. The cable shall be terminated using the terminal block inside the camera bracket and the IDC connector and pre-formed IP66 rated RJ-45 connector on the camera end and a shielded RJ-45 connector in the cabinet. The Contractor shall test the cable prior after termination.

Construction Requirements.

General

The Contractor shall prepare a shop drawing detailing the complete CCTV Dome Camera Assembly and installation of all components to be supplied for approval of the Engineer. Particular emphasis shall be given to the cabling and the interconnection of all of the components.

The Contractor shall install the CCTV dome camera assembly at the locations indicated in the Plans. The CCTV Dome Camera Assembly shall be mounted on a pole, wall, or other structure.

Testing

The Contractor shall test each installed CCTV Dome Camera Assembly. The test shall be conducted from the field cabinet using the standard communication protocol and a laptop computer. The Contractor shall verify that the camera can be fully exercised and moved through the entire limits of Pan, Tilt, Zoom, Focus and Iris adjustments, using both the manual control and presets. The Contractor shall maintain a log of all testing and the results. A representative of the Contractor and a representative of the Engineer shall sign the log as witnessing the results. Records of all tests shall be submitted to the Engineer prior to accepting the installation.

Method of Measurement. The closed circuit television dome camera bid item will be measured for payment by the actual number of CCTV dome camera assemblies furnished, installed, tested, and accepted.

Basis of Payment. Payment will be made at the contract unit price for each CLOSED CIRCUIT TELEVISION DOME CAMERA, HD including all equipment, material, testing, documentation, and labor detailed in the contract documents for this bid item.

CAT 5 ETHERNET CABLE

This work shall be in accordance with Sections 873, 1076, and 1088 of the Standard Specifications except as modified herein.

This work shall consist of furnishing and installing an outdoor rated CAT5E cable in conduits, handholes, and poles.

The cable shall be rated for outdoor use and conform to the following specifications:

- Outdoor CMX Rated Jacket (climate/oil resistant jacket)
- UV Resistant Outer Jacket Material (PVC-UV, UV Stabilized)
- Outer Jacket Ripcord
- Designed for Outdoor Above- Ground or Conduit Duct applications
- Cat5E rated to 350MHz (great for 10/100 or even 1000mbps Gigabit Ethernet)
- Meets TIA/EIA 568b.2 Standard
- Shielded Twist Pair
- 4 Pairs, 8 Conductors
- 24AWG, Solid Core Copper
- UL 444 ANSI TIA/EIA-568.2 ISO/IEC 11801
- RoHS Compliant
- Water Blocking Gel

Basis of payment. This work will be paid for at the contract unit price per Foot for CAT 5 ETHERNET CABLE, which shall be payment in full for all labor, equipment, and materials required to provide and install the cable described above, complete.

TRAFFIC SIGNAL BATTERY BACKUP SYSTEM

The following models of Battery Backup Systems are approved for use within District Four:

- Alpha Technologies Novus XFM HP 1100 (with standard IDOT cabinet or Alpha Technologies Side Mount 6 Integrated BBS Cabinet), Equipped with Ethernet SNMP Interface and Enhanced Capability Battery Monitoring System (AlphaGuard Plus)

- Multilink, EP 2200-T, 1500 Watts/2 kVA, 48 Volt**,** Equipped with Internal Communication Card and Monitoring Software

- Myers Emergency Powers Systems, Model MP2000CA, Equipped with Ethernet SNMP card and Web Based Configuration

The Contractor may elect to submit an alternate product for consideration provided that it meets the minimum requirements contained in this specification.

The Contractor shall be responsible for providing Battery Backup Systems that are sized appropriately for the intersection load. The total system load shall not exceed the manufacturer's specifications.

The Battery Backup System shall be equipped with a deluxe pleated air filter and plexiglass covers to prevent accidental contact to terminal strips and connections carrying line voltage.

The battery backup systems for the existing traffic signal cabinets shall be installed as shown on the plan detail sheets and as follows:

- A separate circuit breaker shall be installed in the battery backup system cabinet (or in the traffic signal cabinet). The circuit breaker shall be rated equivalent to the main power circuit breaker rating in the existing traffic signal cabinet. The Contractor shall install #6 wiring from the test circuit breaker to the line voltage in the traffic signal cabinet. The circuit breaker shall be used to shut off the incoming utility power to test the battery backup system.

- The cabinet light, ventilation fans, heater strips, and service receptacle shall be wired to a separate circuit that will not be powered by the battery backup system

- A hole of sufficient size for the cables will be drilled into the side of the cabinet to accommodate the battery backup system cables and harnesses from the BBS cabinet. The hole shall be free of sharp edges and equipped with a plastic or rubber grommet.

- The fail-safe automatic by-pass switch and blue indicator light shall be installed in the battery backup cabinet (or in the existing traffic signal cabinet).

GENERAL REQUIREMENTS: The Battery Back-up System (BBS) shall include, but not be limited to the following: inverter/charger, power transfer relay, batteries, battery cabinet, a separate failsafe automatic bypass switch and all necessary hardware and interconnect wiring. The BBS shall provide reliable emergency power to a traffic signal in the event of a power failure or interruption. The transfer from utility power to battery power and vice versa shall not interfere with the normal operation of traffic controller, conflict monitor/malfunction management unit or any other peripheral devices within the traffic controller assembly.

The BBS shall provide power for full run-time operation for an "LED-only" intersection (all colors red, yellow, and green) or flashing mode operation for an intersection using Red LED's. As the battery reserve capacity reaches 50%, the intersection shall automatically be placed in all-red flash. The BBS shall allow the controller to automatically resume normal operation after the power has been restored. The BBS shall log an alarm in the controller for each time it is activated.
All 48-volt Battery Backup Systems shall include four batteries and all 36-volt Battery Backup Systems shall include six batteries.

The BBS shall be designed for outdoor applications, and shall meet the environmental requirements of, "NEMA Standards Publication No. TS 2 – Traffic Controller Assemblies," or applicable successor NEMA specifications, except as modified herein.

The BBS shall conform to the following specifications:

1.1 OPERATION

1.1 The BBS shall be online and provide voltage regulation and power conditioning when utilizing utility power.

1.2 The BBS shall provide a minimum two (2) hours of full run-time operation and four (4) hours all-red flash operation for an "LED-only" intersection (minimum 1000W/1000VA active output capacity, with 80% minimum inverter efficiency).

1.3 The maximum transfer time from loss of utility power to switchover to battery backed inverter power shall be 150 milliseconds.

1.4 The BBS shall provide the user with 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, rated at a minimum 120V/1A, and labeled so as to identify each contact. For typical configuration, see the plan detail sheet.

1.5 A first set of NO and NC contact closures shall be energized whenever the unit switches to battery power. Contact shall be labeled or marked "On Batt."

1.6 The second set of NO and NC contact closures shall be energized whenever the battery approaches approximately 40% of remaining useful capacity. Contact shall be labeled or marked "Low Batt."

1.7 The third set of NO and NC contact closures shall be energized two hours after the unit switches to battery power. Contact shall be labeled or marked "Timer."

1.8 The fourth set of NO and NC contact closures shall be energized in the event of inverter/charger failure, battery failure or complete battery discharge. Contact shall be labeled or marked "BBS Fail or Status."

1.9 A surge suppression unit shall be provided for the output power if available as an option by the BBS manufacturer.

1.10 Operating temperature for both the inverter/power transfer relay and failsafe automatic bypass switch shall be -37◦C to +74◦C.

1.11 The Power Transfer Relay shall be rated at 240VAC/30AMPS minimum and failsafe automatic bypass switch shall be rated at 240VAC/20 amps, minimum.

1.12 The fail-safe automatic bypass switch shall be wired to provide power to the BBS when the switch is set to bypass.

1.13 The BBS shall use a temperature-compensated battery charging system. The charging system shall compensate over a range of 2.5 – 4.0 mV/◦C per cell.

1.14 The temperature sensor shall be external to the inverter/charger unit. The temperature sensor shall come with 2 meters (6'6") of wire.

1.15 Batteries shall not be recharged when battery temperature exceeds 50◦C ±3◦C.

1.16 BBS shall bypass the utility line power whenever the utility line voltage is outside of the following voltage range: 100VAC to 130VAC (±2VAC).

1.17 When utilizing battery power, the BBS output voltage shall be between 110 VAC and 125 VAC, pure sine wave output, ±3% THD, 60Hz ±3Hz.

1.18 BBS shall be compatible with Illinois DOT’s traffic controller assemblies utilizing NEMA TS 1 or NEMA TS 2 controllers and cabinet components for full time operation.

1.19 When the utility line power has been restored at above 105 VAC ±2 VAC for more than 30 seconds, the BBS shall dropout of battery backup mode and return to utility line mode.

1.20 When the utility line power has been restored at below 125VAC ±2 VAC for more than 30 seconds, the BBS shall dropout of battery backup mode and return to utility line mode.

1.21 BBS shall be equipped to prevent a malfunction feedback to the cabinet or from feeding back to the utility service.

1.22 In the event of inverter/charger failure, battery failure or complete battery discharge, the power transfer relay shall revert to the NC state, where utility line power is reconnected to the cabinet. The BBS shall always revert back to utility line power and shall be designed to revert back to utility line power in the event of a BBS fault condition.

1.23 Recharge time for the battery, from "protective low-cutoff" to 80% or more of full battery charge capacity, shall not exceed twenty (20) hours.

1.24 When the intersection is in battery operation, the BBS shall bypass all internal cabinet lights, ventilation fans, heater strips, and service receptacles.

1.25 The fail-safe automatic bypass switch shall be wired to provide power to the BBS when the switch is set to bypass.

1.26 A blue LED indicator light shall be mounted on the front of the traffic signal cabinet or on the side of the BBS cabinet facing traffic and shall turn on to indicate when the cabinet power has been disrupted and the BBS is in operation. The light shall be a minimum 1" diameter, be viewable from the driving lanes, and shall be large enough and visible enough to be seen from 200 ft. away.

1.27 All 36 volt and 48 volt systems shall include an external component that monitors battery charging to ensure that every battery in the string is fully charged. The device shall compensate for the effects of adding a new battery to an existing battery system by ensuring that the charge voltage is spread equally across all batteries. All cables, harnesses, cards, and other components that are required to provide the functionality described above shall be included in the unit bid price for the battery backup system. The following products are currently approved for use within District 4: Alpha Technologies: AlphaGuard with Charge Management Technology Module.

1.28 The BBS shall be equipped with an integrated safety switch that will interrupt inverter output power in the event of a cabinet knockdown. The safety switch may be either internal to the inverter/charger is externally mounted inside of the BBS cabinet. The safety switch shall be designed to interrupt output power in the event that the charger/inverter is tilted more than twenty degrees on any axis. The switch shall be mechanically latching to ensure that power is not automatically restored to the BBS until the charger/inverter has been "reset". The switch shall also be resettable and reusable unless it has been physically damaged.

1.29 The BBS shall be equipped with an Ethernet port and network management card.

2.0 MOUNTING AND CONFIGURATION

2.1 GENERAL

2.2 Inverter/Charger Unit shall be rack or shelf-mounted.

2.3 (Reserved).

2.4 All interconnect wiring provided between Power Transfer Relay, Bypass Switch and Cabinet Terminal Service Block shall be no greater than two (2) meters (6'6") of #10 AWG wire.

2.5 Relay contact wiring provided for each set of NO/NC relay contact closure terminals shall be #18 AWG wire.

2.6 All necessary hardware for mounting (shelf angles, rack, etc.) shall be included in the bid price of the BBS. The swing-trays shall be screwed to the Type IV or Type V NEMA cabinets using continuous stainless steel or aluminum piano hinge. All bolts/fasteners and washers shall be ½" diameter galvanized or stainless steel.

3.0 EXTERNAL BATTERY CABINET

3.1 The external cabinet shall be a rated NEMA Type 3R Cabinet.

3.2 Inverter/Charger and Power Transfer Relay shall be installed inside the external battery cabinet and the failsafe automatic bypass switch shall be installed inside the existing traffic signal cabinet or proposed battery backup cabinet.

3.3 Batteries shall be housed in the external cabinet which shall be NEMA Standard rated cabinet mounted to the side of the Type IV or Type V Cabinet (see plan sheets for details). This external battery cabinet shall conform to the IDOT Standard Specifications for traffic signal cabinets for the construction and finish of the cabinet.

3.4 The external battery cabinet shall mount to the Type IV or Type V NEMA Cabinet with a minimum of four (4) bolts to the satisfaction of the Engineer.

3.5 The dimensions of the external battery cabinet shall be 25" (L) x 16" (W) x 41" (H) and installed in accordance with the plan sheet cabinet detail and this specification.

3.6 The cabinet shall include heater mats for each battery shelf and/or battery. If the BBS charger/inverter does not have facilities to accommodate heater mat connections, thermostatically controlled heater mats shall be provided with the system. The heater mat thermostat shall be a separate thermostat (from the ventilation fan thermostat) and be adjustable from 0°F to 32°F for heater mat turn-on.

3.7 A warning sticker shall be placed on the outside of the cabinet indicating that there is an Uninterruptible Power Supply inside the cabinet.

3.8 The external battery cabinet shall be ventilated through the use of louvered vents (2), filters, and one thermostatically controlled fan as per NEMA TS 2 Specifications. The cabinet shall include a cleanable or replaceable cabinet filter.

3.9 External battery cabinet fan shall be AC operated from the same line output of the bypass Switch that supplies power to the Type IV or Type V Cabinet.

3.10 The BBS with external battery cabinet shall come with all bolts, conduits and bushings, gaskets, shelves, and hardware needed for mounting. The external battery cabinet shall have a hinged door opening to the entire cabinet. The cabinet shall include a bottom constructed from the same material as the cabinet.

3.11 The external cabinet shall be equipped with a power receptacle to accommodate the inverter/charger. The receptacle shall be wired to the line output of the manual bypass switch.

4.0 MAINTENANCE, DISPLAYS, CONTROLS AND DIAGNOSTICS

4.1 The BBS shall include a display and /or meter to indicate current battery charge status and conditions.

4.2 The BBS shall have lightning surge protection compliant with IEEE/ANSI C.62.41.

4.3 The BBS shall be equipped with an integral system to prevent battery from destructive discharge and overcharge.

4.4 The BBS and batteries shall be easily replaced with all needed hardware and shall not require any special tools for installation.

4.5 The BBS shall be equipped with a RS-232 port.

4.6 The BBS shall include a resettable front-panel event counter display to indicate the number of times the BBS was activated and a front-panel hour meter to display the total number of hours the unit has operated on battery power.

4.7 Manufacturer shall include two (2) sets of equipment lists, operation and maintenance manuals, and board-level schematic and wiring diagrams of the BBS, and the battery data sheets. Manufacturer shall include any software needed to monitor, diagnose, and operate the BBS. The manufacturer shall include any required cables to connect to a laptop computer.

4.8 The BBS shall include a data cable for the serial connection to the RS232 port and diagnostic software if it is available as an option with the unit (only two cables required for project).

4.9 One copy of the owner/maintenance manuals shall be provided with the BBS.

4.1 BATTERY SYSTEM

4.2 Individual batteries shall be 12V type and shall be easily replaced and commercially available off the shelf.

4.3 The batteries shall be premium gel type with a 5-year full replacement warranty.

4.4 Batteries used for BBS shall consist of a minimum of four (4) to eight (8) batteries with a cumulative minimum rated capacity of 280 amp-hours.

4.5 Batteries shall be deep cycle, completely sealed, silver alloy VRLA (Valve Regulated Lead Acid) requiring no maintenance with maximum run time.

4.6 Batteries shall be certified by the manufacturer to operate over a temperature range of – 40°C to +71°C.

4.7 The batteries shall be provided with appropriate interconnect wiring and corrosion resistant mounting trays and/or brackets appropriate for the cabinet into which they will be installed.

4.8 Batteries shall indicate maximum recharge data and recharging cycles.

4.9 Battery interconnect wiring shall be via modular harness. Batteries shall be shipped with positive and negative terminals pre-wired with red and black cabling that terminates into a typical power-pole style connector. Harness shall be equipped with mating power-pole style connectors for batteries and a single, insulated plug-in style connection to inverter/charger unit. Harness shall allow batteries to be quickly and easily connected in any order and shall be keyed and wired to ensure proper polarity and circuit configuration.

4.10 Battery terminals shall be covered and insulated so as to prevent accidental shorting.

6.0 QUALITY ASSURANCE

6.1 BBS shall be manufactured in accordance with a manufacturer quality assurance (QA) program. The QA program shall include two types of quality assurance: (1) Design quality assurance and (2) Production quality assurance. The production quality assurance shall include statistically controlled routine tests to ensure minimum performance levels of

BBS units built to meet this specification and a documented process of how problems are to be resolved.

6.2 QA process and test results documentation shall be kept on file for a minimum period of seven years.

6.3 Battery Backup System designs not satisfying design qualification testing and the production quality assurance testing performance requirements described below shall not be labeled, advertised, or sold as conforming to this specification.

7.0 DESIGN QUALIFICATION TESTING

7.1 The manufacturer, or an independent testing lab hired by the manufacturer, shall perform design Qualification Testing on new BBS designs, and when a major design change has been implemented on an existing design. A major design change is defined as a design change (electrical or physical) which changes any of the performance characteristics of the system, or results in a different circuit configuration.

7.2 Burn In. The sample systems shall be energized for a minimum of 5 hours, with full load of 700 watts, at temperatures of +74◦C and -37◦C., excluding batteries, before performing any design qualification testing.

7.3 Any failure of the BBS, which renders the unit non-compliant with the specification after burn-in, shall be cause for rejection.

7.4 For Operational Testing, all specifications may be measured including, but not limited to:

7.5 Run time while in battery backup mode, at full load.

7.6 Proper operation of all relay contact closures ("On-Batt", "Low-Batt", "Timer" and "BBS-Fail").

7.7 Inverter output voltage, frequency, harmonic distortion, and efficiency, when in battery backup mode.

7.8 All utility mode – battery backup mode transfer voltage levels. See Section 1 Operation.

7.9 Power transfer time from loss of utility power to switchover to battery backed inverter power.

7.10 Backfeed voltage to utility when in battery backup mode.

7.11 IEEE/ANSI C.62.41 compliance.

7.12 Battery charging time.

7.13 Event counter and runtime meter accuracy.

8.0 PRODUCTION QUALITY CONTROL TESTING

8.1 Production Quality Control tests shall consist of all of the above listed tests and shall be performed on each new system prior to shipment. Failure to meet requirements of any of these tests shall be cause for rejection. The manufacturer shall retain test results for seven years.

8.2 Each BBS shall be given a minimum 100-hour burn-in period to catch any premature failures.

8.3 Each system shall be visually inspected for any exterior physical damage or assembly anomalies. Any defects shall be cause for rejection.

9.0 WARRANTY

9.1 Manufacturers shall provide a minimum two (2) year factory-repair warranty for parts and labor on the BBS from date of acceptance by the State. Batteries shall be warranted for full replacement for five (5) years from date of purchase. The warranty shall be included in the total bid price of the BBS.

9.2 The Contractor shall furnish a warranty certificate for each Battery Backup System that includes the equipment description and details, serial numbers, effective dates, and the details of the warranty regarding materials and labor. The warranty period shall begin on the date of installation and the warranty certificate shall reflect this date.

Basis of payment. The above work will be paid for at the contract unit price Each for TRAFFIC SIGNAL BATTERY BACKUP SYSTEM shall be payment in full for all labor, materials, and equipment required to provide, install, and test the battery backup system described above, complete.

DILEMMA ZONE DETECTION SYSTEM

Description. This work shall consist of furnishing and installing a mast arm mounted continuous tracking advance detector (CTAD) and all necessary wiring, brackets, software, testing and accessories required for proper installation and performance. The CTAD shall be capable of detecting high profile vehicles out to 900 feet and standard automobiles out to 600 feet. The system shall be able to individually detect multiple vehicles in multiple lanes, track their speeds, determine if vehicles are in the dilemma zone and be integrated with the traffic signal controller to extend the green time.

The CTAD shall be able to simultaneously detect and report information from up to 25 vehicles on the roadway when they are serially sequenced between the near and far boundaries.

The CTAD shall turn on a zone output when the range, speed, ETA, and qualified count or instantaneous roadway efficiency requirements for that zone are satisfied.

The CTAD shall turn on an alert output on when the user defined zone output combinational logical is satisfied.

The CTAD shall turn on a normal channel output when any of the channel's alerts is on and the channel's delay and extend time constraints are satisfied.

The CTAD shall turn on a latched channel output when the on alert is turned on and the delay time is satisfied. The CTAD shall turn off a latched channel output when the off alert is turned on or the max timer expires, and the extension time is satisfied.

The CTAD shall provide vehicle call and extend data on up to eight (8) channels that can be connected to contact closure modules compliant with NEMA TS 1, NEMA TS 2, 170, and 2070 controller cabinets.

The CTAD shall be capable of providing data for each tracked detection over the serial ports.

The CTAD shall have Pulse channel outputs for intersection arrival-time information.

Cabinet Interface Device
The CTAD shall include a cabinet interface device that accommodates one to four detection sensors and provides a SDLC connection for direct integration into TS-2 controllers and cabinets.

A total of one cabinet interface device is required for each intersection.

The CTAD shall come equipped with an SDLC splitter cable to allow for direct connection to the signal controller cabinets equipped with TS-1 back panels.

The cabinet interface device shall conform to the following specifications:

roduct description. The CID shall be a module that provides power and surge protection and that communicates with contact closure devices, Ethernet, and controllers through SDLC. The CID shall be shipped with the AC power cord, jumper cables and terminal blocks necessary for wiring it, as well as with an extra fuse.

Physical. The CID shall not exceed 5 lbs. (2.25 kg) in weight.

The CID shall not exceed 7.8 in. x 10.3 in. x 3.9 in. (19.8 cm x 26.2 cm x 9.9 cm) in its physical dimensions.

The CID shall operate in the temperature range of -29°F to 165°F (-34°C to 74°C) and in humidity up to 95% RH.

Mounting. The CID shall be shelf mounted. It shall be capable of being mounted on the side of the traffic cabinet with the aid of Uchannel mounting brackets.

Power. The power supply voltage of the CID shall be 90 to 260 VAC. Its AC frequency shall be 50–60 Hz and the maximum power shall be 75 W at 80ºC.

The CID's sensor connectors shall output 24 VDC.

Connections and communication. The CID shall include the following connections for power and communication:

Power. The CID shall have an IEC AC input.

Terminal block connectors. The CID shall have four terminal block connectors for connecting to sensors. These connectors shall be for terminating cables that carry power and RS-485 communications to and from the sensors.

Data RJ-11 connectors. The CID shall have four RJ-11 jacks for sending detection data from sensors to contact closure devices such as rack cards via jumper cables. This data shall be sent via RS-485. These jacks shall make up the physical interface of a dedicated data bus.

Control connectors. The CID shall have four other communication ports. These ports shall make up the physical interface of a dedicated control bus and shall allow users to connect to the sensors and configure them.

- DB-9 port for communicating via RS-232
- Two RJ-11 jacks for communicating via RS-485
- USB mini-B connector
- T-bus port for connecting to a T-bus

Ethernet connector. The CID shall have an RJ-45 10/100 Ethernet port to allow connection to a local network.

SDLC port. The CID shall have an SDLC port for direct connection to a traffic controller.

Other features. The CID shall have the following other features:

- An LED that indicates when the device has power
- An LED that indicates if the device has been disabled by surges
- An LED that indicates when data is being transmitted on the control bus • An LED that indicates when data is being received on the control bus.

Data RJ-11 jack features. The four jacks that make up the physical interface of the data bus (and that each correspond to one sensor) shall have a switch for turning their corresponding sensor off and an LED that indicates when that sensor has power.

Power switch. The CID shall have a switch for turning power off for the entire device.

OLED panel with keypad. The CID shall have an OLED panel on the device with a keypad for device configuration.

Web interface. The CID shall have a web interface for device configuration, accessible through a web browser from a network connected device.

Configuration. The CID configuration shall support up to 64 detector channels.

NEMA TS2-2003 testing. The CID shall comply with the applicable standards stated in the NEMA TS2-2003 Standard. Test results shall be made available for each of the following tests:

- Shock pulses of 10g, 11 ms half sine wave
- Vibration of 0.5 Grms up to 30 Hz
- 300 V positive/negative pulses applied at one pulse per second at minimum and maximum AC supply voltage
- Cold temperature storage at -49°F (-45°C) for 24 hours
- High temperature storage at 185°F (85°C) for 24 hours
- Low temp, low DC supply voltage at -29.2°F (-34°C) and 89 VAC
- Low temp, high DC supply voltage at -29.2°F (-34°C) and 135 VAC
- High temp, high DC supply voltage at 165.2°F (74°C) and 135 VAC
- High temp, low DC supply voltage at 165.2°F (74°C) and 89 VAC

FCC testing. The CID shall be FCC-compliant.

Testing. Before shipping, each CID shall have passed a manufacturer's test.

Surge immunity. The sensor ports of the CID shall conform to IEC/EN 61000-4-5 level 4 standards; the AC input of the CID shall conform to IEC/EN 61000-4-5 level 3 standards.

Warranty. The CID shall be warranted to be free from material and workmanship defects for a period of two years from date of shipment

Mounting Location. The CTAD shall be mounted on the mast arm for the opposing or approaching traffic to maximize detection range and provide optimal performance. The Contractor shall perform a site analysis of the existing mast arm layout and intersection geometry to determine the optimum sensor location at each intersection.

Detection Range. The CTAD shall be able to detect and report information on the roadway located with the near boundary at 50 ft. (15.2 m) from directly below the mast arm on which the CTAD is mounted.

The CTAD shall be able to detect and report information on the roadway located with the far boundary at 900 ft. (274.3 m) from directly below the mast arm on which the CTAD is mounted.

For incoming traffic, 90 percent of large vehicles (high-profile trucks and buses) within the line-of-site of the CTAD shall be detected and reported before they arrive 700 ft. (213.4 m) from the sensor. For incoming traffic, 90 percent of all motor vehicles within the line-of-site of the CTAD shall be detected and reported before they arrive 450 ft. (137.2 m) from the sensor.

Performance.
Detection accuracy. The CTAD shall detect at least 98 percent of large vehicles like truck-trailer combinations and at least 95 percent of all motor vehicles within the line-of-sight of the CTAD sensor where multiple detections of multi-unit vehicles are not considered false detections and merged detections of adjacent lane vehicles are not considered missed detections.

Range accuracy. The CTAD shall provide range measurements in which 90% of the measurements are accurate within 10 ft. (3 m) when the vehicle is tracked independently.

Speed accuracy. The CTAD shall provide per vehicle speed measurements in which 90% of the measurements are accurate within 5 mph (8 kph) when tracked independently.

ETA accuracy. The CTAD shall provide estimated time-of-arrival (ETA) measurements in which 85% of the measurements are accurate within one second, when the detected vehicles are tracked independently at a constant speed above 40 mph (64 kph) and are within 2.5 and 5.5 seconds of the stop bar.

Performance maintenance. The CTAD shall not require cleaning or adjustment to maintain performance. The CTAD shall not rely on battery backup to store configuration information, thus eliminating any need for battery replacement. Once the CTAD is calibrated, it shall not require recalibration to maintain performance unless the roadway configuration changes. The mean time between failures shall be 10 years, which is estimated based on manufacturing techniques.

Physical Properties.
The CTAD shall not exceed 4 lbs. (1.8 kg) in weight.

The CTAD shall not exceed 14 in. × 11 in. × 4 in. (35.6 cm x 27.9 cm x 10.2 cm) in its physical dimensions.

All external parts of the CTAD shall be ultraviolet-resistant, corrosion-resistant, and protected from fungus growth and moisture deterioration.

The CTAD shall be enclosed in a Lexan polycarbonate. The enclosure shall be classified “f1” outdoor weatherability in accordance with UL 746C.

The CTAD shall be classified as watertight according to the NEMA 250 standard.

The CTAD enclosure shall conform to test criteria set forth in the NEMA 250 standard for type 4X enclosures. Test results shall be provided for each of the following type 4X criteria:

- External icing (NEMA 250 clause 5.6)
- Hose-down (NEMA 250 clause 5.7)
- 4X corrosion protection (NEMA 250 clause 5.10)
- Gasket (NEMA 250 clause 5.14)

The CTAD shall be able to withstand a drop of up to 5 ft. (1.5 m) without compromising its functional and structural integrity.

The CTAD enclosure shall include a connector that meets the MIL-C-26482 specification. The MIL-C-26482 connector shall provide contacts for all data and power connections.

Electrical.
The CTAD shall consume less than 4 W @ 12 VDC.
The CTAD shall operate with a DC input between 10 VDC and 28 VDC.
The CTAD shall have onboard surge protection.

Communication Ports.
The CTAD shall have two serial communication ports, and both ports shall communicate independently and simultaneously.

The CTAD shall have an Ethernet port for connection into a Wide Area Network for remote management.

The CTAD shall have a SDLC port for integration into NEMA TS-2 controllers and cabinets.

The CTAD shall support the upload of new firmware into the CTAD's non-volatile memory over either communication port.

The CTAD shall support the user configuration of the following:

- Baud rate
- Communication port response delay
- Contact closure output frequency

Both communication ports shall support all of the following baud rates: 9600, 19200, 38400, 57600, and 115200 bps.

The contact closure output frequency shall be user configurable as short as 10 ms, with a default near 130 ms for compatibility.

Contact closure data shall be reliably communicated over homerun cable connections as long as 600 ft. (182.9 m) with latency from the time of channel requirement satisfaction to the

eventual reporting of the detections on the back edge of the contact closure card in 15 ms or less.

Radar Design.
Frequency stability. The circuitry shall be void of any manual tuning elements that could lead to human error and degraded performance over time.

All transmit modulated signals shall be generated by means of digital circuitry, such as a direct digital synthesizer, that is referenced to a frequency source that is at least 50 parts per million (ppm) stable over the specified temperature range, and ages less than 6 ppm per year. Any up conversion of a digitally generated modulated signal shall preserve the phase stability and frequency stability inherent in the digitally generated signal.

The CTAD shall not rely on temperature compensation circuitry to maintain transmit frequency stability.

The bandwidth of the transmit signal of the CTAD shall not vary by more than 1% under all specified operating conditions and over the expected life of the CTAD.

Antenna design. The CTAD antennas shall be designed on printed circuit boards.

The vertical beam width of the CTAD at the 6 dB points of the two-way pattern shall be 65 degrees or greater.

The horizontal beam width of the CTAD at the 6 dB points of the two-way pattern shall be 11 degrees or less.

The sidelobes in the CTAD two-way antenna pattern shall be -40 dB or less.

RF channels. The CTAD shall provide at least eight RF channels so that multiple units can be mounted in the same vicinity without causing interference between them.

Configuration.
Auto-configuration. The CTAD shall have a method for automatically configuring the sensitivity of detection in at least 7.5-ft. (2.29-m) increments.

The auto-configuration method shall not prohibit the ability of the user to manually adjust the CTAD configuration.

The CTAD shall support the configuration of up to eight channel outputs with up to four alerts per channel and up to four zones per alert, resulting in 32 configurable alerts and 128 configurable zones.

Zone configuration. The CTAD shall support the configuring of zones in 5-ft. (1.5-m) increments.

The CTAD shall support detection zones as long as 850 ft. (251.9 m).

The CTAD shall support user configurable high-speed and low-speed detection filters for each zone.

The CTAD shall support the configuring of speed filters in 1-mph (1.6-kph) increments.

The CTAD shall support user configurable upper and lower estimated time-of-arrival (ETA) filters for each zone.

The CTAD shall support the configuring of ETA filters in increments of 0.1 seconds.

The CTAD shall provide configurable upper and lower count filters that help determine if a required number of qualified detections are present.

The CTAD shall support the configuring of qualified count filters in increments of one.

Windows®-based software. The CTAD shall include graphical user interface software that displays the current traffic pattern using a graphical traffic representation.

The graphical user interface shall also display all configured alerts and provide visual representation of their actuation.

The graphical user interface shall provide a means of logging the vehicular track files with an update rate of greater than five times per second.

The graphical interface shall operate on Windows Mobile, Windows XP, Windows Vista, Windows 7, Windows 8, and Windows 10 in the .NET framework.

The software shall support the following functionality:

- Automatically find the correct baud rate
- Automatically find the correct serial communication port
- Operate over a TCP/IP connection
- Provide a virtual sensor connection for software usability without a sensor
- Give the operator the ability to save/back up the CTAD configuration to a file or load/restore the CTAD configuration from a file

Operating conditions. The CTAD shall maintain accurate performance in all weather conditions, including rain, freezing rain, dry snowfall, moist snowfall, wind, dust, fog, and changes in temperature and light, including direct light on sensor at dawn and dusk. The CTAD shall maintain accurate performance with ice and dry snow buildup on the sensor front.

CTAD operation shall continue in rain up to 2 in. (5.08 cm) per hour.

The CTAD shall be capable of continuous operation over an ambient temperature range of -40°F to 165°F (-40°C to 74°C).

The CTAD shall be capable of continuous operation over a relative humidity range of 5% to 95% (non-condensing).

Testing.
FCC. Each CTAD shall be Federal Communications Commission (FCC) certified under CFR 47, part 15, section 15.245, or 15.249 as an intentional radiator.

The FCC certification shall be displayed on an external label on each CTAD according to the rules set forth by the FCC.

The CTAD shall comply with FCC regulations under all specified operating conditions and over the expected life of the CTAD.

The CTAD shall be tested under IEC 61000-4-5 class 4 (lightning surge protection).

NEMA TS 2-1998 testing. The CTAD shall comply with the applicable standards stated in the NEMA TS 2-1998 Standard. Third party test results shall be made available for each of the following tests:

- Shock pulses of 10 g, 11 ms half sine wave
- Vibration of 0.5 g up to 30 Hz
- 300 V positive/negative pulses applied at one pulse per second at minimum and maximum DC supply voltage
- Cold temperature storage at -49°F (-45°C) for 24 hours
- High temperature storage at 185°F (85°C) for 24 hours
- Low temp, low DC supply voltage at -29.2°F (-34°C) and 10.8 VDC
- Low temp, high DC supply voltage at -29.2°F (-34°C) and 26.5 VDC
- High temp, high DC supply voltage at 165.2°F (74°C) and 26.5 VDC
- High temp, low DC supply voltage at 165.2°F (74°C) and 10.8 VDC

Manufacturing.
The CTAD shall be manufactured and assembled in the USA.

The internal electronics of the CTAD shall utilize automation for surface mount and wave solder assembly and shall comply with the requirements set forth in IPC-A-610C Class 2, Acceptability of Electronic Assemblies.

The CTAD shall undergo a rigorous sequence of operational testing to ensure product functionality and reliability. Testing shall include the following:

- Functionality testing of all internal sub-assemblies
- Unit level burn-in testing of 48 hours' duration or greater
- Final unit functionality testing prior to shipment

Test results and all associated data for the above testing shall be provided for each purchased CTAD by serial number, upon request.

Support.
The CTAD manufacturer shall provide both training and technical support services.

Training. The manufacturer-provided training shall be enough to fully train installers and operators in the installation, auto-configuration, and use of the CTAD to ensure accurate CTAD performance.

The manufacturer-provided training shall consist of comprehensive classroom labs and hands-on, in-the-field, installation and configuration training.

Classroom lab training shall involve presentations outlining and defining the CTAD, its functions, and the procedures for proper operation. These presentations shall be followed by hands-on labs in which trainees shall practice using the equipment to calibrate and configure a virtual CTAD. To facilitate the classroom presentation and hands-on labs, the manufacturer-provided training shall include the following items:

- Knowledgeable trainer or trainers thoroughly familiar with the CTAD and its processes

- Presentation materials, including visual aids, printed manuals and other handout materials for each student

- Computer files, including video and raw data, to facilitate the virtual configuration of the CTAD

- Laptop computers with the necessary software, and all necessary cables, connectors, etc.

Field training shall provide each trainee with the hands-on opportunity to install and configure the CTAD at the roadside. Training shall be such that each trainee will mount and align the CTAD correctly.

Technical assistance. The manufacturer-provided technical support shall be available according to contractual agreements and a technical representative available to assist with the physical installation, alignment, and configuration of each supplied CTAD.

Technical support shall be provided thereafter to assist with troubleshooting, maintenance, or replacement of CTADs should such services be required.

Documentation.
CTAD documentation shall include a comprehensive user guide as well as an installer quick reference guide and a user quick-reference guide.

The CTAD manufacturer shall supply the following documentation and specification test results at the time of the bid submittal:

- Detection accuracy
- Range accuracy
- Earliest range of detection
- Speed accuracy
- ETA accuracy
- FCC CFR 47 certification
- NEMA 250 standard for Type 4X Enclosure third-party test data
- NEMA TS 2-1998 standard third-party test data
- IEC 61000-4-5 class 4 test report (surge)

Warranty.
The CTAD shall be warranted free from material and workmanship defects for a period of two years from date of shipment.

Mounting and installation.
Mounting assembly. The CTAD shall be mounted directly onto an overhead mast arm The CTAD mounting assembly shall provide the necessary degrees of rotation to ensure proper installation.

The CTAD mounting assembly shall be constructed of weather-resistant materials and shall be able to support a 20-lb. (9.1-kg) load.

Mounting location. The CTAD shall be mounted at a height that is within the manufacturer's recommended mounting heights.

The CTAD shall be mounted over the center of the lanes.

The CTAD shall be mounted in a forward-fire position, looking towards either approaching or departing traffic.

The CTAD shall be mounted so that it is pointed within 10 ft. (3 m) of the target point as defined by the manufacturer's table of target points for mounting offsets and mounting heights.

The CTAD shall be mounted so that its vertical center line is within 5 degrees of the lanes of interest as described the manufacturer's documentation.

Aligning the CTAD's center line with the roadway ensures that the antenna beam of the CTAD is positioned along the roadway.

Two CTAD units shall not be mounted so that they are pointed directly at each other.

CTADs that are mounted within 20 ft. (6.1 m) of each other shall be configured to operate on different RF channels regardless of the pointing direction of the CTAD.

The CTAD shall not be installed in areas with overhead structures. For example, overhead sign bridges, tunnels, and overpasses should be avoided. The CTAD shall be mounted at least 30 ft. (9.1 m) to the side of any such overhead structures.

Cabling. The cable end connector shall meet the MIL-C-26482 specification and shall be designed to interface with the appropriate MIL-C-26482 connector. The connector back shell shall be an environmentally sealed shell that offers excellent immersion capability. All conductors that interface with the connector shall be encased in a single jacket, and the outer diameter of this jacket shall be within the backshell's cable O.D. range to ensure proper sealing. The backshell shall have a strain relief with enough strength to support the cable slack under extreme weather conditions. Recommended connectors are Cannon's KPT series, and recommended backshells are Glenair Series 37 cable sealing backshells.

The cable shall conform to the following specifications:

- The RS-485 conductors shall be a twisted pair.
- The RS-485 conductors shall have nominal capacitance conductor to conductor of less than 40 pF/ft at 1 kHz.
- The RS-485 conductors shall have nominal conductor DC resistance of less than 16.7 ohms/1000 ft. (304.8 m) at 68°F (20°C).
- The power conductors shall be one twisted pair with nominal conductor DC resistance of less than 11.5 ohms/1000 ft. (304.8 m) at 68°F (20°C).
- Each wire bundle or the entire cable shall be shielded with an aluminum/mylar shield with a drain wire.

The cable shall be terminated only on the two farthest ends of the cable.

The cable length shall not exceed 2,000 ft. (609.6 m) for the operational baud rate of RS-485 communications (9.6 Kbps).

If 12 VDC is being supplied for the CTAD then the cable length shall not exceed 110 ft. (33.5 m).

If 24 VDC is being supplied for the CTAD then the cable length shall not exceed 600 ft.

Both communication and power conductors can be bundled together in the same cable as long as the abovementioned conditions are met.

If a cable length of 600 ft. (182.9 m) to 2,000 ft. (609.6 m) is required, the power cable shall be Belden 27138A, General Cable 243630, Lake Electronic Cable (LLC) V102FLAT, Nexans 696922 and shall meet the following requirements:

- 10 AWG conductor size/gauge
- 2 conductor count
- Stranded cable type
- Bare copper material

- 600 V range
- 194°F (90°C) temperature rating
- PVC/nylon insulation material
- PVC—polyvinyl chloride jacketing material
- 25 A per conductor

Both communication and power conductors can be bundled together in the same cable as long as the following conditions are met.

Lightning surge protection. The CTAD has onboard surge protection; proper grounding is required for effective surge protection.

Appropriate lightning surge protection shall be installed in the traffic cabinet to protect the cabinet equipment. These lightning surge protection devices shall meet or exceed the EN 61000-4-5 Class 4 specifications. The lightning surge protection unit supplied shall be physically compatible with the cable provided and approved by the CTAD manufacturer.

Power supply. The CTAD shall be installed using an AC to DC power converter approved by the CTAD manufacturer that meets the following specifications.

The power converter shall be power rated at 15 W or greater at 77°F (25°C) and 10 W or greater at 165°F (74°C).

The power converter shall operate in the temperature range of to -29°F to 165°F (-34°C to 74°C).

The power converter shall operate in the humidity range of 5% to 95% at 77°F (25°C) noncondensing.

The power converter shall accept an input voltage of 85 to 264 VAC or 120 to 370 VDC.

The power converter shall operate at an input frequency of 47 Hz to 63 Hz.

The power converter shall produce an output voltage of 24 VDC ±4%.

The power converter shall have a hold-up time of greater than 20 ms at 120 VAC.

The power converter shall withstand a voltage across its input and output of 2 kV. The power converter shall withstand a voltage across its input and ground of 1.5 kV.

The power converter shall conform to safety standards UL 60950 and EN 60950.

The power converter shall conform to EMC standards EN 55022 Class B and EN 61000-3-2, 3. In brown-out conditions (i.e. < 85 VAC input), the output voltage of the power converter shall be less than 1 VDC.

Input file cards. Input file cards shall be used that are approved by the CTAD manufacturer and that meets the following specifications.

The input file cards shall be compatible with 170, 2070, NEMA TS 1, and NEMA TS 2 style input racks.

The input file card shall translate data packets from the CTAD into contact closure outputs.

The input file card shall support presence detection.

The input file card shall receive data packets over an RS-485 bus at a baud rate of 9600 bps.

The input file card shall autobaud and auto-detect an CTAD over wired and wireless communication channels that have a maximum latency of 500 ms.

The input file card shall comply with the NEMA TS 2-1998 Traffic Controller Assemblies with NTCIP Requirements (Section 2.8 specification).

Method of Measurement. The Dilemma Zone Detection System bid item will be measured for payment by the actual number of Dilemma Zone Detection Systems furnished, installed, tested, and accepted. One Dilemma Zone Detection System sensor is required for each approach.

Basis of Payment. Payment will be made at the contract unit price per Each for DILEMMA ZONE DETECTION SYSTEM including all equipment, material, testing, documentation, and labor as detailed in the contract documents.

INDUCTIVE LOOP DETECTOR

This work shall be in accordance with Sections 885 and 1079 of the Standard Specifications except as modified herein.

The detector amplifier shall be equipped with an LCD display that is capable of displaying the loop frequency and inductance and shall conform to the following specifications:

- Custom LCD displays complete status and function settings of the detector.
- All functions are programmable from the front panel LCD "Menu" - no removing of detector to change function settings.
- LCD displays loop frequency, loop inductance, & -L/L% values.
- LCD displays the accumulated number of loop failure incidents since the detector was last reset - helps diagnose intermittent systems.
- LCD bar graph displays loop inductance change to verify ideal sensitivity level setting.
- Selectable "Continuous-CALL" and "Channel-Off" to aid system troubleshooting.
- 8 loop frequencies and 9 levels of sensitivity.
- 2 Selectable modes of operation: Presence or Pulse.
- 255 second CALL Delay and 25.5 second Extension timers.

- 999 second Max. Presence Timer. NEMA TS 2 Status Output.
- EOG (end of green) reset synchronization for Max. Presence timer.
- Super bright LEDS indicate vehicle detection or loop failure.
- Environmentally sealed push button switches to insure trouble-free service.
- Phase Green (Delay Override) input.

The detector amplifier shall be equipped with relay or solid state outputs to ensure that the detectors fail in a constant call mode.

The RENO A&E Model C-1200 Series, EDI Oracle Series, and Trafficware 722L Series are currently approved for use within the District.

This work shall be paid for at the contract unit price each for INDUCTIVE LOOP DETECTOR which price shall be payment in full for all labor, equipment, and materials required to supply and install the inductive loop detector described above, complete.

ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 18

Effective March 21, 1994 Revised October 15, 2001

This work shall consist of furnishing and installing loop detector lead-in cables of interconnect cables of the number of pairs specified in the conduit in accordance with the requirements of Section 873 of the Standard Specifications and the following exceptions or additions:

Each end of the cable shall be identified with wire markers as directed by the Engineer.
The drain wire of each pair shall be grounded to chassis ground in the terminal facility junction box for surge suppression.

The electrical values of the cable shall be metered by the Contractor, in the presence of the Engineer, after they are spliced to the detector loop. Acceptance of the cable as metered will be determined by the Engineer.

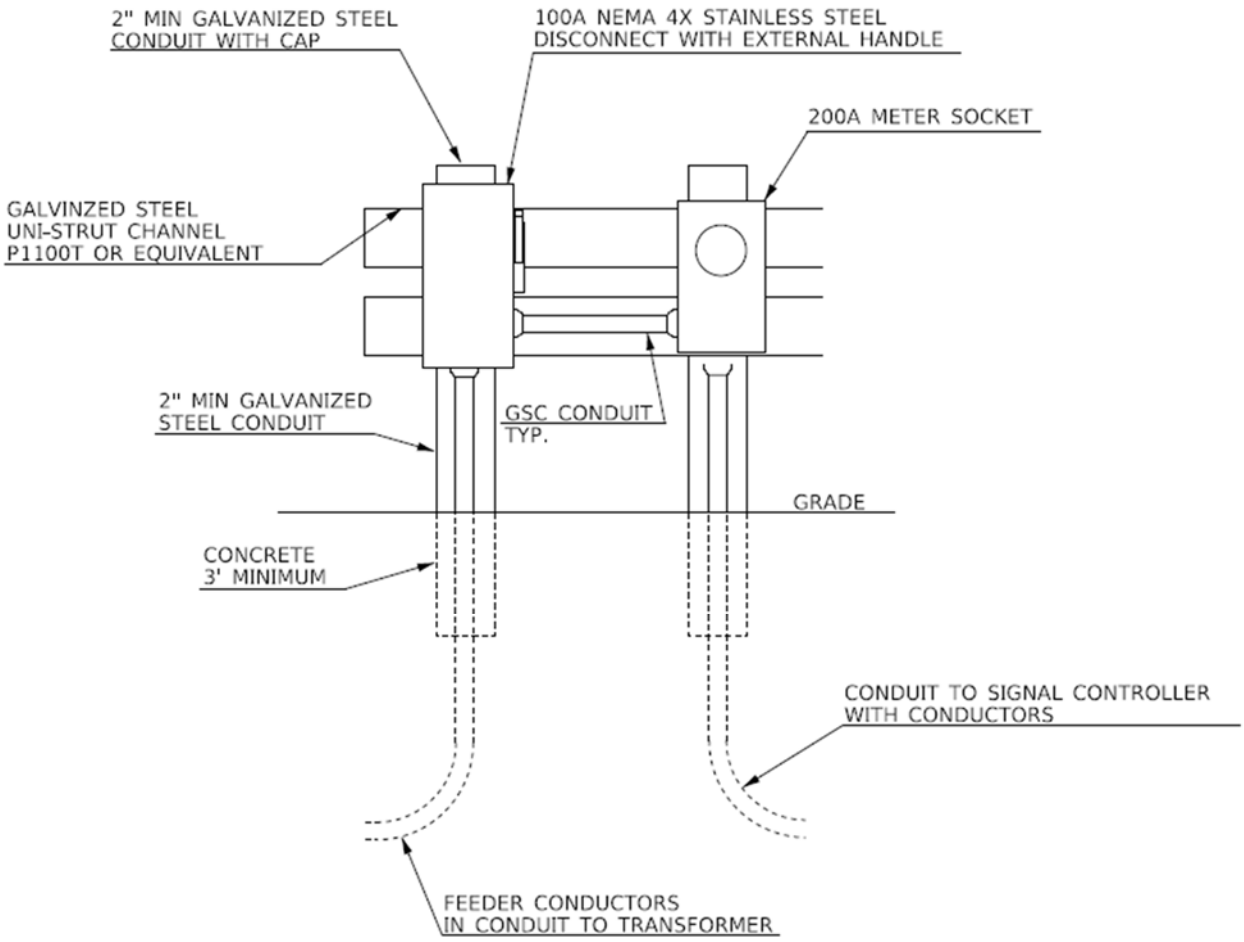
This work will be paid for at the contract unit price per Meter (Foot) for ELECTRICAL CABLE IN CONDUIT, LEAD-IN, NO. 18, 1-PAIR or ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 18, 3-PAIR, which price shall be payment in full for furnishing the material and making all electrical connections and installing the cable complete, measured as specified.

SERVICE INSTALLATION, TYPE B

This work shall be in accordance with Section 805 and 1086 of the Standard Specifications except as modified herein.

The service installation shall include constructing a rack for mounting the service disconnect, meter socket (if required by local utility company), and associated appurtenances. The proposed electrical service installation shall be located within 10 ft. of the proposed signal controller cabinet and shall be constructed in accordance with the latest utility company requirements.

The contractor shall verify utility company service installation requirements. There will be no additional compensation to accommodate additional requirements not shown in the plans.



Galvanized steel conduit shall be used for the service riser. The use of PVC conduit will not be allowed.

A rain tight hub assembly (Myers type) shall be used when conduit enters the switch from the top of the disconnect.

The service disconnect enclosure shall be a stainless steel, weatherproof NEMA 4X enclosure that meets the following specifications:

60-Ampere (250 V) Minimum Fused Disconnect Switch: Unless indicated otherwise on the plan sheets, the fused disconnect switch shall be single-throw, three-wire (two poles, two fuses, and solid neutral). The switch shall provide for locking the blades in either the “On” or “Off” position with one or two padlocks and for locking the cover in the closed position. The disconnect switch

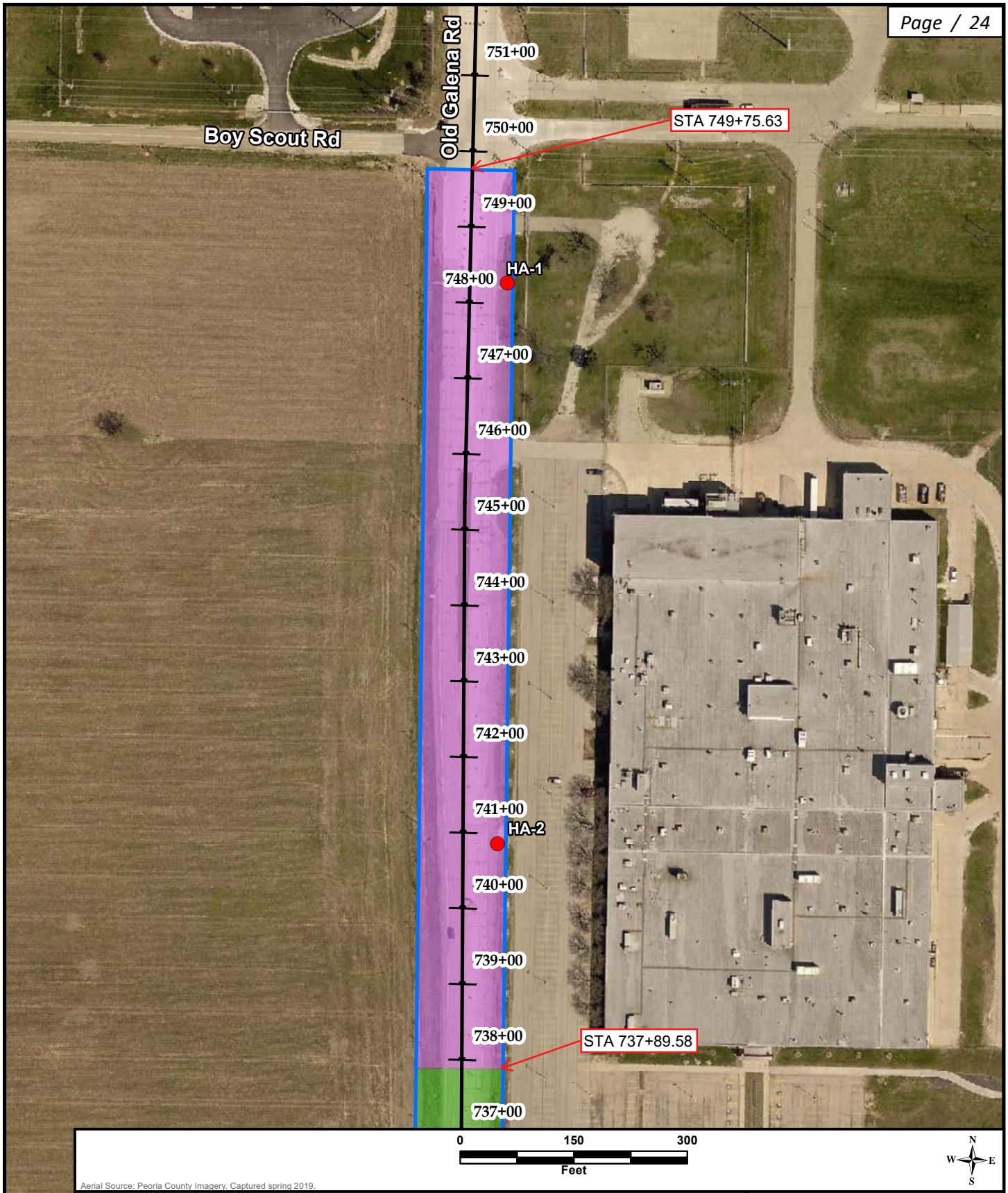
and fuse rating shall be rated at the voltage and amperage required to comply with utility company and equipment requirements. All fuses shall be provided with the disconnect installation.

The service disconnect shall be installed at a maximum height of 42”.

The Department will furnish all padlocks.

This work will be paid for at the contract unit price each for SERVICE INSTALLATION, TYPE B which shall be payment in full for all labor, equipment, and materials required to provide the electrical service installation described above, complete.

The cost of the underground service cable and conduit from the existing transformer to the proposed electrical service and from the proposed electrical service to the signal controller shall be included in the cost of SERVICE INSTALLATION, TYPE B.



Huff & Huff, Inc.

Figure 4-1
669.05 Soil Classification Map
Old Galena Road (2 Segments) PSI
Mossville, Peoria County, IL
Sheet 1 of 3

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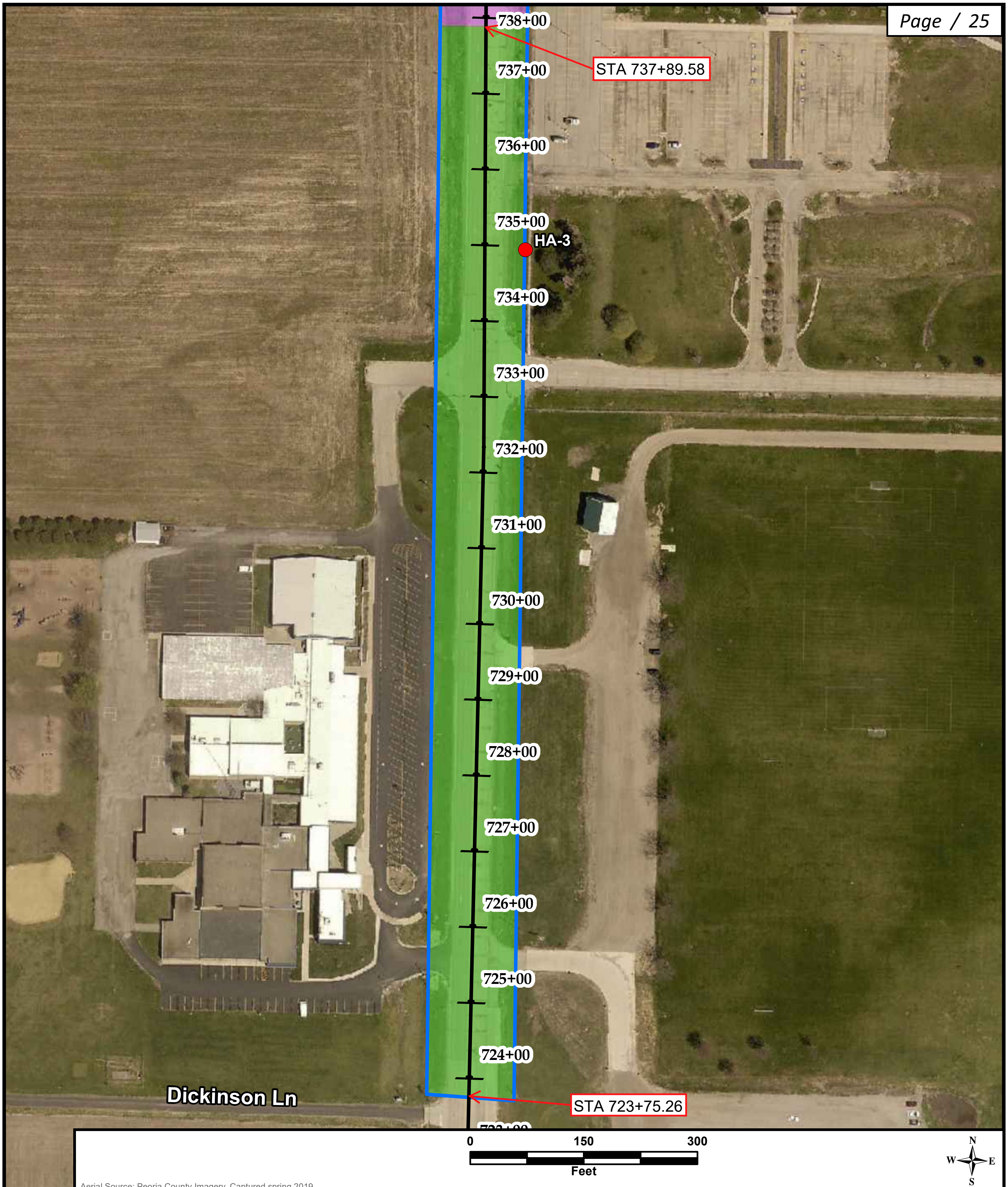


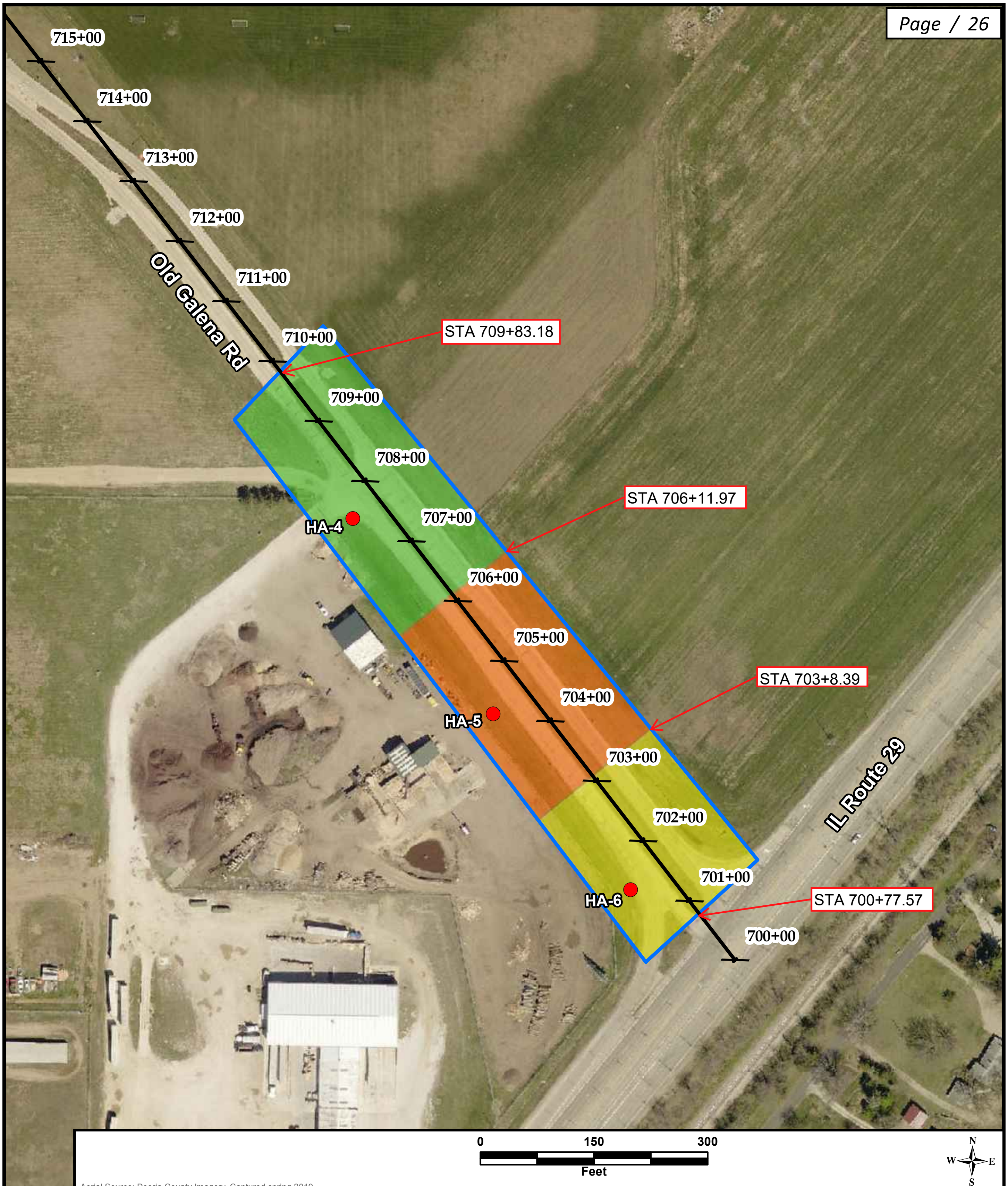
Aerial Source: Peoria County Imagery. Captured spring 2019.

Legend

- Project Limits
- Soil Borings
- Stationing
- (a)(1) Full Excavation Depth, HA-6: Ineligible for CCDD Disposal (Landfill as NSW or Site Reuse)
- (a)(2) Full Excavation Depth, HA-1, HA-2: Eligible for CCDD Disposal within MSA County
- (b)(1) Full Excavation Depth, HA-5: Ineligible for CCDD Disposal (Landfill as NSW or Site Reuse)
- Unrestricted Full Excavation Depth, HA,-3, HA-4

Huff & Huff, Inc.

Figure 4-1
669.05 Soil Classification Map
Old Galena Road (2 Segments) PSI
Mossville, Peoria County, IL
Sheet 2 of 3



Aerial Source: Peoria County Imagery. Captured spring 2019.

Legend

- Project Limits
- Soil Borings
- Stationing
- (a)(1) Full Excavation Depth, HA-6: Ineligible for CCDD Disposal (Landfill as NSW or Site Reuse)
- (a)(2) Full Excavation Depth, HA-1, HA-2: Eligible for CCDD Disposal within MSA County
- (b)(1) Full Excavation Depth, HA-5: Ineligible for CCDD Disposal (Landfill as NSW or Site Reuse)
- Unrestricted Full Excavation Depth, HA,-3, HA-4

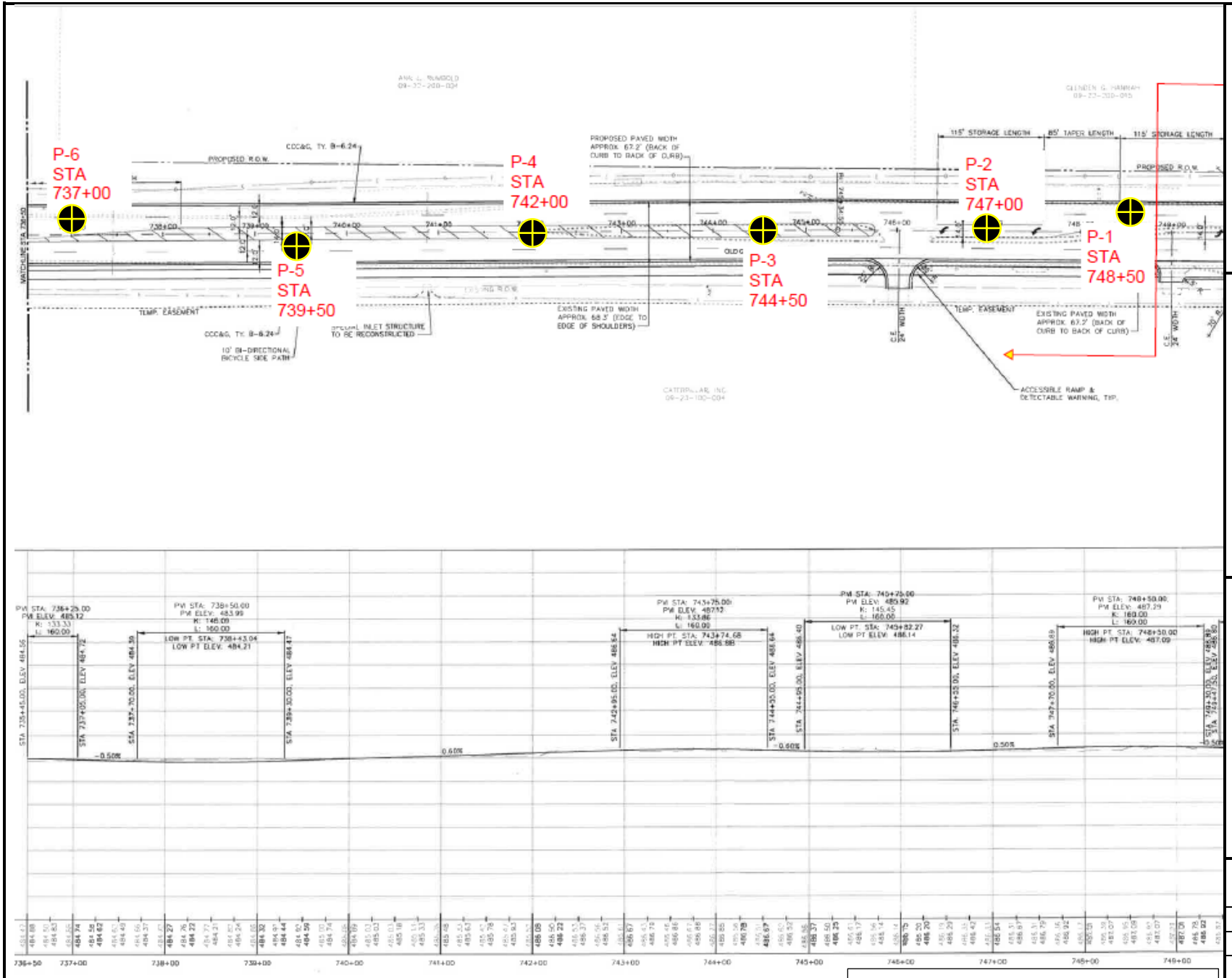
Huff & Huff, Inc.

Figure 4-1
669.05 Soil Classification Map
Old Galena Road (2 Segments) PSI
Mossville, Peoria County, IL
Sheet 3 of 3

Appendix B
Logs for Borings

Old Galena Road & Engine Road
Mossville, Illinois

October 1, 2021
Lab No. 21002430.03



N

Note: Excerpt From Midwest Engineering Preliminary Plans

REVISIONS	No	DESCRIPTION	DATE

IMEG
623 26th Avenue
Rock Island, IL 61201

OLD GALENA ROAD
RECONSTRUCTION
MOSSVILLE, ILLINOIS

BORING LOCATION PLAN

IMEG Project No.
21002430.03

Drawn By: MAD

Checked By: MAD

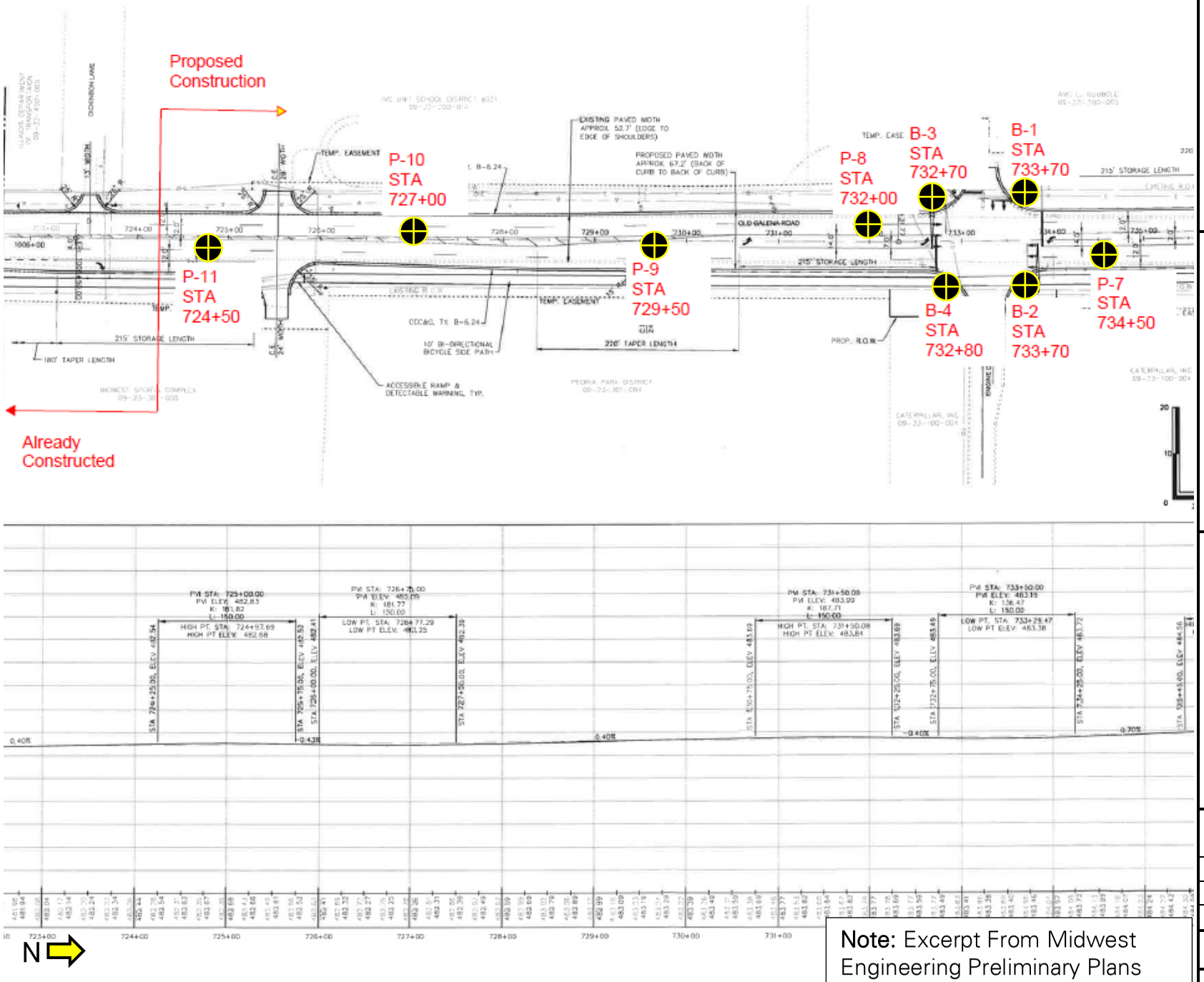
Date: 2021.09.21

A-3

Sheet 3 of 6

09/22/2022

65



Note: Excerpt From Midwest Engineering Preliminary Plans

REVISIONS	No	DESCRIPTION	DATE

IMEG

623 26th Avenue
Rock Island, IL 61201

66

OLD GALENA ROAD
RECONSTRUCTION
MOSSVILLE, ILLINOIS

BORING LOCATION PLAN

IMEG Project No.
21002430.03

Drawn By: MAD

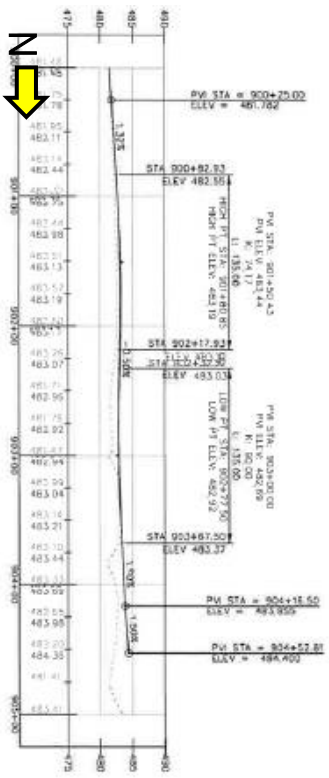
Checked By: MAD

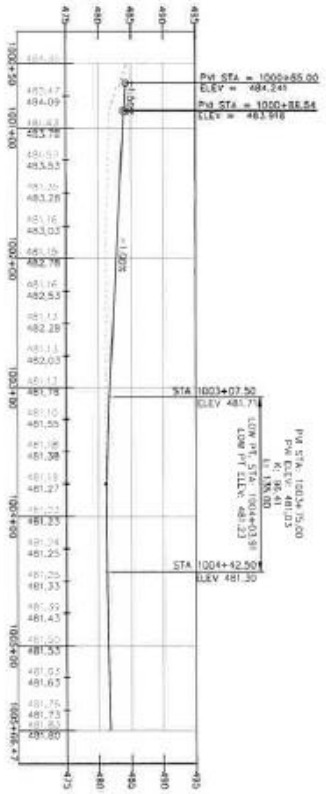
Date: 2021.09.21

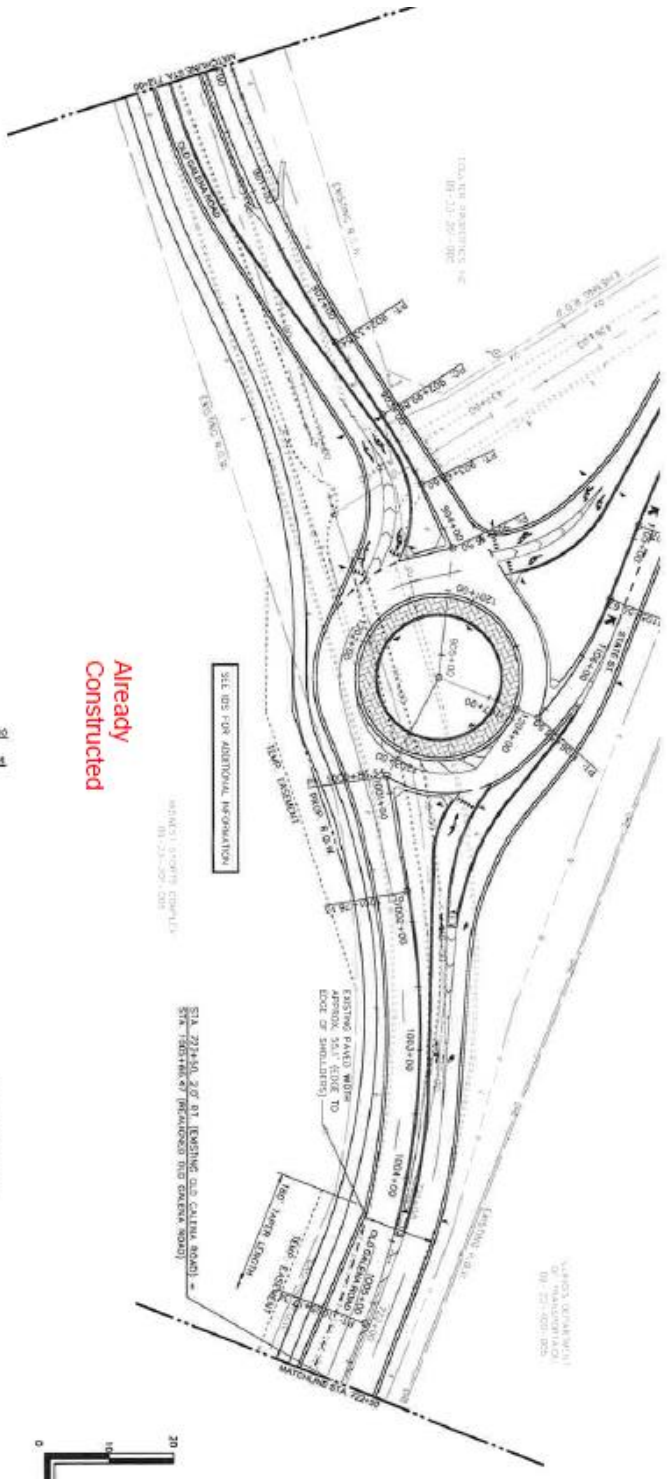
09/22/2022

A-4

Sheet 4 of 6







Note: Excerpt From Midwest Engineering Preliminary Plans

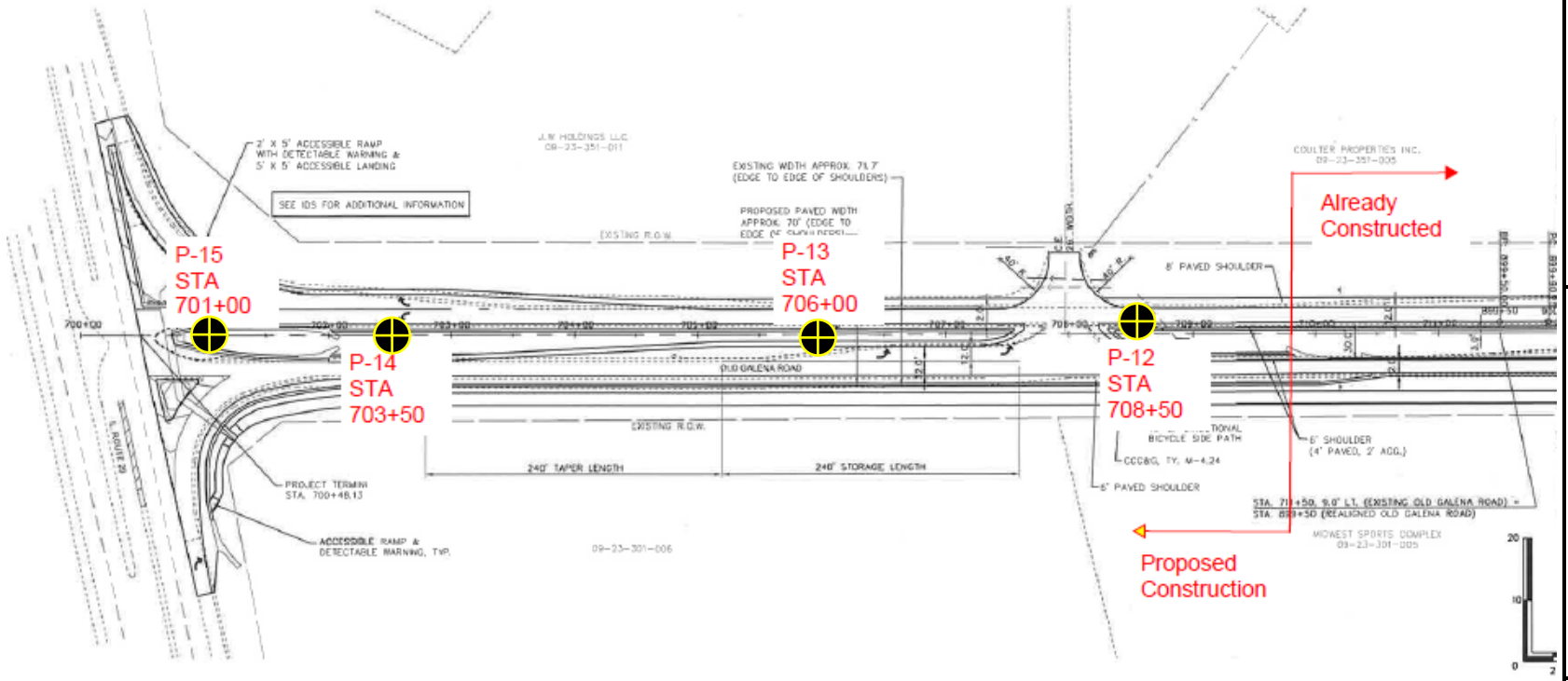
Sheet 5 of 6	A-5	Date: 2021.09.21	Checked By: MAD	Drawn By: MAD	IMEG Project No. 21002430.03	OLD GALENA ROAD RECONSTRUCTION MOSSVILLE, ILLINOIS	IMEG 623 26th Avenue Rock Island, IL 61201

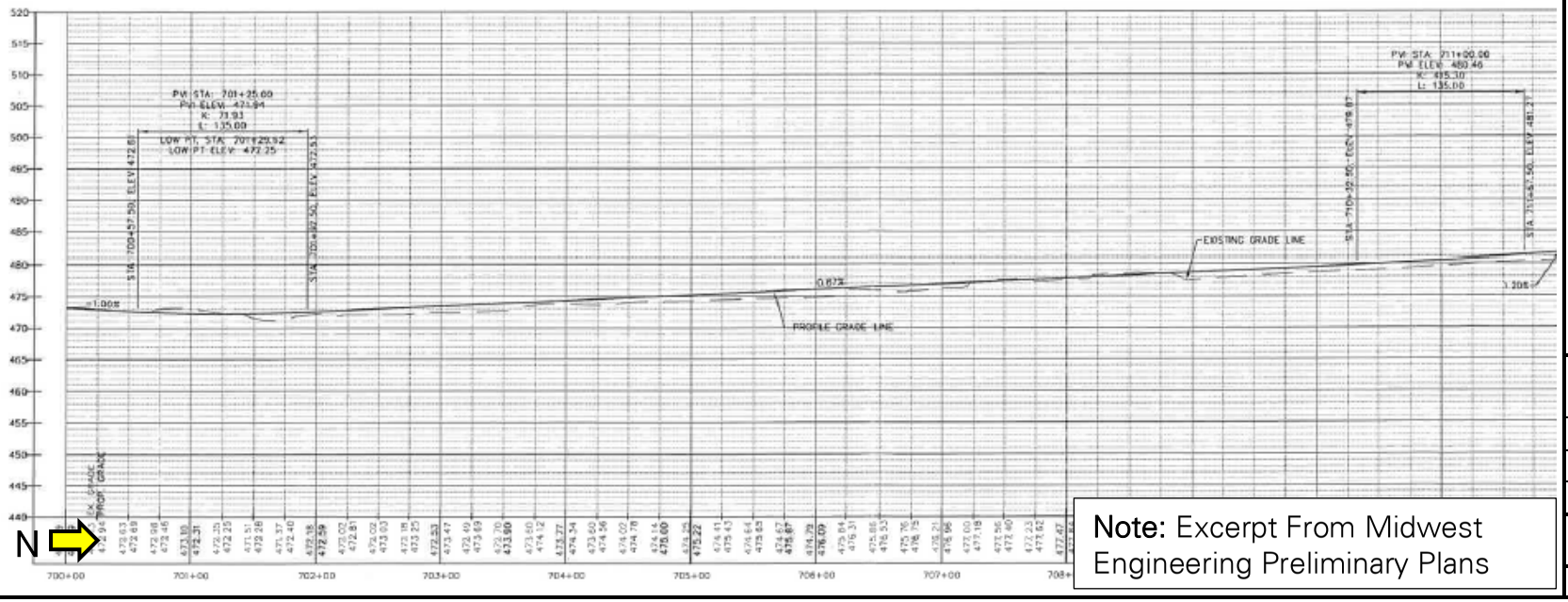
BORING LOCATION PLAN

09/22/2022

67

REVISIONS		
No	DESCRIPTION	DATE





Note: Excerpt From Midwest Engineering Preliminary Plans

No	DESCRIPTION	DATE

REVISIONS

IMEG

623 26th Avenue
Rock Island, IL 61201

68

OLD GALENA ROAD
RECONSTRUCTION
MOSSVILLE, ILLINOIS

BORING LOCATION PLAN

IMEG Project No.
21002430.03

Drawn By: MAD

Checked By: MAD

Date: 2021.09.21

09/22/2022

A-6

Sheet 6 of 6

Illinois Department of Transportation
Division of Highways
IMEG Corp

SOIL BORING LOG

Date 08/20/21

ROUTE Old Galena Road **DESCRIPTION** Old Galena Road And Engine Drive **LOGGED BY** Fehl

SECTION 16-00058-10-PV **LOCATION** Mossville, **SEC.** 22, **TWP.** T10N, **RNG.** R8E, 4th **PM**,
Latitude , **Longitude**

COUNTY Peoria **DRILLING METHOD** Hollow Stem Augers **HAMMER TYPE** D-50 Automatic

STRUCT. NO.
Station

BORING NO. B-01
Station 733+70
Offset
Ground Surface Elev. 485.00 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After - **Hrs.** - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
484.70				DARK BROWN, SANDY SILTY CLAY ORGANIC TOPSOIL (4.0")
	2			SILTY CLAY LOAM: Olive-Brown To Brown, Moist, Medium Stiff
	2		23	PP = 2.20
	2			
481.50				
	1			FINE-GRAINED SAND: Brown, Moist, Medium Dense
	2		6	
-5	1			
478.50				
	1			SILTY CLAY LOAM: Brown-Gray, Very Moist, Soft
	1		30	PP = 0.90
	1			
476.50	DD = 93 PCF			
	5			SANDY CLAY LOAM: Brown, Moist, Stiff
	8		24	PP = 2.80
-10	10			
	DD = 102 PCF			
	3			
	4		26	PP = 1.90
	4			
	DD = 99 PCF			
	3			
	4		26	
-15	6			
	DD = 98 PCF			
466.50				
	2			
	2		5	
-20	2			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				FINE-GRAINED SAND: Yellow-Brown, Moist, Medium Dense *(continued)*
	4			
	6		3	
460.00 -25	7			
				End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
IMEG Corp

SOIL BORING LOG

Date 08/20/21

ROUTE Old Galena Road **DESCRIPTION** Old Galena Road And Engine Drive **LOGGED BY** Fehl

SECTION 16-00058-10-PV **LOCATION** Mossville, **SEC.** 23, **TWP.** T10N, **RNG.** R8E, 4th **PM**,
Latitude , **Longitude**

COUNTY Peoria **DRILLING METHOD** Hollow Stem Augers **HAMMER TYPE** D-50 Automatic

STRUCT. NO.
Station

BORING NO. B-02
Station 733+70
Offset
Ground Surface Elev. 485.00 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After - **Hrs.** - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
484.70				BROWN, SANDY SILTY CLAY ORGANIC TOPSOIL (4.0")
	4			SILTY CLAY LOAM: Dark Brown To Olive-Brown Moist Medium Stiff
	4		14	PP = 3.30
	5			
481.50				
	1			SANDY CLAY TRACE PEBBLES: Brown Moist Medium Stiff
	2		17	PP = 1.55
-5	4			
	DD = 114 PCF			
478.50				
	1			SILTY CLAY LOAM: Brown Very Moist Soft
	1		29	PP = 1.35
	2			
	DD = 94 PCF			
	2			
	2		28	PP = 2.30
-10	3			
	3			
	3		24	PP = 2.40
	5			
471.50	DD = 102 PCF			
	2			SANDY CLAY AND GRAVEL: Brown and Red-Brown Moist Medium Dense
	3		14	
-15	6			
466.50				
	3			
	4		5	
-20	5			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				FINE-GRAINED SAND TRACE GRAVEL: Light Brown and Brown Moist Medium Dense *(continued)*
	5			
	12		4	
460.00 -25	11			
				End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
IMEG Corp

SOIL BORING LOG

Date 08/20/21

ROUTE Old Galena Road **DESCRIPTION** Old Galena Road And Engine Drive **LOGGED BY** Fehl

SECTION 16-00058-10-PV **LOCATION** Mossville, **SEC.** 22, **TWP.** T10N, **RNG.** R8E, 4th **PM**,
Latitude , **Longitude**

COUNTY Peoria **DRILLING METHOD** Hollow Stem Augers **HAMMER TYPE** D-50 Automatic

STRUCT. NO.
Station

BORING NO. B-03
Station 732+70
Offset
Ground Surface Elev. 485.00 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After - **Hrs.** - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				484.70 BROWN, SANDY SILTY CLAY ORGANIC TOPSOIL (4.0")
	1			FINE-GRAINED SAND: Brown, Moist, Very Loose
	2		14	
	2			
				481.50
	1			SANDY CLAY LOAM: Olive-Brown, Moist, Soft
	1		19	PP = 1.20
-5	2			
	DD = 112 PCF			
				478.50
	1			SILTY CLAY LOAM: Brown-Gray, Very Moist, Medium Stiff
	2		30	PP = 1.20
	3			
	DD = 92 PCF			476.50
	3			SANDY CLAY LOAM: Brown, Moist, Stiff
	4		23	PP = 1.35
-10	7			
	DD = 103 PCF			
	4			
	5		23	PP = 2.95
	8			
	DD = 104 PCF			471.50
	2			SANDY CLAY AND GRAVEL: Olive-Brown, Moist, Stiff
	4		17	PP = 2.35
-15	6			
	DD = 115 PCF			
				466.50
	2			
	2		6	
-20	3			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				MEDIUM-GRAINED SAND TRACE PEBBLES: Brown, Moist, Medium Dense *(continued)*
	6			
	7		3	
-25	8			460.00
				End of Boring
-30				
-35				
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
IMEG Corp

SOIL BORING LOG

Date 08/20/21

ROUTE Old Galena Road **DESCRIPTION** Old Galena Road And Engine Drive **LOGGED BY** Fehl

SECTION 16-00058-10-PV **LOCATION** Mossville, **SEC.** 23, **TWP.** T10N, **RNG.** R8E, 4th **PM**,
Latitude , **Longitude**

COUNTY Peoria **DRILLING METHOD** Hollow Stem Augers **HAMMER TYPE** D-50 Automatic

STRUCT. NO.
Station

BORING NO. B-04
Station 732+80
Offset
Ground Surface Elev. 485.00 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After - **Hrs.** - ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
BROWN, SANDY SILTY CLAY ORGANIC TOPSOIL (4.0")	484.70			
FILL: Brown, Fine-Grained Sand, Damp, Medium Dense		5		
		10		8
		7		
	481.50			
SANDY CLAY: Olive-Brown Moist Medium Stiff		2		
		2		10
	-5	2		
	478.50			
SILTY CLAY LOAM: Brown-Gray Very Moist, Stiff		1		
PP = 1.00		1		29
		2		
		DD = 94 PCF		
Becoming Medium Stiff by 8.5 Feet		1		
PP = 2.45		3		31
	-10	5		
		DD = 92 PCF		
	473.50			
SANDY CLAY LOAM: Brown Very Moist Stiff		4		
PP = 2.95		5		25
		9		
	471.50	DD = 100 PCF		
SANDY CLAY AND GRAVEL: Olive-Brown and Brown Moist Stiff		2		
PP = 2.00		3		16
	-15	6		
		DD = 114 PCF		
	466.50			
		3		
		4		6
	-20	5		

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
FINE-GRAINED SAND: Brown Moist Loose *(continued)*				
		4		
		4		4
	460.00 -25	6		
End of Boring	-30			
	-35			
	-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
IMEG Corp

SOIL BORING LOG

Date 08/26/21

ROUTE Old Galena Road **DESCRIPTION** Old Galena Road And Engine Drive **LOGGED BY** Fehl

SECTION 16-00058-10-PV **LOCATION** Mossville, **SEC.** 22, **TWP.** T10N, **RNG.** R8E, 4th **PM**,
Latitude , **Longitude**

COUNTY Peoria **DRILLING METHOD** Hollow Stem Augers **HAMMER TYPE** D-50 Automatic

STRUCT. NO.
Station

BORING NO. P-01
Station 748+50
Offset
Ground Surface Elev. 487.00 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After - **Hrs.** - ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
8-INCH PCC SURFACE OVER 2.5-INCH BROKEN CONCRETE: 486.10					
FILL: Dark Gray and Dark Brown, Sandy Silty Clay, Damp to Moist, Medium Stiff 485.00		3		13	DD = 108 PCF
		4		18	DD = 105 PCF
		4		19	DD = 105 PCF; PP = 4.50
SILTY CLAY LOAM: Green-Brown, Moist, Stiff 483.50		6		18	DD = 112 PCF; PP = 2.40
		2		19	DD = 111 PCF; PP = 1.90
SANDY CLAY LOAM: Brown To Olive Brown Moist, Stiff 482.00		4		17	DD = 114 PCF
	-5	4		13	
		4		13	
End of Boring					
	-10				
	-15				
	-20				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
IMEG Corp

SOIL BORING LOG

Date 08/20/21

ROUTE Old Galena Road **DESCRIPTION** Old Galena Road And Engine Drive **LOGGED BY** Fehl

SECTION 16-00058-10-PV **LOCATION** Mossville, **SEC.** 23, **TWP.** T10N, **RNG.** R8E, 4th **PM**,
Latitude , **Longitude**

COUNTY Peoria **DRILLING METHOD** Hollow Stem Augers **HAMMER TYPE** D-50 Automatic

STRUCT. NO.
Station

BORING NO. P-02
Station 747+00
Offset
Ground Surface Elev. 486.30 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After - **Hrs.** - ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
10-INCH PCC SURFACE OVER 6-INCH SAND AND GRAVEL BASE: 485.00					
SILTY CLAY LOAM AND GRAVEL: Dark Brown and Dark Green, Moist, Medium Stiff 483.80		4		15	DD = 119 PCF; PP = 6.00
		4		18	DD = 112 PCF; PP = 6.00
FINE-GRAINED SAND: Brown, Moist, Loose 482.80		5		14	
		4			
SILTY CLAY LOAM: Olive-Brown, Moist, Stiff		4		22	DD = 106 PCF; PP = 1.55
481.30	-5	5			
End of Boring	-10				
	-15				
	-20				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
IMEG Corp

SOIL BORING LOG

Date 08/23/21

ROUTE Old Galena Road **DESCRIPTION** Old Galena Road And Engine Drive **LOGGED BY** Fehl

SECTION 16-00058-10-PV **LOCATION** Mossville, **SEC.** 23, **TWP.** T10N, **RNG.** R8E, 4th **PM**,
Latitude , **Longitude**

COUNTY Peoria **DRILLING METHOD** Hollow Stem Augers **HAMMER TYPE** D-50 Automatic

STRUCT. NO.
Station

BORING NO. P-03
Station 744+50
Offset
Ground Surface Elev. 486.50 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After - **Hrs.** - ft

		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY LOAM ORGANIC TOPSOIL: Very Dark Brown, Moist, Medium Stiff	485.50		3		11
			4		14
			4		17
SILTY CLAY LOAM: Brown and Olive-Brown, Moist, Stiff	484.00		6		18
			5		17
SANDY CLAY LOAM: Brown Moist Stiff			8		20
			9		18
			9		20
		-5	4		14
	481.50		5		17
End of Boring		-10			
		-15			
		-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
IMEG Corp

SOIL BORING LOG

Date 08/23/21

ROUTE Old Galena Road **DESCRIPTION** Old Galena Road And Engine Drive **LOGGED BY** Fehl

SECTION 16-00058-10-PV **LOCATION** Mossville, **SEC.** 23, **TWP.** T10N, **RNG.** R8E, 4th **PM**,
Latitude , **Longitude**

COUNTY Peoria **DRILLING METHOD** Hollow Stem Augers **HAMMER TYPE** D-50 Automatic

STRUCT. NO.
Station

BORING NO. P-04
Station 742+00
Offset
Ground Surface Elev. 485.50 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After - **Hrs.** - ft

		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
5-INCH PCC SURFACE OVER 7-INCH SAND AND GRAVEL BASE:	484.50					
	484.00		4		6	
MEDIUM-GRAINED SAND AND GRAVEL: Brown-Gray, Damp, Loose	483.50		5		18	DD = 113 PCF; PP = 3.00
			3		11	
SILTY CLAY LOAM: Olive-Brown, Moist, Stiff	482.00		4		10	
			5		10	
FINE-GRAINED SAND TRACE CLAY: Gray-Brown, Moist, Loose			5		19	
			4		16	
SANDY CLAY LOAM: Brown-Gray, Moist Stiff Olive-Brown	480.50	-5	5		20	
End of Boring						
		-10				
		-15				
		-20				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
IMEG Corp

SOIL BORING LOG

Date 08/26/21

ROUTE Old Galena Road **DESCRIPTION** Old Galena Road And Engine Drive **LOGGED BY** Fehl

SECTION 16-00058-10-PV **LOCATION** Mossville, **SEC.** 23, **TWP.** T10N, **RNG.** R8E, 4th **PM**,
Latitude , **Longitude**

COUNTY Peoria **DRILLING METHOD** Hollow Stem Augers **HAMMER TYPE** D-50 Automatic

STRUCT. NO.
Station

BORING NO. P-05
Station 739+50
Offset
Ground Surface Elev. 484.90 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After - **Hrs.** - ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
7-INCH PCC SURFACE OVER 5-INCH OLD CONCRETE: 483.90					
FILL: Dark Brown, Sandy Silty Clay, Damp, Stiff		5		9	DD = 120 PCF; PP = 6.00
		8		11	DD = 116 PCF; PP = 6.00
482.40		5		14	DD = 114 PCF; PP = 6.00
SANDY CLAY LOAM: Brown, Moist, Medium Stiff		6		20	PP = 2.30
		2		21	
		3		19	DD = 116 PCF
		3		16	
479.90	-5	4		13	
End of Boring					
	-10				
	-15				
	-20				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
IMEG Corp

SOIL BORING LOG

Date 08/26/21

ROUTE Old Galena Road **DESCRIPTION** Old Galena Road And Engine Drive **LOGGED BY** Fehl

SECTION 16-00058-10-PV **LOCATION** Mossville, **SEC.** 22, **TWP.** T10N, **RNG.** R8E, 4th **PM**,
Latitude , **Longitude**

COUNTY Peoria **DRILLING METHOD** Hollow Stem Augers **HAMMER TYPE** D-50 Automatic

STRUCT. NO.
Station

BORING NO. P-06
Station 737+00
Offset
Ground Surface Elev. 484.60 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After - **Hrs.** - ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
9.5-INCH PCC SURFACE OVER 6.5 INCH SAND AND GRAVEL BASE: 483.30		12			
FILL: Very Dark Brown, Silty Sand and HMA Pieces, Very Dry to Damp, Loose 482.10		10		2	
		4		5	
		3		6	
SILTY CLAY LOAM: Dark Gray To Brown, Moist, Medium Stiff 481.10		3		18	PP = 2.30
SANDY SILTY CLAY:, Gray-Brown, Moist, Medium Stiff		3		15	PP = 3.30
		4		19	
479.60	-5	3		22	DD = 105 PCF; PP = 1.70
End of Boring					
	-10				
	-15				
	-20				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
IMEG Corp

SOIL BORING LOG

Date 08/26/21

ROUTE Old Galena Road **DESCRIPTION** Old Galena Road And Engine Drive **LOGGED BY** Fehl

SECTION 16-00058-10-PV **LOCATION** Mossville, **SEC.** 23, **TWP.** T10N, **RNG.** R8E, 4th **PM**,
Latitude , **Longitude**

COUNTY Peoria **DRILLING METHOD** Hollow Stem Augers **HAMMER TYPE** D-50 Automatic

STRUCT. NO.
Station

BORING NO. P-07
Station 734+50
Offset
Ground Surface Elev. 484.10 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After - **Hrs.** - ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
8.5-INCH PCC SURFACE OVER 4-INCH OIL CONCRETE: 483.00					
SANDY SILTY CLAY: Very Dark Brown and Dark Gray, Moist, Medium Stiff 481.60		2		16	DD = 110 PCF; PP = 3.80
		3		16	DD = 117 PCF; PP = 3.70
		3		13	
FINE-GRAINED SAND: Brown, Moist, Loose 480.60		4		19	
		3		16	
SANDY SILTY CLAY: Red-Brown, Moist, Stiff		4		15	DD = 109 PCF; PP = 0.90
		4		20	DD = 109 PCF; PP = 1.00
479.10	-5	3		20	DD = 119 PCF; PP = 1.40
End of Boring					
	-10				
	-15				
	-20				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
IMEG Corp

SOIL BORING LOG

Date 08/26/21

ROUTE Old Galena Road **DESCRIPTION** Old Galena Road And Engine Drive **LOGGED BY** Fehl

SECTION 16-00058-10-PV **LOCATION** Mossville, **SEC.** 22, **TWP.** T10N, **RNG.** R8E, 4th **PM**,
Latitude , **Longitude**

COUNTY Peoria **DRILLING METHOD** Hollow Stem Augers **HAMMER TYPE** D-50 Automatic

STRUCT. NO.
Station

BORING NO. P-08
Station 732+00
Offset
Ground Surface Elev. 483.70 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After - **Hrs.** - ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
10.5-INCH PCC SURFACE OVER 4-INCH CRUSHED STONE: 482.50					
		3		13	
FINE-GRAINED SAND: Brown, Moist, Loose		3		15	
481.20		2		16	
SANDY CLAY LOAM: Brown To Olive-Brown, Moist, Medium Stiff		2		23	DD = 104 PCF; PP = 0.80
		2		15	
		1		23	DD = 102 PCF; PP = 1.00
		2		18	DD = 111 PCF
478.70	-5	1		17	
End of Boring					
	-10				
	-15				
	-20				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
IMEG Corp

SOIL BORING LOG

Date 08/26/21

ROUTE Old Galena Road **DESCRIPTION** Old Galena Road And Engine Drive **LOGGED BY** Fehl

SECTION 16-00058-10-PV **LOCATION** Mossville, **SEC.** 23, **TWP.** T10N, **RNG.** R8E, 4th **PM**,
Latitude , **Longitude**

COUNTY Peoria **DRILLING METHOD** Hollow Stem Augers **HAMMER TYPE** D-50 Automatic

STRUCT. NO.
Station

BORING NO. P-09
Station 729+50
Offset
Ground Surface Elev. 483.30 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After - **Hrs.** - ft

		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
8.5-INCH PCC OVER 4-INCH OLD CONCRETE:	482.20					
FILL: Very Dark Brown, Sandy Clay Loam, Moist, Stiff	481.30		5		13	DD = 117 PCF; PP = 6.00
			8		15	DD = 119 PCF; PP = 6.00
FINE-GRAINED SAND: Dark Gray-Brown, Moist, Medium-Dense			9		11	
			11		9	
			4		5	
	479.30		5		3	
FINE-GRAINED SAND TRACE CLAY: Brown, Moist, Medium-Dense	478.30	-5	6		21	
			5		17	
End of Boring		-10				
		-15				
		-20				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
IMEG Corp

SOIL BORING LOG

Date 08/26/21

ROUTE Old Galena Road **DESCRIPTION** Old Galena Road And Engine Drive **LOGGED BY** Fehl

SECTION 16-00058-10-PV **LOCATION** Mossville, **SEC.** 22, **TWP.** T10N, **RNG.** R8E, 4th **PM**,
Latitude , **Longitude**

COUNTY Peoria **DRILLING METHOD** Hollow Stem Augers **HAMMER TYPE** D-50 Automatic

STRUCT. NO.
Station

BORING NO. P-10
Station 727+00
Offset
Ground Surface Elev. 482.80 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After - **Hrs.** - ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
11-INCH PCC SURFACE OVER 3-INCH CRUSHED STONE: 481.60					
		10		4	
FILL: Very Dark Gray, Silty Clay Loam With Gravel, Dry, Medium-Stiff 480.30		7		5	
		3		6	
FINE-GRAINED SAND TRACE CLAY: Dark Brown To Brown, Moist, Looose 479.30		3		16	
		2		14	
SANDY CLAY LOAM: Very Dark Brown, Moist, Medium Stiff 477.80		2		17	DD = 115 PCF
	-5	2		20	DD = 109 PCF
		6		17	DD = 115 PCF
End of Boring					
	-10				
	-15				
	-20				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
IMEG Corp

SOIL BORING LOG

Date 08/26/21

ROUTE Old Galena Road **DESCRIPTION** Old Galena Road And Engine Drive **LOGGED BY** Fehl

SECTION 16-00058-10-PV **LOCATION** Mossville, **SEC.** 23, **TWP.** T10N, **RNG.** R8E, 4th **PM**,
Latitude , **Longitude**

COUNTY Peoria **DRILLING METHOD** Hollow Stem Augers **HAMMER TYPE** D-50 Automatic

STRUCT. NO.
Station

BORING NO. P-11
Station 724+50
Offset
Ground Surface Elev. 482.30 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After - **Hrs.** - ft

		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
9-INCH PCC SURFACE OVER 4-INCH OLD CONCRETE:	481.20					
			3		10	
			6		14	
	479.80		6		14	PP = 4.00
FINE-GRAINED SAND TRACE GRAVEL: Olive-Brown, Moist, Medium Dense	479.30		4		13	
			6		14	DD = 118 PCF; PP = 1.00
SANDY CLAY LOAM: Brown And Dark Brown, Moist, Stiff	478.30		6		17	DD = 114 PCF; PP = 0.75
			1		22	
FINE-GRAINED SAND: Dark Gray-Brown, Moist, Very Loose	477.30	-5	2		21	
End of Boring						
		-10				
		-15				
		-20				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
IMEG Corp

SOIL BORING LOG

Date 08/23/21

ROUTE Old Galena Road **DESCRIPTION** Old Galena Road And Engine Drive **LOGGED BY** Fehl

SECTION 16-00058-10-PV **LOCATION** Mossville, **SEC.** 23, **TWP.** T10N, **RNG.** R8E, 4th **PM**,
Latitude , **Longitude**

COUNTY Peoria **DRILLING METHOD** Hollow Stem Augers **HAMMER TYPE** D-50 Automatic

STRUCT. NO.
Station

BORING NO. P-12
Station 708+50
Offset
Ground Surface Elev. 478.50 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After - **Hrs.** - ft

		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
SILTY CLAY LOAM ORGANIC TOPSOIL: Dark Brown, Damp, Medium Stiff	478.00		3		11	
			4		5	
			4		7	
FILL: Dark Brown and Brown, Fine-Grained Sand and Gravel, Moist, Loose	476.50		5		12	
			4		10	
FINE-GRAINED SAND: Dark Brown, Moist, Loose	475.50		4		12	
			5		14	DD = 122 PCF; PP = 3.00
SANDY CLAY LOAM: Very Dark Brown and Brown, Moist, Stiff			6		20	
		-5	4		20	PP = 2.10
	473.50		5		18	DD = 110 PCF
End of Boring		-10				
		-15				
		-20				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
IMEG Corp

SOIL BORING LOG

Date 08/23/21

ROUTE Old Galena Road **DESCRIPTION** Old Galena Road And Engine Drive **LOGGED BY** Fehl

SECTION 16-00058-10-PV **LOCATION** Mossville, **SEC.** 23, **TWP.** T10N, **RNG.** R8E, 4th **PM**,
Latitude , **Longitude**

COUNTY Peoria **DRILLING METHOD** Hollow Stem Augers **HAMMER TYPE** D-50 Automatic

STRUCT. NO.
Station

BORING NO. P-13
Station 706+00
Offset
Ground Surface Elev. 474.80 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After - **Hrs.** - ft

		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY LOAM ORGANIC TOPSOIL: Very Dark Brown To Brown, Moist, Medium Stiff	473.80		3		17
			5		13
			5		18
FINE-GRAINED SAND, Brown, Moist, Medium Dense	472.80		6		16
			2		17
SILTY CLAY LOAM, Dark Gray, Moist, Medium Stiff	471.80		3		18
			4		12
FINE-GRAINED SAND TRACE GRAVEL: Brown and Red-Brown, Moist, Loose			3		9
	469.80	-5	2		9
			3		3
End of Boring					
		-10			
		-15			
		-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
IMEG Corp

SOIL BORING LOG

Date 08/23/21

ROUTE Old Galena Road **DESCRIPTION** Old Galena Road And Engine Drive **LOGGED BY** Fehl

SECTION 16-00058-10-PV **LOCATION** Mossville, **SEC.** 23, **TWP.** T10N, **RNG.** R8E, 4th **PM**,
Latitude , **Longitude**

COUNTY Peoria **DRILLING METHOD** Hollow Stem Augers **HAMMER TYPE** D-50 Automatic

STRUCT. NO.
Station

BORING NO. P-14
Station 703+50
Offset
Ground Surface Elev. 474.00 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After - **Hrs.** - ft

		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY LOAM ORGANIC TOPSOIL: Very Dark Gray, Moist, Medium Stiff	473.50		3		9
			4		15
			5		16
FILL: Very Dark Brown Sandy Silty Clay Loam, Moist, Medium Stiff	472.00		5		14
	471.50		4		12
SILTY CLAY LOAM ORGANIC TOPSOIL: Very Dark Brown, Damp, Medium Stiff			5		10
			7		15
			8		15
SANDY CLAY LOAM: Olive-Brown and Dark Brown, Moist, Stiff	469.00	-5	4		16
			5		15
End of Boring		-10			
		-15			
		-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
IMEG Corp

SOIL BORING LOG

Date 08/23/21

ROUTE Old Galena Road **DESCRIPTION** Old Galena Road And Engine Drive **LOGGED BY** Fehl

SECTION 16-00058-10-PV **LOCATION** Mossville, **SEC.** 23, **TWP.** T10N, **RNG.** R8E, 4th **PM**,
Latitude , **Longitude**

COUNTY Peoria **DRILLING METHOD** Hollow Stem Augers **HAMMER TYPE** D-50 Automatic

STRUCT. NO.
Station

BORING NO. P-15
Station 701+50
Offset
Ground Surface Elev. 473.10 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After - **Hrs.** - ft

		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY LOAM ORGANIC TOPSOIL: Brown, Damp, Medium Stiff	472.10		3		10
			5		11
	471.60		6		9
FILL: Dark Brown, Sandy Clay Loam, Damp, Medium Stiff			5		13
	470.60		8		10
FINE-GRAINED SAND TRACE CLAY: Dark Brown, Moist, Medium Dense			8		13
			9		15
	469.10		10		16
SILTY CLAY LOAM, Very Dark Brown and Brown, Moist, Stilff			4		15
	468.10	-5	4		16
FINE-GRAINED SAND TRACE CLAY, Red-Brown, Moist Loose					
End of Boring		-10			
		-15			
		-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation

Storm Water Pollution Prevention Plan

Route	Marked Route	Section Number
FAS 384 & FAS 1387A	Old Galena Road	16-00058-10-PV
Project Number	**County**	**Contract Number**
E750(768)	Peoria	C-94-022-22

This plan has been prepared to comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit No. ILR10 (Permit ILR10), issued by the Illinois Environmental Protection Agency (IEPA) for storm water discharges from construction site activities.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature	Date
Allyn	9-1-22

Print Name	Title	Agency
Courtney S Allyn	Project Manager	Midwest Engineering Assoc., Inc.

Note: Guidance on preparing each section of BDE 2342 can be found in Chapter 41 of the IDOT Bureau of Design and Environment (BDE) Manual. Chapter 41 and this form also reference the IDOT Drainage Manual which should be readily available.

I. Site Description:

A. Provide a description of the project location; include latitude and longitude, section, town, and range:

The project is located in Mossville, IL beginning at the intersection of IL Rte 29 and Old Galena Rd and ending south of the intersection of Neal Lane (Boy Scout Rd.) and Old Galena Rd.
Lat / Long - 40.84215200, -89.56321200, T10N, R8E Sect. 22 and Sect. 23.

B. Provide a description of the construction activity which is the subject of this plan. Include the number of construction stages, drainage improvements, in-stream work, installation, maintenance, removal of erosion measures, and permanent stabilization:

The project will remove and replace the existing pavement, median, curb and gutter, and traffic signals. New storm sewer inlets and pipes will be placed. Additional drainage work includes reconstruction of existing culverts and regrading existing ditches. The construction will consist of 2 stages. Temporary erosion control feature will be installed, maintained, and then removed from the project. Existing riprap located at various locations will remain. All disturbed earth will be seeded to establish permanent stabilization. There will be no in-stream work.

C. Provide the estimated duration of this project:

12 months

D. The total area of the construction site is estimated to be 9.0 acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is 9.0 acres.

E. The following are weighted averages of the runoff coefficient for this project before and after construction activities are completed; see Section 4-102 of the IDOT Drainage Manual:

The existing paved surfaces are being slightly increased so the before and after runoff coefficients are substantially the same, 0.65.

F. List all soils found within project boundaries; include map unit name, slope information, and erosivity:

Plainfield sand, 1% to 7% slopes- 1.8%
Dickinson sandy loam, 2-5% slopes- 34.2%
Warsaw loam, 0-2% slopes- 26.5%
Urban land- 12.0%
Cresent loam, 2-5% slopes, 12.3%
Orthents, loamy, undulating- 13.2%

G. If wetlands were delineated for this project, provide an extent of wetland acreage at the site; see Phase I report:

N/A

H. Provide a description of potentially erosive areas associated with this project:

Side slopes and ditches

I. The following is a description of soil disturbing activities by stages, their locations, and their erosive factors (e.g., steepness of slopes, length of slopes, etc.):

1. Pavement removal. Pavement slopes range from 2.5%-1.5%
2. Subgrade grading, slopes per above.
3. Ditch grading (ditch grades range from 0.30% to 3.31% (max length = 687.0 ft), side slopes range from 0.5% to 50% (max length of slope = 30.2 ft)
4. Storm sewer and culvert construction.
5. Curb and gutter construction, pavement construction, and signal construction.
6. Landscaping and seeding.

J. See the erosion control plans and/or drainage plans for this contract for information regarding drainage patterns, approximate slopes anticipated before and after major grading activities, locations where vehicles enter or exit the site and controls to prevent offsite sediment tracking (to be added after contractor identifies locations), areas of soil disturbance, the location of major structural and non-structural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters (including wetlands) , and locations where storm water is discharged to surface water including wetlands.

K. Identify who owns the drainage system (municipality or agency) this project will drain into:

Peoria County is responsible for the drainage system.

L. The following is a list of General NPDES ILR40 permittees within whose reporting jurisdiction this project is located:

Peoria County

M. The following is a list of receiving water(s) and the ultimate receiving water(s) for this site. In addition, include receiving waters that are listed as Biologically Significant Streams by the Illinois Department of Natural Resources (IDNR). The location of the receiving waters can be found on the erosion and sediment control plans:

Dickison Run, Illinois River

N. Describe areas of the site that are to be protected or remain undisturbed. These areas may include steep slopes (i.e., 1:3 or steeper), highly erodible soils, streams, stream buffers, specimen trees, natural vegetation, nature preserves, etc. Include any commitments or requirements to protect adjacent wetlands.

For any storm water discharges from construction activities within 50-feet of Waters of the U.S. (except for activities for water-dependent structures authorized by a Section 404 permit, describe: a) How a 50-foot undisturbed natural buffer will be provided between the construction activity and the Waters of the U.S. or b) How additional erosion and sediment controls will be provided within that area.

N/A

O. Per the Phase I document, the following sensitive environmental resources are associated with this project and may have the potential to be impacted by the proposed development. Further guidance on these resources is available in Section 41-4 of the BDE Manual.

NONE

☐ 303(d) Listed receiving waters for suspended solids, turbidity, or siltation.
The name(s) of the listed water body, and identification of all pollutants causing impairment:

N/A

Provide a description of how erosion and sediment control practices will prevent a discharge of sediment resulting from a storm event equal to or greater than a twenty-five (25) year, twenty-four (24) hour rainfall event:

N/A

Provide a description of the location(s) of direct discharge from the project site to the 303(d) water body:

N/A

Provide a description of the location(s) of any dewatering discharges to the MS4 and/or water body:

N/A

☐ Applicable Federal, Tribal, State, or Local Programs

N/A

☐ Floodplain

N/A

☐ Historic Preservation

N/A

☐ Receiving waters with Total Maximum Daily Load (TMDL) for sediment, total suspended solids, turbidity or siltation

TMDL (fill out this section if checked above)

The name(s) of the listed water body:

N/A

Provide a description of the erosion and sediment control strategy that will be incorporated into the site design that is consistent with the assumptions and requirements of the TMDL:

N/A

If a specific numeric waste load allocation has been established that would apply to the project's discharges, provide a description of the necessary steps to meet that allocation:

N/A

☐ Threatened and Endangered Species/Illinois Natural Areas (INAI)/Nature Preserves

N/A

☐ Other

N/A

☐ Wetland

N/A

P. The following pollutants of concern will be associated with this construction project:

☒ Antifreeze / Coolants

☒ Solid Waste Debris

- [x] Concrete
- [x] Concrete Curing Compounds
- [x] Concrete Truck Waste
- [x] Fertilizers / Pesticides
- [x] Paints
- [x] Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids)
- [x] Soil Sediment
- [ ] Solvents
- [x] Waste water from cleaning construction equipments
- [ ] Other (Specify) _____
- [ ] Other (Specify) _____
- [ ] Other (Specify) _____
- [ ] Other (Specify) _____
- [ ] Other (Specify) _____

II. Controls:

This section of the plan addresses the controls that will be implemented for each of the major construction activities described in Section I.C above and for all use areas, borrow sites, and waste sites. For each measure discussed, the Contractor will be responsible for its implementation as indicated. The Contractor shall provide to the Resident Engineer a plan for the implementation of the measures indicated. The Contractor, and subcontractors, will notify the Resident Engineer of any proposed changes, maintenance, or modifications to keep construction activities compliant with the Permit ILR10. Each such Contractor has signed the required certification on forms which are attached to, and are a part of, this plan:

A. **Erosion and Sediment Controls:** At a minimum, controls must be coordinated, installed and maintained to:

1. Minimize the amount of soil exposed during construction activity;
2. Minimize the disturbance of steep slopes;
3. Maintain natural buffers around surface waters, direct storm water to vegetated areas to increase sediment removal and maximize storm water infiltration, unless infeasible;
4. Minimize soil compaction and, unless infeasible, preserve topsoil.

B. **Stabilization Practices:** Provided below is a description of interim and permanent stabilization practices, including site- specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices may include but are not limited to: temporary seeding, permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided below in II.B.1 and II.B.2, stabilization measures shall be initiated **immediately** where construction activities have temporarily or permanently ceased, but in no case more than **one (1) day** after the construction activity in that portion of the site has temporarily or permanently ceases on all disturbed portions of the site where construction will not occur for a period of fourteen (14) or more calendar days.

1. Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.

2. On areas where construction activity has temporarily ceased and will resume after fourteen (14) days, a temporary stabilization method can be used.

The following stabilization practices will be used for this project:

- [x] Erosion Control Blanket / Mulching
- [x] Geotextiles
- [x] Permanent Seeding
- [ ] Preservation of Mature Seeding
- [ ] Protection of Trees
- [ ] Sodding
- [x] Temporary Erosion Control Seeding
- [ ] Temporary Turf (Seeding, Class 7)
- [ ] Temporary Mulching
- [ ] Vegetated Buffer Strips
- [x] Other (Specify) Ditch Checks
- [ ] Other (Specify) _____
- [ ] Other (Specify) _____
- [ ] Other (Specify) _____

Describe how the stabilization practices listed above will be utilized during construction:

Temporary ditch checks will be placed in proposed drainage ditches as they are graded. All disturbed earthen areas will be seeded and mulched. Temporary erosion control systems including silt fence, inlet filters, and inlet and pipe protection will be installed as needed at locations where water leaves the construction area. Topsoil and earth stock piles will be temporarily seeded if they are unused for more than 14 days.

Permanent seeding will be completed upon final grading. Temporary seeding will be used on bare areas that will not be permanently seeded within 7 days.

Areas outside the construction limits will be protected from damage. An erosion control construction exit will be installed to mitigate tracking of materials from he construction site.

Describe how the stabilization practices listed above will be utilized after construction activities have been completed:

Permanent erosion control features will remain in place. After permanent erosion control features are in full effect, the temporary erosion control systems will be removed as appropriate and any damaged areas repaired or reseeded.

C. **Structural Practices:** Provided below is a description of structural practices that will be implemented, to the degree attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include but are not limited to: perimeter erosion barrier, earth dikes, drainage swales, sediment traps, ditch checks, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. The installation of these devices may be subject to Section 404 of the Clean Water Act.

- ☐ Aggregate Ditch
- ☐ Concrete Revetment Mats
- ☐ Dust Suppression
- ☐ Dewatering Filtering
- ☐ Gabions
- ☐ In-Stream or Wetland Work
- ☐ Level Spreaders
- ☐ Paved Ditch
- ☐ Permanent Check Dams
- ☒ Perimeter Erosion Barrier
- ☐ Permanent Sediment Basin
- ☐ Retaining Walls
- ☐ Riprap
- ☐ Rock Outlet Protection
- ☐ Sediment Trap
- ☒ Storm Drain Inlet Protection
- ☒ Stabilized Construction Exits
- ☐ Stabilized Trench Flow
- ☐ Slope Mattress
- ☐ Slope Walls
- ☒ Temporary Ditch Check
- ☐ Temporary Pipe Slope Drain
- ☐ Temporary Sediment Basin
- ☐ Temporary Stream Crossing
- ☐ Turf Reinforcement Mats
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____

Describe how the structural practices listed above will be utilized during construction:

Inlet filters and inlet and pipe protection will be used on all locations where runoff from disturbed areas enters the storm sewer system. Silt fence will be placed to prevent sediments from leaving the construction limits. Temporary ditch checks will be placed within proposed drainage swales and ditches as shown on the plans. Temporary measure to remain in place until permanent measures are taken and/or vegetation has been established.

Describe how the structural practices listed above will be utilized after construction activities have been completed:

Riprap will remain in place. Permanent seeding with erosion control fabric (where required) will provide protection after construction activities are completed. Temporary erosion systems will be removed after they are no longer needed after construction.

D. **Treatment Chemicals**

Will polymer flocculants or treatment chemicals be utilized on this project: ☐ Yes ☒ No

If *yes* above, identify where and how polymer flocculants or treatment chemicals will be utilized on this project.

E. **Permanent (i.e., Post-Construction) Storm Water Management Controls:** Provided below is a description of measures that will be installed during the construction process to control volume and pollutants in storm water discharges that will occur after construction operations have been completed.The installation of these devices may be subject to Section 404 of the Clean Water Act.

1. Such practices may include but are not limited to: storm water detention structures (including wet ponds), storm water retention structures, flow attenuation by use of open vegetated swales and natural depressions, infiltration of runoff on site, and sequential systems (which combine several practices).

   The practices selected for implementation were determined based on the technical guidance in Chapter 41 (Construction Site Storm Water Pollution Control) of the IDOT BDE Manual. If practices other than those discussed in Chapter 41 are selected for implementation or if practices are applied to situations different from those covered in Chapter 41, the technical basis for such decisions will be explained below.

2. Velocity dissipation devices will be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g., maintenance of hydrologic conditions such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).

Description of permanent storm water management controls:

Permanent seeding will be maintained.

F. **Approved State or Local Laws:** The management practices, controls and provisions contained in this plan will be in accordance with IDOT specifications, which are at least as protective as the requirements contained in the IEPA's Illinois Urban Manual. Procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials shall be described or incorporated by reference in the space provided below. Requirements specified in sediment and erosion site plans, site permits, storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI, to be authorized to discharge under the Permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.
Description of procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials:

NONE

G. **Contractor Required Submittals:** Prior to conducting any professional services at the site covered by this plan, the Contractor and each subcontractor responsible for compliance with the permit shall submit to the Resident Engineer a Contractor Certification Statement, BDE 2342A.

1. The Contractor shall provide a construction schedule containing an adequate level of detail to show major activities with implementation of pollution prevention BMPs, including the following items:
   - Approximate duration of the project, including each stage of the project
   - Rainy season, dry season, and winter shutdown dates
   - Temporary stabilization measures to be employed by contract phases
   - Mobilization time-frame
   - Mass clearing and grubbing/roadside clearing dates
   - Deployment of Erosion Control Practices
   - Deployment of Sediment Control Practices (including stabilized cons
   - Deployment of Construction Site Management Practices (including concrete washout facilities, chemical storage, refueling locations, etc.)
   - Paving, saw-cutting, and any other pavement related operations
   - Major planned stockpiling operation
   - Time frame for other significant long-term operations or activities that may plan non-storm water discharges as dewatering, grinding, etc
   - Permanent stabilization activities for each area of the project
2. During the pre-construction meeting, the Contractor and each subcontractor shall provide, as an attachment to their signed Contractor Certification Statement, a discussion of how they will comply with the requirements of the permit in regard to the following items and provide a graphical representation showing location and type of BMPs to be used when applicable:
   - Temporary Ditch Checks - Identify what type and the source of Temporary Ditch Checks that will be installed as part of the project. The installation details will then be included with the SWPPP.
   - Vehicle Entrances and Exits - Identify type and location of stabilized construction entrances and exits to be used and how they will be maintained.
   - Material Delivery, Storage and Use - Discuss where and how materials including chemicals, concrete curing compounds, petroleum products, etc. will be stored for this project.
   - Stockpile Management - Identify the location of both on-site and off-site stockpiles. Discuss what BMPs will be used to prevent pollution of storm water from stockpiles.
   - Waste Disposal - Discuss methods of waste disposal that will be used for this project.
   - Spill Prevention and Control - Discuss steps that will be taken in the event of a material spill (chemicals, concrete curing

compounds, petroleum, etc.)

- Concrete Residuals and Washout Wastes - Discuss the location and type of concrete washout facilities to be used on this project and how they will be signed and maintained.
- Litter Management - Discuss how litter will be maintained for this project (education of employees, number of dumpsters, frequency of dumpster pick-up, etc.).
- Vehicle and Equipment Fueling - Identify equipment fueling locations for this project and what BMPs will be used to ensure containment and spill prevention.
- Vehicle and Equipment Cleaning and Maintenance - Identify where equipment cleaning and maintenance locations for this project and what BMPs will be used to ensure containment and spill prevention.
- Dewatering Activities - Identify the controls which will be used during dewatering operations to ensure sediments will not leave the construction site.
- Polymer Flocculants and Treatment Chemicals - Identify the use and dosage of treatment chemicals and provide the Resident Engineer with Material Safety Data Sheets. Describe procedures on how the chemicals will be used and identify who will be responsible for the use and application of these chemicals. The selected individual must be trained on the established procedures.
- Additional measures indicated in the plan.

III. Maintenance:

When requested by the Contractor, the Resident Engineer will provide general maintenance guides (e.g., IDOT Erosion and Sediment Control Field Guide) to the Contractor for the practices associated with this project. Describe how all items will be checked for structural integrity, sediment accumulation and functionality. Any damage or undermining shall be repaired immediately. Provide specifics on how repairs will be made. The following additional procedures will be used to maintain, in good and effective operating conditions, the vegetation, erosion and sediment control measures and other protective measures identified in this plan. It will be the Contractor's responsibility to attain maintenance guidelines for any manufactured BMPs which are to be installed and maintained per manufacture's specifications.

Temporary Ditch Checks- Sediment will be removed as needed to maintain the integrity of the ditch check. Ditch checks that are damaged will be immediately repaired and/or replaced.

Erosion Control Blanket- Areas of the blanket that are damaged shall be repaired immediately.

Perimeter Erosion Barrier- Barrier will be cleaned periodically and inspected after rain events. Damage barrier shall be repaired and/or replaced immediately.

All erosion control items will be maintained as described in Section 280 of the IDOT Standard Specifications.

IV. Inspections:

Qualified personnel shall inspect disturbed areas of the construction site including Borrow, Waste, and Use Areas, which have not yet been finally stabilized, structural control measures, and locations where vehicles and equipment enter and exit the site using IDOT Storm Water Pollution Prevention Plan Erosion Control Inspection Report, BC 2259. Such inspections shall be conducted at least once every seven (7) calendar days and within twenty-four (24) hours of the end of a storm or by the end of the following business or work day that is 0.5 inch or greater or equivalent snowfall.

Inspections may be reduced to once per month when construction activities have ceased due to frozen conditions. Weekly inspections will recommence when construction activities are conducted, or if there is 0.5” or greater rain event, or a discharge due to snowmelt occurs.

If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the Resident Engineer shall notify the appropriate IEPA Field Operations Section office by email at: epa.swnoncomp@illinois.gov, telephone or fax within twenty-four (24) hours of the incident. The Resident Engineer shall then complete and submit an “Incidence of Non-Compliance” (ION) report for the identified violation within five (5) days of the incident. The Resident Engineer shall use forms provided by IEPA and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of non-compliance shall be signed by a responsible authority in accordance with Part VI. G of the Permit ILR10.

The Incidence of Non-Compliance shall be mailed to the following address:
Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Compliance Assurance Section
1021 North Grand East
Post Office Box 19276
Springfield, Illinois 62794-9276

V. Failure to Comply:

Failure to comply with any provisions of this Storm Water Pollution Prevention Plan will result in the implementation of a National Pollutant Discharge Elimination System/Erosion and Sediment Control Deficiency Deduction against the Contractor and/or penalties under the Permit ILR10 which could be passed on to the Contractor.

Illinois Department of Transportation

Contractor Certification Statement

Prior to conducting any professional services at the site covered by this contract, the Contractor and every subcontractor must complete and return to the Resident Engineer the following certification. A separate certification must be submitted by each firm. Attach to this certification all items required by Section II.G of the Storm Water Pollution Prevention Plan (SWPPP) which will be handled by the Contractor/subcontractor completing this form.

Route	Marked Route	Section Number
FAS 384 & FAS 1387A	Old Galena Road	16-00058-10-PV

Project Number	County	Contract Number
E750(768)	Peoria	C-94-022-22

This certification statement is a part of SWPPP for the project described above, in accordance with the General NPDES Permit No. ILR10 issued by the Illinois Environmental Protection Agency.

I certify under penalty of law that I understand the terms of the Permit No. ILR 10 that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

Additionally, I have read and understand all of the information and requirements stated in SWPPP for the above mentioned project; I have received copies of all appropriate maintenance procedures; and, I have provided all documentation required to be in compliance with the Permit ILR10 and SWPPP and will provide timely updates to these documents as necessary.

☐ Contractor
☐ Sub-Contractor

Signature	Date

Print Name	Title

Name of Firm	Phone

Street Address	City	State	Zip Code

Items which this Contractor/subcontractor will be responsible for as required in Section II.G. of SWPPP

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:

Peoria County

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

State of Illinois
DEPARTMENT OF TRANSPORTATION
Bureau of Local Roads & Streets
SPECIAL PROVISION
FOR
LOCAL QUALITY ASSURANCE/ QUALITY MANAGEMENT QC/QA
Effective: January 1, 2022

Replace the first five paragraphs of Article 1030.06 of the Standard Specifications with the following:

"**1030.06 Quality Management Program.** The Quality Management Program (QMP) will be Quality Control / Quality Assurance (QC/QA) according to the following."

Delete Article 1030.06(d)(1) of the Standard Specifications.

Revise Article 1030.09(g)(3) of the Standard Specifications to read:

"(3) If core testing is the density verification method, the Contractor shall provide personnel and equipment to collect density verification cores for the Engineer. Core locations will be determined by the Engineer following the document "Hot-Mix Asphalt QC/QA Procedure for Determining Random Density Locations" at density verification intervals defined in Article 1030.09(b). After the Engineer identifies a density verification location and prior to opening to traffic, the Contractor shall cut a 4 in. (100 mm) diameter core. With the approval of the Engineer, the cores may be cut at a later time."

Revise Article 1030.09(h)(2) of the Standard Specifications to read:

"(2) After final rolling and prior to paving subsequent lifts, the Engineer will identify the random density verification test locations. Cores or nuclear density gauge testing will be used for density verification. The method used for density verification will be as selected below.

Density Verification Method	
☐	Cores
☒	Nuclear Density Gauge (Correlated when paving ≥ 3,000 tons per mixture)

Density verification test locations will be determined according to the document "Hot-Mix Asphalt QC/QA Procedure for Determining Random Density Locations". The density testing interval for paving wider than or equal to 3 ft (1 m) will be 0.5 miles (800 m) for lift thicknesses of 3 in. (75 mm) or less and 0.2 miles (320 m) for lift thicknesses greater than 3 in. (75 mm). The density testing interval for paving less than 3 ft (1 m) wide will be 1 mile (1,600 m). If a day's paving will be less than the prescribed density testing interval, the length of the day's paving will be the interval for that day. The density testing interval for mixtures used for patching will be 50 patches with a minimum of one test per mixture per project.

If core testing is the density verification method, the Engineer will witness the Contractor coring, and secure and take possession of all density samples at the

density verification locations. The Engineer will test the cores collected by the Contractor for density according to Illinois Modified AASHTO T 166 or AASHTO T 275.

If nuclear density gauge testing is the density verification method, the Engineer will conduct nuclear density gauge tests. The Engineer will follow the density testing procedure detailed in the document "Illinois Modified ASTM D 2950, Standard Test Method for Density of Bituminous Concrete In-Place by Nuclear Method".

A density verification test will be the result of a single core or the average of the nuclear density tests at one location. The results of each density test must be within acceptable limits. The Engineer will promptly notify the Contractor of observed deficiencies."

Revise the seventh paragraph and all subsequent paragraphs in Section D. of the document "Hot-Mix Asphalt QC/QA Initial Daily Plant and Random Samples" to read:

"Mixtures shall be sampled from the truck at the plant by the Contractor following the same procedure used to collect QC mixture samples (Section A). This process will be witnessed by the Engineer who will take custody of the verification sample. Each sample bag with a verification mixture sample will be secured by the Engineer using a locking ID tag. Sample boxes containing the verification mixture sample will be sealed/taped by the Engineer using a security ID label."

IDOT TRAINING PROGRAM GRADUATE ON-THE-JOB TRAINING SPECIAL PROVISION
Effective: August 1, 2012 Revised: February 2, 2017

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

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

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

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

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

METHOD OF MEASUREMENT: The unit of measurement is in hours.

BASIS OF PAYMENT: This work will be paid for at the contract unit price of $15.00 per hour for each utilized certified TPG Program trainee (TRAINEES TRAINING PROGRAM GRADUATE). The estimated total number of hours, unit price, and total price must be included in the schedule of prices for the Contract submitted by Contractor prior to beginning work. The initial number of TPG trainees for which the incentive is available for this contract is **2**.

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

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

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

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

BLENDED FINELY DIVIDED MINERALS (BDE)

Effective: April 1, 2021

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

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

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

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

(a) Blending shall be accomplished by mechanically or pneumatically intermixing the constituent finely divided minerals into a uniform mixture that is then discharged into a silo for storage or tanker for transportation.

(b) The blended finely divided mineral product will be classified according to its predominant constituent or the manufacturer's designation and shall meet the chemical requirements of its classification. The other finely divided mineral constituent(s) will not be required to conform to their individual standards."

80436

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

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)

Effective: September 1, 2000
Revised: March 2, 2019

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

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

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

> The Contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of contracts funded in whole or in part with federal or state funds. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:
>
> (a) Withholding progress payments;
>
> (b) Assessing sanctions;
>
> (c) Liquidated damages; and/or
>
> (d) Disqualifying the Contractor from future bidding as non-responsible.

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

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

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

(a) The bidder documents enough DBE participation has been obtained to meet the goal or,

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

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

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

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

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

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

(a) The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases and will be considered by the Department.

(1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.

(2) Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the Contractor might otherwise prefer to perform these work items with its own forces.

(3) Providing interested DBE companies with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

(4) a. Negotiating in good faith with interested DBE companies. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBE companies that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBE companies to perform the work.

b. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidders are not, however, required to accept higher quotes from DBE companies if the price difference is excessive or unreasonable. In accordance with the above Bidding Procedures, the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.

(5) Not rejecting DBE companies as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.

(6) Making efforts to assist interested DBE companies in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.

(7) Making efforts to assist interested DBE companies in obtaining necessary equipment, supplies, materials, or related assistance or services.

(8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE companies.

(b) If the Department determines the bidder has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided it is otherwise eligible for award. If the Department determines the

bidder has failed to meet the requirements of this Special Provision or that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification will also include a statement of reasons for the adverse determination. If the Utilization Plan is not approved because it is deficient as a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no more than a five calendar day period to cure the deficiency.

(c) The bidder may request administrative reconsideration of an adverse determination by emailing the Department at "DOT.DBE.UP@illinois.gov" within the five calendar days after the receipt of the notification of the determination. The determination shall become final if a request is not made on or before the fifth calendar day. A request may provide additional written documentation or argument concerning the issues raised in the determination statement of reasons, provided the documentation and arguments address efforts made prior to submitting the bid. The request will be reviewed by the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person to consider all issues of documentation and whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten working days after receipt of the request for reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

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

(a) DBE as the Contractor: 100 percent goal credit for that portion of the work performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontracts to a non-DBE does not count toward the DBE goals.

(b) DBE as a joint venture Contractor: 100 percent goal credit for that portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work performed by the DBE's own forces.

(c) DBE as a subcontractor: 100 percent goal credit for the work of the subcontract performed by the DBE's own forces, including the cost of materials and supplies, excluding the purchase of materials and supplies or the lease of equipment by the DBE subcontractor from the Contractor or its affiliates. Work that a DBE subcontractor in turn subcontracts to a non-DBE does not count toward the DBE goal.

(d) DBE as a trucker: 100 percent goal credit for trucking participation provided the DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible. At least one truck owned, operated, licensed, and insured by the DBE must be used on the contract. Credit will be given for the following:

(1) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.

(2) The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission is receives as a result of the lease arrangement.

(e) DBE as a material supplier:

(1) 60 percent goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.

(2) 100 percent goal credit for the cost of materials of supplies obtained from a DBE manufacturer.

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

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

(a) NO AMENDMENT. No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be emailed to the Department at DOT.DBE.UP@illinois.gov.

(b) CHANGES TO WORK. Any deviation from the DBE condition-of-award or contract plans, specifications, or special provisions must be approved, in writing, by the Department as provided elsewhere in the Contract. The Contractor shall notify affected DBEs in writing of any changes in the scope of work which result in a reduction in the dollar amount condition-of-award to the contract. Where the revision includes work committed to a new DBE subcontractor, not previously involved in the project, then a Request for Approval of Subcontractor, Department form BC 260A or AER 260A, must be signed and submitted. If the commitment of work is in the form of additional tasks assigned to an existing subcontract, a new Request for Approval of Subcontractor will not be required. However, the Contractor must document efforts to assure the existing DBE subcontractor is capable of performing the additional work and has agreed in writing to the change.

(c) SUBCONTRACT. The Contractor must provide copies of DBE subcontracts to the Department upon request. Subcontractors shall ensure that all lower tier subcontracts or agreements with DBEs to supply labor or materials be performed in accordance with this Special Provision.

(d) ALTERNATIVE WORK METHODS. In addition to the above requirements for reductions in the condition of award, additional requirements apply to the two cases of Contractor-initiated work substitution proposals. Where the contract allows alternate work methods which serve to delete or create underruns in condition of award DBE work, and the Contractor selects that alternate method or, where the Contractor proposes a substitute work method or material that serves to diminish or delete work committed to a DBE and replace it with other work, then the Contractor must demonstrate one of the following:

(1) The replacement work will be performed by the same DBE (as long as the DBE is certified in the respective item of work) in a modification of the condition of award; or

(2) The DBE is aware its work will be deleted or will experience underruns and has agreed in writing to the change. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so; or

(3) The DBE is not capable of performing the replacement work or has declined to perform the work at a reasonable competitive price. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so.

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

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

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

(1) The listed DBE subcontractor fails or refuses to execute a written contract;

(2) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the Contractor;

(3) The listed DBE subcontractor fails or refuses to meet the Contractor's reasonable, nondiscriminatory bond requirements;

(4) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;

(5) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1200 or applicable state law.

(6) The Contractor has determined the listed DBE subcontractor is not a responsible contractor;

(7) The listed DBE subcontractor voluntarily withdraws from the projects and provides written notice to the Contractor of its withdrawal;

(8) The listed DBE is ineligible to receive DBE credit for the type of work required;

(9) A DBE owner dies or becomes disabled with the result that the listed DBE subcontractor is unable to complete its work on the contract;

(10) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the Contractor can self- perform the work for which the DBE contractor was engaged or so that the Contractor can substitute another DBE or non-DBE contractor after contract award.

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

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

(g) ENFORCEMENT. The Department reserves the right to withhold payment to the Contractor to enforce the provisions of this Special Provision. Final payment shall not be

made on the contract until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.

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

80029

PERFORMANCE GRADED ASPHALT BINDER (BDE)

Effective: January 1, 2023

Revise Article 1032.05 of the Standard Specifications to read:

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

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

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

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

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

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

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

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

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

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

(2) Ground Tire Rubber (GTR) Modification. GTR modification is the addition of recycled ground tire rubber to liquid asphalt binder to achieve the specified performance grade. GTR shall be produced from processing automobile and/or truck tires by the ambient

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

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

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

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

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

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

An Attenuated Total Reflectance-Fourier Transform Infrared spectrum (ATR-FTIR) shall be collected for both the softening compound as well as the softener modified

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

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

Table 4 - Requirements for Softener Modified Asphalt Binders	
Test	Asphalt Grade SM PG 46-28 SM PG 46-34 SM PG 52-28 SM PG 52-34 SM PG 58-22 SM PG 58-28 SM PG 64-22
Small Strain Parameter (AASHTO PP 113) BBR, ΔTc, 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs)	-5°C min.
Large Strain Parameter (Illinois Modified AASHTO T 391) DSR/LAS Fatigue Property, Δ|G*|peak τ, 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs)	≥ 54 %

The following grades may be specified as tack coats.

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

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

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

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

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

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

3/ The maximum ABR percentages for ground tire rubber (GTR) modified mixes shall be equivalent to the percentages specified for SBS/SBR polymer modified mixes.

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

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

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

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

3/ The maximum ABR percentages for GTR modified mixes shall be equivalent to the percentages specified for SBS/SBR polymer modified mixes."

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

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

80441

SEEDING (BDE)

Effective: November 1, 2022

Revise Article 250.07 of the Standard Specifications to read:

"**250.07 Seeding Mixtures.** The classes of seeding mixtures and combinations of mixtures will be designated in the plans.

When an area is to be seeded with two or more seeding classes, those mixtures shall be applied separately on the designated area within a seven day period. Seeding shall occur prior to placement of mulch cover. A Class 7 mixture can be applied at any time prior to applying any seeding class or added to them and applied at the same time.

TABLE 1 - SEEDING MIXTURES			
Class - Type		Seeds	lb/acre (kg/hectare)
1	Lawn Mixture 1/	Kentucky Bluegrass	100 (110)
		Perennial Ryegrass	60 (70)
		Festuca rubra ssp. r*ubra* (Creeping Red Fescue)	40 (50)
1A	Salt Tolerant Lawn Mixture 1/	Kentucky Bluegrass	60 (70)
		Perennial Ryegrass	20 (20)
		Festuca rubra ssp. *rubra* (Creeping Red Fescue)	20 (20)
		Festuca brevipilla (Hard Fescue)	20 (20)
		Puccinellia distans (Fults Saltgrass or Salty Alkaligrass)	60 (70)
1B	Low Maintenance Lawn Mixture 1/	Turf-Type Fine Fescue 3/	150 (170)
		Perennial Ryegrass	20 (20)
		Red Top	10 (10)
		Festuca rubra ssp. *rubra* (Creeping Red Fescue)	20 (20)
2	Roadside Mixture 1/	*Lolium arundinaceum* (Tall Fescue)	100 (110)
		Perennial Ryegrass	50 (55)
		Festuca rubra ssp. r*ubra* (Creeping Red Fescue)	40 (50)
		Red Top	10 (10)
2A	Salt Tolerant Roadside Mixture 1/	*Lolium arundinaceum* (Tall Fescue)	60 (70)
		Perennial Ryegrass	20 (20)
		Festuca rubra ssp. *rubra* (Creeping Red Fescue)	30 (20)
		Festuca brevipila (Hard Fescue)	30 (20)
		Puccinellia distans (Fults Saltgrass or Salty Alkaligrass)	60 (70)
3	Northern Illinois Slope Mixture 1/	*Elymus canadensis* (Canada Wild Rye) 5/	5 (5)
		Perennial Ryegrass	20 (20)
		Alsike Clover 4/	5 (5)
		Desmanthus illinoensis (Illinois Bundleflower) 4/ 5/	2 (2)
		Schizachyrium scoparium (Little Bluestem) 5/	12 (12)
		Bouteloua curtipendula (Side-Oats Grama) 5/	10 (10)
		Puccinellia distans (Fults Saltgrass or Salty Alkaligrass)	30 (35)
		Oats, Spring	50 (55)
		Slender Wheat Grass 5/	15 (15)
		Buffalo Grass 5/ 7/	5 (5)
3A	Southern Illinois Slope Mixture 1/	Perennial Ryegrass	20 (20)
		Elymus canadensis (Canada Wild Rye) 5/	20 (20)
		Panicum virgatum (Switchgrass) 5/	10 (10)
		Schizachyrium scoparium (Little Blue Stem) 5/	12 (12)
		Bouteloua curtipendula (Side-Oats Grama) 5/	10 (10)
		Dalea candida (White Prairie Clover) 4/ 5/	5 (5)
		Rudbeckia hirta (Black-Eyed Susan) 5/	5 (5)
		Oats, Spring	50 (55)

Class	– Type	Seeds	lb/acre (kg/hectare)
4	Native Grass 2/ 6/	*Andropogon gerardi* (Big Blue Stem) 5/	4 (4)
		Schizachyrium scoparium (Little Blue Stem) 5/	5 (5)
		Bouteloua curtipendula (Side-Oats Grama) 5/	5 (5)
		Elymus canadensis (Canada Wild Rye) 5/	1 (1)
		Panicum virgatum (Switch Grass) 5/	1 (1)
		Sorghastrum nutans (Indian Grass) 5/	2 (2)
		Annual Ryegrass	25 (25)
		Oats, Spring	25 (25)
		Perennial Ryegrass	15 (15)
4A	Low Profile Native Grass 2/ 6/	*Schizachyrium scoparium* (Little Blue Stem) 5/	5 (5)
		Bouteloua curtipendula (Side-Oats Grama) 5/	5 (5)
		Elymus canadensis (Canada Wild Rye) 5/	1 (1)
		Sporobolus heterolepis (Prairie Dropseed) 5/	0.5 (0.5)
		Annual Ryegrass	25 (25)
		Oats, Spring	25 (25)
		Perennial Ryegrass	15 (15)
4B	Wetland Grass and Sedge Mixture 2/ 6/	Annual Ryegrass	25 (25)
		Oats, Spring	25 (25)
		Wetland Grasses (species below) 5/	6 (6)

Species:	% By Weight
Calamagrostis canadensis (Blue Joint Grass)	12
Carex lacustris (Lake-Bank Sedge)	6
Carex slipata (Awl-Fruited Sedge)	6
Carex stricta (Tussock Sedge)	6
Carex vulpinoidea (Fox Sedge)	6
Eleocharis acicularis (Needle Spike Rush)	3
Eleocharis obtusa (Blunt Spike Rush)	3
Glyceria striata (Fowl Manna Grass)	14
Juncus effusus (Common Rush)	6
Juncus tenuis (Slender Rush)	6
Juncus torreyi (Torrey's Rush)	6
Leersia oryzoides (Rice Cut Grass)	10
Scirpus acutus (Hard-Stemmed Bulrush)	3
Scirpus atrovirens (Dark Green Rush)	3
Bolboschoenus fluviatilis (River Bulrush)	3
Schoenoplectus tabernaemontani (Softstem Bulrush)	3
Spartina pectinata (Cord Grass)	4

Class – Type		Seeds	lb/acre (kg/hectare)
5	Forb with Annuals Mixture 2/ 5/ 6/	Annuals Mixture (Below) Forb Mixture (Below)	1 (1) 10 (10)

Annuals Mixture - Mixture not exceeding 25 % by weight of any one species, of the following:

Coreopsis lanceolata (Sand Coreopsis)
Leucanthemum maximum (Shasta Daisy)
Gaillardia pulchella (Blanket Flower)
Ratibida columnifera (Prairie Coneflower)
Rudbeckia hirta (Black-Eyed Susan)

Forb Mixture - Mixture not exceeding 5 % by weight PLS of any one species, of the following:

Amorpha canescens (Lead Plant) 4/
Anemone cylindrica (Thimble Weed)
Asclepias tuberosa (Butterfly Weed)
Aster azureus (Sky Blue Aster)
Symphyotrichum leave (Smooth Aster)
Aster novae-angliae (New England Aster)
Baptisia leucantha (White Wild Indigo) 4/
Coreopsis palmata (Prairie Coreopsis)
Echinacea pallida (Pale Purple Coneflower)
Eryngium yuccifolium (Rattlesnake Master)
Helianthus mollis (Downy Sunflower)
Heliopsis helianthoides (Ox-Eye)
Liatris aspera (Rough Blazing Star)
Liatris pycnostachya (Prairie Blazing Star)
Monarda fistulosa (Prairie Bergamot)
Parthenium integrifolium (Wild Quinine)
Dalea candida (White Prairie Clover) 4/
Dalea purpurea (Purple Prairie Clover) 4/
Physostegia virginiana (False Dragonhead)
Potentilla arguta (Prairie Cinquefoil)
Ratibida pinnata (Yellow Coneflower)
Rudbeckia subtomentosa (Fragrant Coneflower)
Silphium laciniatum (Compass Plant)
Silphium terebinthinaceum (Prairie Dock)
Oligoneuron rigidum (Rigid Goldenrod)
Tradescantia ohiensis (Spiderwort)
Veronicastrum virginicum (Culver's Root)

Class – Type		Seeds	lb/acre (kg/hectare)
5A	Large Flower Native Forb Mixture 2/ 5/ 6/	Forb Mixture (see below)	5 (5)
	Species:		% By Weight
	Aster novae-angliae (New England Aster)		5
	Echinacea pallida (Pale Purple Coneflower)		10
	Helianthus mollis (Downy Sunflower)		10
	Heliopsis helianthoides (Ox-Eye)		10
	Liatris pycnostachya (Prairie Blazing Star)		10
	Ratibida pinnata (Yellow Coneflower)		5
	Rudbeckia hirta (Black-Eyed Susan)		10
	Silphium laciniatum (Compass Plant)		10
	Silphium terebinthinaceum (Prairie Dock)		20
	Oligoneuron rigidum (Rigid Goldenrod)		10
5B	Wetland Forb 2/ 5/ 6/	Forb Mixture (see below)	2 (2)
	Species:		% By Weight
	Acorus calamus (Sweet Flag)		3
	Angelica atropurpurea (Angelica)		6
	Asclepias incarnata (Swamp Milkweed)		2
	Aster puniceus (Purple Stemmed Aster)		10
	Bidens cernua (Beggarticks)		7
	Eutrochium maculatum (Spotted Joe Pye Weed)		7
	Eupatorium perfoliatum (Boneset)		7
	Helenium autumnale (Autumn Sneeze Weed)		2
	Iris virginica shrevei (Blue Flag Iris)		2
	Lobelia cardinalis (Cardinal Flower)		5
	Lobelia siphilitica (Great Blue Lobelia)		5
	Lythrum alatum (Winged Loosestrife)		2
	Physostegia virginiana (False Dragonhead)		5
	Persicaria pensylvanica (Pennsylvania Smartweed)		10
	Persicaria lapathifolia (Curlytop Knotweed)		10
	Pychanthemum virginianum (Mountain Mint)		5
	Rudbeckia laciniata (Cut-leaf Coneflower)		5
	Oligoneuron riddellii (Riddell Goldenrod)		2
	Sparganium eurycarpum (Giant Burreed)		5
6	Conservation Mixture 2/ 6/	*Schizachyrium scoparium* (Little Blue Stem) 5/	5 (5)
		Elymus canadensis (Canada Wild Rye) 5/	2 (2)
		Buffalo Grass 5/ 7/	5 (5)
		Vernal Alfalfa 4/	15 (15)
		Oats, Spring	48 (55)
6A	Salt Tolerant Conservation Mixture 2/ 6/	*Schizachyrium scoparium* (Little Blue Stem) 5/	5 (5)
		Elymus canadensis (Canada Wild Rye) 5/	2 (2)
		Buffalo Grass 5/ 7/	5 (5)
		Vernal Alfalfa 4/	15 (15)
		Oats, Spring	48 (55)
		Puccinellia distans (Fults Saltgrass or Salty Alkaligrass)	20 (20)
7	Temporary Turf Cover Mixture	Perennial Ryegrass	50 (55)
		Oats, Spring	64 (70)

Notes:

1/ Seeding shall be performed when the ambient temperature has been between 45 ºF (7 ºC) and 80 ºF (27 ºC) for a minimum of seven (7) consecutive days and is forecasted to be the same for the next five (5) days according to the National Weather Service.
2/ Seeding shall be performed in late fall through spring beginning when the ambient temperature has been below 45 ºF (7 ºC) for a minimum of seven (7) consecutive days and ending when the ambient temperature exceeds 80 ºF (27 ºC) according to the National Weather Service.
3/ Specific variety as shown in the plans or approved by the Engineer.
4/ Inoculation required.
5/ Pure Live Seed (PLS) shall be used.
6/ Fertilizer shall not be used.
7/ Seed shall be primed with KNO_3 to break dormancy and dyed to indicate such.

Seeding will be inspected after a period of establishment. The period of establishment shall be six (6) months minimum, but not to exceed nine (9) months. After the period of establishment, areas not exhibiting 75 percent uniform growth shall be interseeded or reseeded, as determined by the Engineer, at no additional cost to the Department."

80445

SOURCE OF SUPPLY AND QUALITY REQUIREMENTS (BDE)

Effective: January 2, 2023

Add the following to Article 106.01 of the Standard Specifications:

"The final manufacturing process for construction materials and the immediately preceding manufacturing stage for construction materials shall occur within the United States. Construction materials shall include an article, material, or supply that is or consists primarily of the following.

(a) Non-ferrous metals;

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

(c) Glass (including optic glass);

(d) Lumber;

(e) Drywall.

Items consisting of two or more of the listed construction materials that have been combined through a manufacturing process, and items including at least one of the listed materials combined with a material that is not listed through a manufacturing process shall be exempt."

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 PAYROLL RECORDS (BDE)

Effective: April 1, 2021
Revised: November 1, 2022

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, the worker's address, the worker's telephone number when available, the worker's social security number, the worker's classification or classifications, the worker's gross and net wages paid in each pay period, the worker's number of hours worked each day, and the worker's starting and ending times of work each day. However, any Contractor or subcontractor who remits contributions to a fringe benefit fund that is not jointly maintained and jointly governed by one or more employers and one or more labor organization must additionally submit the worker's hourly wage rate, the worker's hourly overtime wage rate, the worker's hourly fringe benefit rates, the name and address of each fringe benefit fund, the plan sponsor of each fringe benefit, if applicable, and the plan administrator of each fringe benefit, if applicable.

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."

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 15th 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

TRAINING SPECIAL PROVISIONS (BDE)

Effective: October 15, 1975
Revised: September 2, 2021

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

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

The Contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade or job classification involved. The number of trainees to be trained under this contract will be **2**. In the event the Contractor subcontracts a portion of the contract work, it shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The Contractor shall also ensure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

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

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

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

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

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

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

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

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

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

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

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

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

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

20338

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

WEEKLY DBE TRUCKING REPORTS (BDE)

Effective: June 2, 2012
Revised: November 1, 2021

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

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

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

80302

WORK ZONE TRAFFIC CONTROL DEVICES (BDE)

Effective: March 2, 2020

Add the following to Article 701.03 of the Standard Specifications:

"(q) Temporary Sign Supports .....1106.02"

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

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

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

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

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

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

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

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

Category 3 includes devices that are expected to cause significant velocity changes or other potentially harmful reactions to impacting vehicles. These include crash cushions (impact

attenuators), truck mounted attenuators, and other devices not meeting the definitions of Category 1 or 2. Category 3 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 3 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2029. Category 3 devices shall be crash tested for Test Level 3 or the test level specified.

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

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

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

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

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

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

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

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

80427

WORKING DAYS (BDE)

Effective: January 1, 2002

The Contractor shall complete the work within 110 working days.

80071

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

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 activities unless to do so would cause an undue hardship.

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

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

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

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

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

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

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

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the 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.

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

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

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

2. Withholding (29 CFR 5.5)

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

3. Payrolls and basic records (29 CFR 5.5)

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

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

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or

subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

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

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees (29 CFR 5.5)

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the

corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 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 shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract 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 (29 CFR 5.5)

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

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 watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 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. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph 1 of this section, in the sum 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. 29 CFR 5.5.

* $27 as of January 23, 2019 (See 84 FR 213-01, 218) 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. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 2 of this section. 29 CFR 5.5.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs 1 through 4 of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1 through 4 of this section. 29 CFR 5.5.

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 200.326.

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 200.326.

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 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).

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.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

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

(a) 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;

(b) 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

(c) 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)

2. 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.

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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.

Contract Provision - Cargo Preference Requirements

In accordance with Title 46 CFR § 381.7 (b), the contractor agrees—

"(1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract."

Provisions (1) and (2) apply to materials or equipment that are acquired solely for the project. The two provisions do not apply to goods or materials that come into inventories independent of the project, such as shipments of Portland cement, asphalt cement, or aggregates, when industry suppliers and contractors use these materials to replenish existing inventories.