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Letting April 25, 2025

Notice to Bidders, Specifications and Proposal



**Contract No. 78373
WILLIAMSON County
Section (1-4)R-5,RS-2,B-1,B-2,B-3,B-4
Route FAP 331
Project BR-NHPP-3BX2(535)
District 9 Construction Funds**

Prepared by

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Checked by

(Printed by authority of the State of Illinois)



**Illinois Department
of Transportation**

NOTICE TO BIDDERS

1. **TIME AND PLACE OF OPENING BIDS.** Electronic bids are to be submitted to the electronic bidding system (iCX-Integrated Contractors Exchange). All bids must be submitted to the iCX system prior to 12:00 p.m. April 25, 2025 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. 78373
WILLIAMSON County
Section (1-4)R-5,RS-2,B-1,B-2,B-3,B-4
Project BR-NHPP-3BX2(535)
Route FAP 331
District 9 Construction Funds**

3.6 miles of roadway reconstruction including adding lanes, reconstruction of 4 bridges and intersection reconstruction on IL 13 from Spillway Road to Shawnee Trail.

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

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

By Order of the
Illinois Department of Transportation

Gia Biagi,
Acting Secretary

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2025

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

ERRATA Standard Specifications for Road and Bridge Construction (Adopted 1-1-22) (Revised 1-1-25)

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FAP ROUTE (IL 13)
PROJECT BR-NHPP-3BX2(535)
SECTION (1-4)R-5,RS-2,B-1,B-2,B-3,B-4
WILLIAMSON COUNTY
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FAP ROUTE (IL 13)
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STATE OF ILLINOIS

SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction," adopted Jan 1, 2022, the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," and the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids, and the Supplemental Specifications and Recurring Special Provisions indicated on the Check Sheet included herein which apply to and govern the construction of FAP Route (IL 13), Project BR-NHPP-3BX2(535), Section (1-4)R-5,RS-2,B-1,B-2,B-3,B-4, Williamson County, Contract No. 78373, in case of conflict with any part or parts of said Specifications, the said Special Provisions shall take precedence and shall govern.

FAP Route (IL 13)
Project BR-NHPP-3BX2(535)
Section (1-4)R-5,RS-2,B-1,B-2,B-3,B-4
Williamson County
Contract No. 78373

LOCATION OF PROJECT

The project is located along IL 13 in Williamson County, from 0.16 miles east of Spillway Road to 0.02 miles west of Division Street and Cambria Rd from the intersection of Cambria Road and westbound IL 13 to 0.25 miles north of the intersection.

DESCRIPTION OF PROJECT

The project involves pavement widening, HMA resurfacing, constructing a multiuse path, bridge replacement of four structures, intersection improvements, drainage improvements, ADA improvements, and signal installation.

NOTIFICATION PRIOR TO STARTING WORK

Effective 12/05

Revised 2/10/17

Revise the first sentence of Article 107.09 Public Convenience and Safety to the following "The Contractor shall notify the Engineer at least 14 days in advance of starting any construction work. For projects involving width or height restrictions or complete closures of the roadway or ramp, an additional seven days of notice (21 days total) will be required."

This additional notification is required, so the public can be notified of the pending construction.

UTILITIES

Effective 1984

Revised 2/15/23

Add the following after the first paragraph of Article 105.07:

Underground utilities have been plotted from available surveys and records and, therefore, their locations must be considered approximate only. There also may be utilities for which the locations are unknown. Verification of locations of underground utilities, shown or not shown, will be the responsibility of the Contractor. The following utility companies have facilities within the project limits which may require adjustment:

Name and Address of Utility	Type	Location	Estimated Adjustment Status
Carbondale, City of ATTN: Robert Hardin Tel: (618) 457-3270 Email: RHardin@ExploreCarbondale.com	LOCAL STORM SEWER, WATER, AND ELECTRIC	BEGINNING PROJECT LIMITS TO SN 100-0066	PRIOR TO CONSTRUCTION
Clearwave Communications ATTN: Mylon Rice Tel: (618) 294-9200 Email: mylon.rice@clearwavefiber.com	COMMUNICATION	BEGINNING PROJECT LIMITS TO SN 100-0066	PRIOR TO CONSTRUCTION
Egyptian Electric Cooperative 1732 Finney Rd Murphysboro, IL 62966 ATTN: Chris Stoner Tel: (618) 965-3434 Email: cstoner@eeca.coop	ELECTRIC	THROUGHOUT	PRIOR TO CONSTRUCTION
Frontier Communications 208 West Union Marion, IL 62959 ATTN: Rick Shaw Tel: (618) 997-0253 Cell: (618) 997-0257 Email: rick.shaw@ftr.com	COMMUNICATION	THROUGHOUT	PRIOR TO CONSTRUCTION

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

Above utility relocation information reflected as of 7/4/2024. Once the proposed right of way is clear and final plans are available, a notice will be sent to the utility companies instructing them to begin relocation of utilities in conflict with the project.

Additional utility information may be obtained by calling the "Joint Utility Location Information for Excavators" phone number, 800-892-0123. This project is located in the Carterville township.

Add the following after the first paragraph of Article 107.31:

The Contractor is advised that this project includes areas of highway illumination and/or signalized intersections. These areas have underground cable or conduit throughout which is to remain in service. Before driving any posts or beginning any excavation operations, the Contractor shall locate, uncover by hand and relocate any wiring which conflicts with the proposed work. Any cable or conduit which is damaged as a result of the Contractor's operations shall be replaced by them at their expense. Replacement material and methods shall meet or exceed the original specifications for the wiring. Splicing will not be permitted.

AVAILABILITY OF ELECTRONIC FILES

Effective 10/16 Revised 12/11/19

Electronic files of this project will be made available to the Contractor after contract award. Contractor shall coordinate obtaining electronic files through the Engineer. If there is a conflict between the electronic files and the printed contract plans and documents, the printed contract plans and documents shall take precedence over the electronic files. The Contractor shall accept all risk associated with using the electronic files and shall hold the Department harmless for any errors or omissions in the electronic files and the data contained therein. Errors or delays resulting from the use of the electronic files by the Contractor shall not result in an extension of time for any interim or final completion date or shall not be considered cause for additional compensation.

The Contractor shall not use, share, or distribute these electronic files except for the purpose of constructing this contract. Any claims by third parties due to use or errors shall be the sole responsibility of the Contractor. The Contractor shall include this disclaimer with the transfer of these electronic files to any other parties and shall include appropriate language binding them to similar responsibilities.

COMPLETION DATE (VIA CALENDAR DAYS) PLUS WORKING DAYS (BDE)

Effective: April 1, 2008

This project is a completion date plus working days contract as specified in Article 108.05(b). All work shall be completed by the Contractor by August 1, 2028, plus ten working days. Should the Contractor fail to complete all work on August 1, 2028, plus ten working days or before or within such extended time allowed by the Department, then liquidated damages, according to Article 108.09 will apply.

CRAB ORCHARD NATIONAL WILDLIFE REFUGE CONTACT

The CONWR contact will be invited at the District's pre-construction meeting with the Contractor. The Engineer shall contact CONWR personnel prior to the project beginning to coordinate special use permit information required from Contractor and to coordinate the special waste removal. The CONWR contact information is below:

Donovan Henry
Deputy Refuge Manager
USFWS – Crab Orchard NWR
Marion, IL 62959
Ph. 618-998-5942
Donovan_Henry@fws.gov

TRAFFIC CONTROL PLAN

Effective 1985

Revised 4/17/23

During the entire construction period, the road shall be kept open to traffic as follows:

- (a) The highway shall be kept open to at least one lane of traffic at all times and to two lanes of traffic to the greatest extent possible, and as shown in the staging plans.
- (b) Access to all public roads and private entrances shall be maintained during all stages of the work except as noted in the staging plan.

Prior to allowing traffic on any portion of the roadway that has been cold milled, the Contractor shall have erected "Rough Grooved Surface" and "Uneven Pavement" signs that conform to the details shown in the plans. A minimum of one sign at each end of the improvement will be required. The Contractor shall maintain the "Rough Grooved Surface" signs until the cold milled surface is covered with binder. The Contractor shall maintain the "Uneven Pavement" signs until the resurfacing operations are completed. The cost of furnishing, erecting, maintaining, and removing the required signs shall be included in the contract.

CHANGEABLE MESSAGE SIGNS

Revised 4/15/20

This work consists of furnishing, placing, and maintaining changeable message sign(s) according to the Standard Specifications and the following:

A total of three changeable message signs shall be required in this contract. All signs must be in place and operational for a minimum of 14 calendar days prior to lane or roadway closures. Each sign shall state the day work will begin and delays are possible. The exact message will be approved by the Engineer. The Contractor may be required to relocate each sign multiple times during the contract at his or her expense. The exact location of the placement of these signs shall be determined in the field by the Engineer.

The furnishing, placing, and maintenance of portable changeable message sign(s) shall be paid for per CALENDAR DAY as CHANGEABLE MESSAGE SIGN.

DROP-OFF NEAR THE EDGE OF TRAVELED WAY

To be in compliance with Safety Engineering Policy Memorandum 4-15 (Drop Off Policy), no drop offs >1.5" but <12" will be allowed for long duration stationary operations (14 days or more) located within 8' of the edge of the nearest open traffic lane. Pavement patching is not considered a drop-off condition except when individual patching holes are left open in excess of 24 hours.

The Contractor will be assessed a traffic control deficiency deduction per Article 105.03(b) of the Standard Specifications for each day a drop off greater than 1.5" but less than 12" exists for more than 14 days within 8' of the edge of the nearest open traffic lane.

Days included as drop-off allowance days will not count against the 14 days provided for drop-offs.

DROP-OFF ALLOWANCE DAYS

Description. The Contractor will be charged a monetary assessment for each day or part of a day at locations where a greater than 12" drop-off is located within 8 feet of the edge of the nearest open traffic lane on IL 13 westbound or eastbound in excess of the following days:

- Stage 1 westbound and eastbound concurrently – 20 days
- Stage 2 westbound and eastbound concurrently – 14 days
- Stage 3 westbound and eastbound concurrently – 5 days

A drop-off allowance day is defined as a period of time beginning at 7:00 am and ending at 7:00 pm for which a greater than 12" drop-off is located within 8 feet of the edge of the nearest open traffic lane on IL 13 westbound or eastbound. A drop-off allowance day will be charged for any partial days of inadequate offset.

Disincentive Plan: The Contractor will be assessed a traffic control deficiency deduction per Article 105.03 (b) for each drop-off allowance day beyond the days allowed. There is no limit to the number of drop-off allowance days assessed that exceed the allotted days.

No incentive plan will be offered for drop-off allowance days.

Should the Contractor be delayed in the commencement, prosecution, or completion of the work for any reason, there shall be no extension of the disincentive payment calculation.

INCENTIVE/DISINCENTIVE PLAN

Date of Completion: The Contractor shall schedule operations to complete all work as required in the sequence of construction for stage 2 on or before September 1, 2026. The Contractor shall note that this completion date is based on an expedited work schedule.

Failure to Complete the Work on Time: Should the Contractor fail to complete the work on or before the specified dates laid out in these special provisions, the Contractor shall be liable to the Department in the amount of \$10,000, not as a penalty, but as liquidated and ascertained damages for each calendar day beyond the date of completion. Such damages may be deducted by the Department from any monies due to the Contractor.

Importance and Explanation of Damages: In fixing the damages as set out herein, the desire is to establish a certain mode of calculation for the work because the Department's actual loss, in the event of delay, cannot be predetermined, would be difficult to ascertain, and a matter of argument and unprofitable litigation. This mode is an equitable rule for measurement of the Department's actual loss and fairly takes into account the loss of use of the roadway if the project is delayed in completion. The Department shall not be required to provide any actual loss to recover these liquidated damages provided herein, as these damages are very difficult to ascertain. Furthermore, no provision of this clause shall be construed as a penalty, as such is not the intention of the parties.

A calendar day is every day on the calendar and starts at 12:00 midnight and ends at the following 12:00 midnight, 24 hours later.

Incentive Payment Plan: For the reasons stated above, the Contractor shall be entitled to an incentive payment for the completion of all work as set forth by the date of completion for stage 2 only. The incentive payment shall be paid at the rate of \$8,000 per calendar day for each day of completion prior to September 1, 2026. The maximum payment under this incentive plan will be limited to 30 calendar days per completion date.

A calendar day is every day on the calendar and starts at 12:00 midnight and ends at the following 12:00 midnight, 24 hours later. No payment will be paid for any day less than 24 hours.

Should the Contractor be delayed in the commencement, prosecution, or completion of the work for any reason, there shall be no extension of the incentive payment calculation date even though there may be granted an extension of time for completion of the work. No Incentive payment will be made if the Contractor fails to complete the work before the specified date of completion. Failure of the Contractor to complete all work as required for stage 2 by the contract on or before September 1, 2026 shall release and discharge the State, the Department and all of its officers, agents, and employees from any and all claims and demands for the payment of any incentive amount or damages arising from the refusal to pay any incentive amount.

INTERIM COMPLETION DATES

This special provision for interim and total project completion dates is based off the sequence of construction located elsewhere herein. The following items of work shall be completed by the date specified:

- Stage 2 - IL 13 must be open to two lanes in each direction during daytime hours, Cambria Road must be right in/right out traffic, and Shawnee Trail must be open to all traffic movements by September 1, 2026.
- Stage 3 – The Haven Road at IL 13 must be open to traffic by August 1, 2027.
- Stage 4 & 5 – IL 13 must be open to 2 lanes of traffic in each direction during daytime hours.

Should the Contractor fail to have all lanes open, as stated above, to traffic by the interim completion dates, then liquidated damages according to Article 108.09 will apply.

STAGING PLAN

A suggested staging plan is included in the plans. The Contractor may choose, but is not required, to use this plan.

If the Contractor chooses not to use the plan provided therein, he/she shall submit a staging plan for approval to the District's Project Implementation Engineer within ten days of the award of the contract. The Contractor's submittal shall detail the location and sequence of work and include a traffic control plan for each stage.

The Contractor will be responsible for any additional efforts required to facilitate the construction of PCC pavement as shown on the plans. Such additional efforts include, but are not limited to: concrete pumping, pouring from the subgrade of the lane being constructed, and additional flagmen to provide protection for personnel and equipment adjacent to the open lane of traffic.

The Contractor's shall submit a combined staging/signal plan that coordinates with the staging plan to be used within ten days of the award of the contract. Any additional equipment required to fulfill this requirement will be included in the cost of the traffic signal equipment.

SEQUENCE OF CONSTRUCTION

Stage 1: Construct crossovers, widen existing eastbound shoulders, place temporary concrete barriers, and erect signing for traffic.

- Construction of shoulders and crossovers shall be done at night (7 pm to 7 am).
- No lane closures on IL 13 during daytime hours from 7:00 am to 7:00 pm will be allowed.
- Construct work outside of the lake guardrail area in the eastbound lanes with two lanes open in each direction during daytime period.

Stage 2: Construct westbound shoulders, pavement, and bridges.

- Setup stage 2 traffic control. Stage 2 traffic will utilize the eastbound traffic alignment and consist of one lane for westbound traffic and one lane for eastbound traffic separated by temporary concrete barrier wall.
- Build rock fill on westbound to the top of subgrade.
- Settlement period (four months)
- Construct SNs 100-0107 & 100-0109 – July 8, 2025 to September 1, 2026.
- Pave westbound lanes, shoulder, and install guardrail.
- Cambria Road pavement improvements will be constructed during stage 2 as well. Construction of Cambria Road median and corner islands will be completed in stage 4 to accommodate stage 3 maintenance of traffic.
- Cambria Road and Shawnee Trail will be closed for the duration of stage 2.

Once stage 2 improvements are complete setup stage 3 traffic control. Stage 3 traffic will utilize the westbound pavement constructed in stage 2. Stage 3 traffic control will accommodate two lanes in the eastbound and two lanes in the westbound directions of travel.

Stage 3 – September 1, 2026: Construct the new eastbound lane, outside shoulder, multiuse path, and bridges.

- The Cambria Road intersection can be opened to allow a right-in and right-out turning movement.
- Build Rock Fill
- Settlement period (four months)
- SNs 100-0106 & 100-0108 – September 1, 2026 to September 1, 2027.

Upon completion of stage 3 improvements traffic can be returned to normal traffic patterns for stage 4. In stage 4 two lanes in each direction should be provided during construction of any improvements.

Stage 4: Remove crossovers, construct westbound turnaround, and construct Cambria Road median and corner islands.

- Construct remainder of IL 13, Left / U-turn (Median).
- Any work requiring a single lane of travel in either direction shall be done during non-peak hours (7 pm to 7 am).

Stage 5: Finish resurfacing, final striping, and any miscellaneous items remaining.

NIGHTTIME LANE CLOSURES

Description. For this lane rental specification, the workday will be divided into a 12-hour nighttime period and a 12-hour daytime period defined as follows. The nighttime period shall be from 7:00 PM to 7:00 AM, and the daytime period shall be from 7:00 AM to 7:00 PM.

A staging plan has been developed to accommodate two lanes of through traffic on IL 13 eastbound and westbound in stages 1, 3, 4, & 5. Lane closures restricting IL 13 to one lane in a direction are to be allowed only during the nighttime period. If due to equipment failure or any other reason the Contractor is not able to open IL 13 to two thru lanes on IL 13 EB and WB by 7:00 AM, the Contractor will be charged \$1,000.00 an hour per hour until all lanes are open.

TRAFFIC CONTROL AND PROTECTION, (SPECIAL)

This work shall consist of placing and maintaining all traffic control items as shown in the staging plans for construction stages 1 through 5 and as detailed below. Items shall include signs, vertical barricades, changeable message signs, arrow boards and all other equipment, hardware, and labor necessary to maintain the lane shifts and/or closures. The Contractor may be required to install, remove, and relocate traffic control items numerous times as shown on the staging plans.

The Contractor will be required to use vertical barricades to maximize the width of the available traffic lane. Drums or type II barricades will not be allowed. The Contractor will also be required to move the barricades as soon as possible after the work operations have passed.

This work will be paid for at the contract unit price per LUMP SUM for TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

AGGREGATE BASE COURSE, TYPE A 8"

This work shall consist of placing aggregate base course, type A 8" for rockfill according to the applicable portions of the Standard Specifications, the details in the plans, and the following. The material used for this section of the rockfill shall be CA-10 gradation.

Method of Measurement: The aggregate base course, type A 8" for rockfill will be measured for payment in square yard.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE YARD for AGGREGATE BASE COURSE, TYPE A 8".

CONCRETE MEDIAN REMOVAL

This work shall consist of the satisfactory removal and disposal of existing concrete median within the limits of removal shown in the plans or as directed by the Engineer. This item shall be performed in accordance with the applicable portions of Section 440 of the Standard Specifications.

This work shall be measured and paid for at the contract unit price per SQUARE FOOT for CONCRETE MEDIAN REMOVAL.

COOPERATION BETWEEN CONTRACTORS

Revised 2/10/17

The Contractor is to be aware that traffic control limits of this contract may overlap those of another project that may be under construction with this work. The Contractor shall coordinate his/her work with the other contractors to minimize any possible conflicts. The Contractor shall also notify the Engineer five working days in advance of any work that may affect other adjacent contracts.

COARSE AGGREGATE BACKFILL (SPECIAL)

Coarse aggregate backfill (special) shall meet the gradation limits of RR 3. It shall be placed and seated to the satisfaction of the Engineer. Coarse aggregate backfill (special) shall be placed in the areas of removal and disposal of unsuitable material in the lake within 24 hours of the excavation of the unsuitable material.

This work will be paid for at the contract unit price per TON for COARSE AGGREGATE BACKFILL (SPECIAL)

DECORATIVE STEEL RAILING

Description: This special provision covers work related to fabrication, surface coatings on designated metal surfaces, and installation of decorative steel railing. Work shall be in accordance with the construction documents and Sections 505, 506, and 509 of the Standard Specifications.

Materials: Railing posts, decorative railing panels, cross railing, splices, anchor devices, bent plates, and accessories shall be painted following the appropriate paint system requirements indicated in Section 506 for structural steel. The coating system for structural steel and metal surfaces shall be an IDOT prequalified manufacturer such as Carboline, or Themec.

Decorative panel inserts shall consist of laser or water jet cut perforated metal panels. Support sizes, structural connections and locations shall be coordinated with the railing components. Shop drawings, including plan elevations, sections and details indicating materials, components

sizes, dimensions, tolerances, hardware, fasteners, finishes, options, accessories and installation methods, with details of attaching metal panels to supports shall be provided. Fabrication shall be coordinated such that the decorative panels shall conform to guaranteed openings in the railing frame. The manufacturer of laser or water jet cut decorative metal panels shall have completed projects of similar scope for more than five years and shall meet all the specification requirements. The manufacturer must be capable of producing the design intent of the panels as shown in the drawings while meeting structural and local code requirements. Incompatible materials shall be separated to prevent galvanic corrosion. Panel thickness shall be sufficient to meet structural loading requirements, but not be less than 1/4" thick. The manufacturer shall use the conceptual image for the panels shown in the drawings to produce a design for approval by the Engineer as part of the shop drawing submittal process. The manufacturer shall limit opening sizes to meet local code requirements and ensure the panel meets structural requirements. The manufacturer shall provide two panel designs, as located in the drawings and shown below. P.H. Drew Inc and Nature Rails provided similar decorative panels on a previous IL 13 project.

Color for all bridge fence railing components shall be black or determined by the District. Before beginning fabrication, the Contractor shall submit samples to the Engineer according to Sections 505, 506 and 509 at least 30 days prior to beginning shop coating and painting of the railing posts, railing, splices, anchor devices, bent plates and accessories. The Contractor shall submit for the Engineer's review and acceptance up to two mock up panels for approval demonstrating the color for the decorative steel railing. The mock up panel shall consist of a minimum of two posts, rail panel, anchor devices, bent plates, and accessories. Panel size shall be approximately 2'-7" high by 6'-7" wide (width of one decorative railing panel). During manufacture, transport and erection, decorative steel railing shall be protected from scratching, denting or other defects that may affect durability or appearance.

An ornamental reveal shall be provided near the top of each rail post. The reveal design shall be coordinated with the District for approval.

Method of Measurement. This work will be measured for payment in place in linear feet for decorative steel railing. The measurement will be the overall length along the top longitudinal railing member through all posts and gaps.

Basis of Payment: This work will be paid for at the contract unit price per FOOT for DECORATIVE STEEL RAILING which price includes painting of structural steel and adding the ornamental reveal.

"Ducks Panel"



"Fish Panel"



"Bigfoot panel" custom fabrication to be determined, but see concepts below:



or



ETHERNET MANAGE SWITCH

Description. This work shall include supplying, installing, configuring, and powering ethernet switches at locations designated in the plans and as directed by the Engineer for the purpose of interfacing with fiber optic network(s).

The Contractor shall procure all the switches and power supplies. Once all units are ready for programming, the Contractor shall provide notification to the Engineer and IDOT D9 to schedule the programming and/or configuration of the equipment by IDOT's network integrator. At least t30 days prior to the scheduled field installation, the Contractor shall label the switches for the appropriate sites and drop it off at the location as directed by the Engineer and IDOT for programming.

Once programming has been completed, the Contractor shall pick up the equipment and shall locate shelf space or another suitable mounting location in the traffic signal cabinets or as identified on the plans. The Contractor shall secure the switch and power supply as appropriate and approved by the Engineer in accordance with the manufacturer's installation requirements. The equipment shall be permanently and securely mounted, and all corresponding power and communications cables shall be neatly dressed, labeled, and fastened to the equipment rack with the appropriate hardware. Tie wraps are not permitted. The Contractor shall perform all network switch and corresponding communications equipment connections in the presence of the Engineer.

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

When all equipment is installed and connected, the Contractor shall test and demonstrate the performance of the installed network communications equipment to ensure that data is being transmitted to the IDOT building.

The Ethernet switch shall meet the following material specifications:

Overall Switch Station Capacity and Flexibility: Managed Gigabit Ethernet switch with seven 10/100BaseT(X) ports and three 10/100/1000BaseT(X) or 100/1000BaseSFP combo ports, with -40 to 75°C operating temperature. In addition, the switch shall include a SFP module with two 1000BaseLX port with LC connector for 10 km transmission, with -40 to 85°C operating temperature. The SFP module shall be fully compatible with the SFPs furnished and installed as part of ethernet manage switch provided at the IDOT District 9 building to ensure communications to equipment in field cabinets"

Cabling Options: The switch shall be able to utilize a variety of connecting interfaces including 10/100Base(T)X, 10/100/1000Base(T)X, and 1000BaseSX/LX/LHX/ZX (LC connector).

Port Configuration Options: Port configurations shall be accessible via a standard web browser without requiring special vendor software. Port configuration changes shall be possible by

personnel without special IT training. The configuration can be done via a console UI, telnet connection, or command line interface. All T(X) ports shall provide cable autocross capability.

The Ethernet switch shall be compatible with following network and software requirements:

Networking and Software: The Ethernet switches shall be IEEE802.3/802.3u/802.3ab/802.3z/802.3x/802.1D-2004/802.1w/802.1s/802.1Q/802.1p/802.1X/802.3ad compliant. The switch shall support the following standards and software interfaces:

- a. Redundant fast/gigabit ethernet ring capability
- b. IGMP snooping and GMRP for filtering multicast traffic from industrial Ethernet protocols
- c. Supports IEEE 802.1Q VLAN and GVRP protocol to ease network planning
- d. Supports QoS-IEEE 802.1p/1Q and TOS/DiffServ to increase determinism
- e. Supports 802.3ad, LACP for optimum bandwidth utilization
- f. Supports TACACS+, SNMPv3, IEEE 802.1X, HTTPS, and SSH to enhance network security
- g. Support EtherNet/IP, PROFINET, and Modbus/TCP protocols for device management and monitoring
- h. SNMPv1/v2c/v3 for different levels of network management security
- i. Bandwidth management to prevent unpredictable network status
- j. Lock port for authorized MAC address access only
- k. Port mirroring for online debugging
- l. Automatic warning by exception through e-mail, relay output
- m. Digital inputs to integrate a sensor and alarm with an IP network
- n. Automatic recovery of connected device IP addresses
- o. Line-swap fast recovery

Port Trunking for Flexible Network Connection: Maximum of four trunk groups for all gigabit ports with maximum of eight trunk ports for each trunk group shall be available. The user shall be able to either choose the type of the trunk group to be "Static" or "LACP."

IP Addressing Approach Options: IP addresses shall be set over the network using BootP/DHCP. The user shall have the capability to disable BootP or DHCP network based IP address changes. In addition, the switch shall support both a serial port and web page-based manual (static) addressing approach.

Ethernet Packet Transfer Accuracy and Capacity: The switch shall be capable of forwarding valid ethernet frames using the store and forward method or equivalent method, and the address table shall have a maximum capacity of 8192 addresses.

Quality of Service Functions Enhance Determinism: The switches shall be able to read IEEE 802.1Q VLAN priority tags and support a minimum of a low, normal, medium, and high priority buffer. High priority messages shall be able to process before low priority messages. It also shall support QoS-IEEE 802.1p/1Q and TOS/DiffServ.

SNMP Traps: The switches shall support sending SNMP messages to maximum two SNMP "Trap" server, and the SNMP traps IP addresses shall be settable through a web browser interface.

Multicast Message Control for Filtering Multicast Traffic: The switches shall be able to support IEEE 802.1D-1998 GMRP (GARP Multicast Registration Protocol) and IGMP (Internet Group Management Protocol).

Port Access Control Enhances User Authentication: The switches shall support IEEE 802.1X and static port lock for port-base access control.

Accessible IP Settings: It shall allow the user to add or remove "Legal" remote host IP addresses to prevent unauthorized access. Access to switch shall be controlled by IP address. That is, if a host's IP address is in the accessible IP table, then the host shall be allowed access to the switch.

Additional network and software requirements shall be met:

- a. IEEE 802.1X, HTTPS, and SSH to enhance network security
- b. Bandwidth management prevents unpredictable network status
- c. Port mirroring for online debugging
- d. Automatic warning by exception through email and relay output
- e. Digital inputs to integrate sensors and alarms with IP networks
- f. Automatic recovery of connected device's IP addresses
- g. Line-swap fast recovery
- h. Support EDS-SNMP OPC Server Pro
- i. Software based IEEE 1588 PTP for precise time synchronization of networks
- j. DHCP Option 82 for IP address assignment with different policies
- k. Modbus/TCP / EtherNet/IP / PROFINET industrial ethernet protocols supported
- l. Supports LLDP (Link Layer Discovery Protocol)
- m. Turbo Ring™ and Turbo Chain™ (< 20ms recovery time for fast Ethernet ports and < 50 ms recovery time for gigabit Ethernet ports at full load) and STP/RSTP (IEEE 802.1w/D)

The Ethernet switch shall meet the following general installation requirements:

Mounting: The switch shall be DIN-Rail or wall mountable

Power supply: Low voltage ranges: 12/24/48 VDC (9.6-60 VDC). In addition, a provision shall be made such that the loss of a power supply may be user configurable to trigger a hardware (i.e. relay contact), SNMP, e-mail, and web page alarms.

Environmental Specifications for Temperature & Humidity - The switch shall have operating temperature ranges of -10 to 60°C or -40 to 75°C. In addition, the switch shall be rated to withstand a maximum continuous operating humidity of 95% without condensation.

Electronical Noise Immunity: The switch will conform to the IEC61000-4-2 to 4-8 series of noise specifications as specified below:

- IEC 61000-4-2 Electrostatic Discharge: Criterion A
- IEC 61000-4-3 Radiated Noise Immunity: Criterion A
- IEC 61000-4-4 Fast Transient (Burst) Withstand: Criterion A
- IEC 61000-4-5 Surge Voltage: Criterion A
- IEC 61000-4-6 Conducted Noise Interference: Criterion A
- IEC 61000-4-8 Electromagnetic Field withstand: Criterion A
- IEC 61000-4-12

IEC 61000-4-29

Shock & Vibration: The operating shock rating shall conform to IEC60068-2-27 and withstand a 15 g, 11 ms duration, and 18 shocks. In addition, the operating vibration spec shall conform to IEC60068-2-6 (Criterion 3) at 1 mm, 2 Hz - 13.2 Hz, 90 min.; 0.7g, 13.2 Hz - 100 Hz, 90 min.; 3.5 mm, 3 Hz - 9 Hz, 10 cycles, 1 octave/min.; 1g, 9 Hz - 150 Hz, 10 cycles, 1 octave/min.

Switch shall be compliant with IEC 62443-4-2.

The Ethernet switch shall meet the following hardware-based diagnostics and user interfaces requirements:

1. Alarm Contact: The switch shall contain an alarm contact that can be configured via standard web browser to annunciate the drop out of either or both power supply inputs and/or to annunciate the active link status of any combination of ports. A fault LED will be provided to indicate the status of the alarm contact.
2. LED Indications
3. Diagnostic display for internal switch status
4. Serial Port: The switch shall include a USB serial port that can be accessed by computers with hyper terminal or equivalent capability. The serial console connection manner shall require a short USB cable applied to connect the switch to a PC's USB port.

The Ethernet switch shall meet the following security requirements:

1. Port Disable: unused ports shall be able to be disabled to prevent unauthorized access.
2. It shall support IEEE 802.1X and SSL to enhance network security.
3. Switch configuration password protection
4. https/SSL

The Ethernet switch shall have the following communication redundancy:

1. The switch shall be able to detect and compensate for the failure of another switch, cable disruption, or hardware failure of one or more ports.
2. IEEE standards based redundancy, including IEEE 802.1D/W spanning tree Turbo Ring: Gigabit Ethernet redundant ring capability (Turbo Ring V2: recovery time <20ms for fast Ethernet ports; < 50 ms for gigabit Ethernet ports). Ring coupling function to integrate different Turbo Ring for distributed application.
3. Turbo Chain function for a multiple-ring architecture (recovery time <20ms for fast Ethernet ports; <50 ms for Gigabit Ethernet ports)

The Ethernet switch shall be compatible with following software suite that assists with installation, operation, maintenance, and diagnostics of the existing network.

The switch must be compliant with a mass configuration tool. The tool must contain a security wizard for convenient setup of security-related parameters. The tool must allow for topology analysis to eliminate manual setting errors. The tool must contain a configuration overview for efficient management.

The switch shall be compliant with network management software (NMS). The NMS must allow for auto-discovery of network devices and physical connections. The NMS must allow for event

playback for quick troubleshooting The NMS must allow for color-coded VLAN/IGMP groups and other visualized network data. The NMS must allow for a security view for the security status of network devices. The NMS must support a mobile app for remote monitoring and notification.

The switch must be compliant with a stand-alone data collection tool to take network snapshots for quick troubleshooting. The collection tool must allow for the ability to compare network and device data and then highlight the differences.

Basis of Payment. This work will be paid for at the contract unit price per EACH for ETHERNET MANAGE SWITCH, which price shall be payment in full for all labor, materials, and equipment required and as detailed in this special provision.

FIBER OPTIC CABLE IN CONDUIT, SINGLE MODE

This work shall be in accordance with Sections 801, 864, 871, 873, and 1076 of the Standard Specifications, except as modified herein.

All fibers shall be fusion spliced and terminated as shown in plan details. All terminated fibers shall be clearly labeled. Fibers not being used shall be labeled "spare".

All ancillary components required to complete the fiber optic cable plant, including but not limited to moisture and water sealants, cable caps, fan-out kits, boots, cable trays, etc., shall be supplied under this pay item and will not be paid for separately. These items shall be submitted to the Department for approval.

The fiber optic cable shall be clearly marked in each vault and cabinet with a brightly colored (orange or yellow) weather resistant label securely attached to the cable. The weather resistant self-laminating fiber optic cable marker tag shall contain the text:

"CAUTION - FIBER OPTIC CABLE."

Materials. The single-mode, fiber optic cable shall incorporate a loose, buffer-tube design. The cable shall be an accepted product of the USDA Rural Utilities Service (RUS) 7 CFR 1755.900 and meet the requirements of ANSI/ICEA Standard for Fiber Optic Outside Plant Communications Cable, ANSI/ICEA S-87-640-1999 for a single sheathed, armored cable and shall be new, unused, and of current design and manufacture.

Single mode optical fibers shall comply with EIA/TIA 492-CAAA, except otherwise note herein.

Fiber optic cable buffer tubes and strands shall be color coded per EIA/TIA-598-B

Fiber optic cable shall be a single jacket cable assembly with a corrugated steel armor system. Fiber optic cable shall have identification and date marking every 2 feet indented, embossed, and surface printed the entire length of the cable. The identification shall indicate it's an optical cable, manufacturer's trade name, hand set symbol if the cable is suitable for direct burial, sequential length numbered, and cable ends sealed to prevent moisture entry. The cable shall utilize either a water blocking gel or a dry block tape.

Experience Requirements. Personnel involved in the installation, splicing, and testing of the fiber optic cables shall meet the following requirements:

- A minimum of three years experience in the installation of fiber optic cables, including splicing, terminating, and testing single mode fibers. Install two systems where fiber optic cables are outdoors in conduit and where the systems have been in continuous satisfactory operation for at least two years. The Contractor shall submit photographs or other supporting documents as proof and the names, addresses, and telephone numbers of the operating personnel who can be contacted regarding the installed fiber optic systems.
- One fiber optic cable system (which may be one of the two in the preceding paragraph) which the Contractor can arrange for demonstration to the Department representatives and the Engineer.
- Installers shall be familiar with the cable manufacturer's recommended procedures for installing the cable. This shall include knowledge of splicing procedures and equipment being used on this project and knowledge of all hardware such as breakout (furcation) kits and splice closures. The Contractor shall submit documented procedures to the Engineer for approval and to be used by Construction inspectors.
- Personnel involved in testing shall have been trained, by the manufacturer of the fiber optic cable test equipment to be used, in fiber optic cable testing procedures. Proof of this training shall be submitted to the Engineer for approval. In addition, the Contractor shall submit documentation of the testing procedures for approval by the Engineer.

Installation in Raceways

Preinstall Integrity Test: To check and confirm the integrity of the existing conduit and ensure it is airtight and free of obstruction, the Contractor shall pressurize the duct prior to actual cable installation by installing a small amount of lubricant into the duct and blowing a foam carrier of sufficient size through the conduit run using the required material and equipment (e.g., hydraulic power system, air compressor, conduit couplers, foam carrier, etc.). All unused ducts shall be capped with blow string left in place.

Installation Plan: Prior to installation, the Contractor shall provide a cable-installation plan. The plan shall include the following information:

1. Identify where each cable will enter the underground system and the direction of each install
2. Identify locations where the cable is pulled out of a communications vault, coiled in a figure eight, and installed back into the communications vault
3. The plan shall address the physical protection of the cable during installation and during periods of downtime.
4. Identify the location of slack storage locations
5. Identify the locations of splices
6. Identify distances between fiber access points and crossings

The cable-installation plan shall be provided to the Engineer and shall be approved prior to the start of installation. The Engineer's approval shall be for the operation for IDOT and does not include an endorsement of the proposed construction methods or procedures. The Contractor is responsible for the technical adequacy of the proposed construction methods and installation procedure.

Blowing: Fiber optic cable blowing is the most efficient and safe means of installing fiber optic cable. To minimize the exposure of the backbone cable and to facilitate the longer lengths of the fiber optic cable, the Contractor shall use a "blown cable" (pneumatically assisted) technique to place the fiber optic cable. Either the high airspeed blowing (HASS) method or the piston method shall be used. When using the HASS method, the volume of air passing through the conduit shall not exceed 600 cubic feet per minute or the conduit manufacturer's recommended air volume, whichever is more restrictive. When using the piston method, the volume of air passing through the conduit shall not exceed 300 cubic feet per minute or the conduit manufacturer's recommended air volume, whichever is more restrictive. A compressed air cooler shall be used when ambient air temperatures reach 90°F or more.

During cable installation operations, the Contractor shall ensure that the minimum bending of the cable is maintained during the unreeling and install operations. Unless specified otherwise by the fiber optic cable manufacturer, the outside bend radius of the cable during installation shall be no less than 20 times the outside diameter of the fiber optic cable. Entry guide chutes shall be used to guide the cable into the communications vault conduit ports where applicable. Lubricating compound shall be used to minimize friction. Corner rollers (wheels), if used, shall not have radii less than the minimum installation bending radius of the cable. A series array of smaller wheels can be used for accomplishing the bend if the cable manufacturers specifically approve the array.

Where figure-eight techniques are used during cable installation, the cable shall be handled manually and stored on the ground. The cable shall be placed on tarps to prevent damage from gravel, rocks, or other abrasive surfaces. Tarps should also be used in muddy conditions to keep the cable clean. Enough area to accommodate the cable length to be stored and sufficient personnel to maintain the required minimum-bending diameter as well as avoid kinking or otherwise damaging the cable shall be provided. If the cable has been figure-eighted in preparation for a forward feed, the figure-eight must be flipped over to access the outside cable end. Sufficient personnel shall be provided to avoid kinking the cable as the figure-eight is flipped over. When removing the cable from the figure-eight, use care to avoid kinking the cable and violating the minimum-bending diameter. Power assisted or figure-eight eliminator equipment, which is used to eliminate manual figure-eight procedures, shall not be used unless specifically allowed by the cable manufacturer in writing and approved by the Engineer.

Standard electronic controls shall be used during installation to monitor the cable blowing system and display the cable and tractor drive speeds, so installation can be immediately stopped for problematic situations such as cable slippage or stoppage, over- speed, a duct blockage detected, etc. in an attempt to potentially prevent cable damage during installation.

Factory and Cable Reel Testing: Factory test results shall be performed prior to shipping the fiber optic cable and results submitted by the Contractor. In addition, and prior to installation, the fiber optic cable shall then be OTDR tested on the reel by the Contractor to verify that no strands were damaged during shipment, the cable has the proper length, and the measured attenuation matches the cable datasheet.

Testing Requirements: Testing shall be in accordance with Article 801.13

The Contractor shall submit detailed test procedures for approval by the Engineer. All continuous fiber runs shall be tested bi-directionally at both 1310 nm and 1550 nm with a power meter and optical source. For testing, intermediate breakout fibers may be concatenated and tested end-to-

end. Any discrepancies between the measured results and these specifications will be resolved to the satisfaction of the Engineer.

The Contractor shall provide the date, time, and location of any tests required by this specification to the Engineer at least five days before performing the test. Upon completion of the cable installation, splicing, and termination, the Contractor shall test all fibers in each link for continuity and attenuation. The test procedure shall be as follows:

A certified technician using an OTDR and optical source/power meter shall conduct the installation test. The test equipment used shall have been calibrated within the year in accordance with manufacturer specifications and documentation in form of calibration certificate shall be provided. The technician is directed to conduct the test using the standard operating procedures defined by the manufacturer of the test equipment. All fibers installed shall be tested in both directions.

A fiber ring or fiber box, commonly known as a launch kit, shall be used to connect the OTDR to the fiber optic cable under test at the launch end. The tests shall be conducted at 1310 and 1550 nm for all fibers, bi-directionally.

All test results shall be provided on or the day following the test date. A copy of the test results on a CD ROM shall be submitted. At the completion of the test, the Contractor shall provide copies of the documentation of the test results to the Engineer. The test documentation shall be submitted as three CD ROM copies and shall include the following:

Cable & Fiber Identification: Test results shall include

- OTDR test results-including the raw test results file and the results in a .pdf format.
- Total fiber trace
- Measured length (cable marking)
- Total length (OTDR)
- Optical source/power meter total attenuation (dB/km)
- Splice loss/gain
- Events > 0.10 dB
- OTDR fiber trace viewer software details

Sample Power Meter Tabulation: A copy of the test equipment manufacturer's software to read the test files, OTDR, and power shall be provided to IDOT. These results shall also be provided in tabular form. See sample below:

The following shall be the criteria for the acceptance of the cable. The test results shall show that the dB/km loss does not exceed +3% of the factory test or 1% of the cable's published production loss. However, no event shall exceed 0.10 dB. If any event is detected above 0.10 dB, the Contractor shall replace or repair the fiber including that event point.

The total loss of the cable (dB), less events, shall not exceed the manufacturer's production specifications as follows: 0.4 dB/km at 1310 nm and 0.5 dB/km at 1550 nm. If the total loss exceeds these specifications, the Contractor shall replace or repair the cable run at the no additional cost to IDOT, both labor and materials.

At the completion of the test, the Contractor shall provide two copies of documentation of the test results to the Engineer. The test documentation shall be bound and shall include the following:

- Cable & Fiber Identification: Cable ID
- Cable Location - beginning and end point
- Fiber ID, including tube and fiber color
- Operator Name
- Date & Time Setup
- Parameters Wavelength
- Pulse width (OTDR)
- Refractory index (OTDR)
- Range (OTDR)
- Scale (OTDR)
- Setup Option chosen to pass OTDR "dead zone"

Test Results shall include optical source/power meter and total attenuation (dB/km). These results shall be provided in tabular form.

Elevated attenuation due to exceeding the pulling tension during installation shall require the replacement of the cable run at the Contractor's expense, including labor and materials.

The Contractor shall label the destination of each trunk cable onto the cable tag in each handhole and termination panel.

Slack Storage of Fiber Optic Cables. Included as a part of this item, slack fiber shall be supplied as necessary to allow splicing the fiber optic cables in a controlled environment, such as a splicing van or tent. After splicing has been completed, the slack fiber shall be stored underground in handholes or in the raised base adapters of ground mounted cabinets in accordance with the fiber optic cable manufacturer's guidelines. Fiber optic cable slack shall be 100 feet for each cable at each splice location or communication vault, above or below ground. Fiber optic cable slack shall be 50 feet for each cable communication vaults, heavy duty handholes, and access points, above or below ground, where splicing is not involved. If the innerduct is cut, the ends of the innerduct should extend beyond the first vertical rack so they can be secured at that point. This slack shall be measured for payment.

A waterproof simplex fiber optic split plug with bushing assembly of appropriate size or approved equivalent shall be installed around the fiberoptic cable to seal around the ducts for the conduit(s) entering all communication vaults and is included as part of the fiber optic cable pay item and will not be paid for separately.

Basis of Payment: This work will be paid for at the contract unit price per FOOT for FIBER OPTIC CABLE 12 FIBERS, SINGLE MODE; FIBER OPTIC CABLE 48 FIBERS, SINGLE MODE ;or FIBER OPTIC CABLE 144 FIBERS, SINGLE MODE and shall be payment in full for all labor, equipment, and materials required to provide, install, terminate, splice, and test the fiber optic cable described above complete.

FIBER OPTIC CABLE SPLICE

Description. This work shall consist of splicing two fiber optic cables by means of fusion splicing with the number of fibers at locations as shown on the plans and as directed by the Engineer. No

other splicing in the field shall be allowed without written direction from the Engineer. Fiber splicing in the field shall be done using in-ground splice closures as shown on the plans and/or as directed by the Engineer.

Two distinct type of fusion splices that are identified. A fiber optic cable splice and fiber optic cable splice mainline includes all fibers in the cable sheath. In a lateral fiber optic cable splice, the buffer tubes in the mainline fiber optic cable are dressed out, so those fibers designated on the plans can be accessed and fusion spliced or joined to the 12-fiber lateral single mode cables.

Materials. All fiber optic connection hardware (splice closures, organizers, cable end preparation tools, etc.) shall be compatible with the fiber optic cable manufacturers installation practices and procedures and shall be approved by the Engineer.

- Fiber Optic Splice
 - Loose tube dome closure for 144 fiber count
 - Four splice tray kit with 36 count splice blocks
- Fiber Optic Splice - Mainline
 - Loose tube dome closure for 144 fiber count
 - Four splice tray kit with 36 count splice blocks
- Fiber Optic Splice – Lateral:
 - Loose tube dome closure
 - Splice tray kit with 12 count splice blocks

Splice enclosures and splice trays shall meet the following minimum requirements as below.

Splice closures: All optical fiber splices in the field shall be contained within a splice closure. The closures provide storage for splices, fiber, and buffer tubes and restores the mechanical and environmental integrity of the fiber optic cable, encases the sheath opening in the cable, and organizes and stores optical fiber. All hinges and latching devices shall be stainless steel and the closure shall be airtight and prevent water intrusion. The splice closure shall be able to accommodate pressurization and the ability to be reentered without requiring specialized tools or equipment. The closure shall provide fiber and splice organizers including splice trays and strain relief. The splice closure shall be hermetically sealed to protect internal components from environmental hazards such as moisture, insects, and UV light.

The splice closure shall provide space for future expansion equal to 100% of the initial utilization. Fiber optic cable penetration end caps shall be provided to accommodate a minimum installation of two trunk fiber optic cables and two fiber optic drop cables. The closure end caps shall be factory-drilled to the proper diameter to accept and seal the fiber optic cable entries. The cable entry locations shall be able to accommodate an assortment of cables with outside diameters ranging from 0.45 inches to 0.55 inches, plus 10%, without jeopardizing the waterproof characteristics of the closure.

In addition, fiber optic splice closures shall meet the following requirements:

- Mechanical
 - Resist compression deformation to a maximum of 400 pounds.
 - Withstand an impact energy to a maximum of 40 foot-pounds at 0°F.
 - Axial Tension: 100 pounds for 30 minutes.

- Cable Torsion: ten 90-degree rotations.
- Cable Flexing: ten 90-degree bends.
- Environmental
 - Hydrostatic Pressure Head: Up to 70 kPa (10 pounds per square inch).
 - Withstand 40 freeze/thaw temperature cycles.
 - Ultraviolet resistant during a maximum 30-day exposure in compliance with the requirements detailed in the ASTM B 117 standard.
- Chemical
 - Withstand a 90-day exposure to solutions of 3% sulfuric acid, 0.2 normal of sodium hydroxide, 10% Igepal®, kerosene, and be fungus resistant as required in the ASTM G21 standard.

Splice Trays: The splice trays shall be securely attached and accessible and provide sufficient storage for the fiber cable. The splice trays shall provide access to individual fibers without disrupting other fibers in the tray. The splice trays shall hold the buffer tubes rigidly in place and provide protection for fusion splices. The Contractor shall ensure that the raceway accommodates the minimum bend radius of the fiber. The splice trays shall allow visible inspection of the fiber and include a cover with a locking mechanism to hold it in place.

Construction Requirements. All optical fiber splicing shall be performed using the fusion splicing technique and according to the latest version of the manufacturer's cable installation procedures; industry accepted installation standards, codes, and practices; or as directed by the Engineer. A fusion splice machine shall be used to splice all optical fiber. All splicing equipment shall be cleaned and calibrated according to the manufacturer's recommendations prior to each splicing session at each location.

Where a fiber cable is to be accessed for lateral or drop signal insertion, only the buffer tube containing the fiber to be accessed shall be opened and only the actual fiber to be accessed shall be cut. If a fiber end is not intended for use, the fiber shall be cut to a length equal to that of the fiber to be used and neatly laid into the splice tray. Any fibers exposed during splicing shall be treated with a protective coating and placed in a protective sleeve or housing to protect the fiber from damage or contaminants.

All splicing shall be performed as shown on the plans. All splice locations must be identified in the record drawings.

Splicing Requirements All fiber optic cable splices shall be performed using a fusion splicer. Mechanical splicing of fiber optics strands shall not be permitted. After completing a fusion splice, the Contractor shall protect all the fused fibers with the appropriate transparent single mode fiber optic heat shrink tube with stainless steel support rod. Once the splice has been completed and shrink been allowed to cool, all spliced fibers shall be neatly trained in splice trays housed in splice closures, splice enclosures, or termination panels.

Splicing shall be performed only at locations shown in the approved cable-pulling plan. Any other splices shall be permitted only with the approval of the Engineer. Fiber optic splices at location shown on the plans will be paid for under separate pay items. Fiber optic splices and underground splice closures required for end-of-reel splices will not be paid for separately but shall be included cost of fiber optic cable. All splice locations shall be identified in the record drawings. Cable runs which dead-end at a handhole or communications vault shall be dead ended in an underground splice closure.

Slack Storage of Fiber Optic Cables Included as a part of this item, slack fiber shall be supplied as necessary to allow splicing the fiber optic cables in a controlled environment, such as a splicing van or tent. After splicing has been completed, the slack fiber shall be stored underground in handholes or in the raised base adapters of ground mounted cabinets in accordance with the fiber optic cable manufacturer's guidelines. Fiber optic cable slack shall be 100 feet for each cable at each splice location or communication vault, above or below ground. Fiber optic cable slack shall be 50 feet for each cable heavy duty handholes and access points, above or below ground, where splicing is not involved. If the innerduct is cut, the ends of the innerduct should extend beyond the first vertical rack, so they can be secured at that point. This slack shall be measured for payment.

Fiber optic cable shall be tagged inside handholes with yellow self-laminating fiber optic cable marker tag containing the text: "CAUTION - FIBER OPTIC CABLE."

The splice loss for a single mode fiber fusion splice shall not exceed a maximum bi-directional average of 0.1 dB per splice. Any splices that exceed allowable attenuation shall be repaired or replaced at no cost to the Department.

Testing Requirements: The Contractor shall submit detailed test procedures for approval by the Engineer. All fibers (terminated and un-terminated) shall be tested bi-directionally at both 1310 nm and 1550 nm with both an OTDR and a power meter with an optical source. For testing, intermediate breakout fibers may be concatenated and tested end-to-end. Any discrepancies between the measured results and these specifications will be resolved to the satisfaction of the Engineer.

Fibers which are not to be terminated shall be tested with a temporary fusion spliced pigtail fiber. **Mechanical splice or bare fiber adapters are not acceptable.**

The Contractor shall provide the date, time, and location of any tests required to the Engineer at least five working (seven calendar) days before performing the test. Included with the notification shall be a record drawing of the installed fiber optic cable system. The drawings shall indicate actual installed routing of the cable, the locations of splices, and locations of cable slack with slack quantities identified.

Upon completion of the cable installation, splicing, and termination, the Contractor shall test all fibers for continuity, events above 0.1 dB, and total attenuation of the cable. The test procedure shall be as follows. A certified technician using an OTDR and optical source/power meter shall conduct the installation test. The test equipment used shall have been calibrated within the year in accordance with manufacturer specifications and documentation, in form of a calibration certificate, shall be provided. The technician is directed to conduct the test using the standard operating procedures defined by the manufacturer of the test equipment. All fibers installed shall be tested in both directions.

A fiber ring or fiber box, commonly known as a launch kit, shall be used to connect the OTDR to the fiber optic cable under test at both the launch and receive ends. The tests shall be conducted at 1310 and 1550 nm for all fibers, bi-directionally.

All test results shall be provided on or the day following the test date. A copy of the test results on a CD ROM shall be submitted. At the completion of the test, the Contractor shall provide copies

of the documentation of the test results to the Engineer. The test documentation shall be submitted as three CD ROM copies and shall include the following:

Cable & Fiber Identification:

- | | |
|---|--|
| <ul style="list-style-type: none"> • Cable ID • Fiber ID, incl. tube and fiber color • Pulse width (OTDR) • Cable Location - beginning and end point • Wavelength • Refractory index (OTDR) | <ul style="list-style-type: none"> • Operator Name • Date & Time • Setup Parameters • Range (OTDR) • Scale (OTDR) • Setup Option chosen to pass OTDR "dead zone" |
|---|--|

Test results shall include:

- OTDR test results-including the raw test results file and the results in a .pdf format.
- Total fiber trace
- Measured length (cable marking)
- Total length (OTDR)
- Optical source/power meter total attenuation (dB/km)
- Splice loss/gain
- Events> 0.10 dB
- OTDR fiber trace viewer software details

Sample Power Meter Tabulation:

Power Meter Measurements (dB)									
Location		Fiber No.	Cable Length (km)	A to B		B to A		Bidirectional Average	
A	B			1310 nm	1550 nm	1310 nm	1550 nm	1310 nm	1550 nm
		1							
		2							
Maximum Loss									
Minimum Loss									

A copy of the test equipment manufacturer's software to read the test files, OTDR, and power, shall be provided to IDOT. These results shall also be provided in tabular form. See sample below:

Sample OTDR Summary				
Cable Designation	<i>TCF-IK-03</i>	OTDR Location:	<i>Pump Sta. 67</i>	Date: <i>1/1/00</i>
Fiber Number	Event Type	Event Location	Event Loss (dB)	
			1310 nm	1550 nm
<i>1</i>	<i>Splice</i>	<i>23500 Ft.</i>	<i>.082</i>	<i>.078</i>
<i>1</i>	<i>Splice</i>	<i>29000 Ft.</i>	<i>.075</i>	<i>.063</i>
<i>2</i>	<i>Splice</i>	<i>29000 Ft.</i>	<i>.091</i>	<i>.082</i>
<i>3</i>	<i>Splice</i>	<i>26000 Ft.</i>	<i>.072</i>	<i>.061</i>
<i>3</i>	<i>Bend</i>	<i>27000 Ft.</i>	<i>.010</i>	<i>.009</i>

The following shall be the criteria for the acceptance of the cable.

- The test results shall show that the dB/km loss does not exceed +3% of the factory test or 1% of the cable's published production loss. However, no event shall exceed 0.10 dB. If any event is detected above 0.10 dB, the Contractor shall replace or repair the fiber including that event point.
- The total loss of the cable (dB), less events, shall not exceed the manufacturer's production specifications as follows: 0.4 dB/km at 1310 nm and 0.5 dB/km at 1550 nm. If the total loss exceeds these specifications, the Contractor shall replace or repair the cable run at the no additional cost to the IDOT, both labor and materials.

Basis of Payment: This work shall be paid for at the contract unit price per EACH as follows:

- FIBER OPTIC CABLE SPLICE shall consist of three 12 fibers spliced, tested, and accepted by the Engineer on splices between the fiber optic cable, single mode, armored, 12 fibers and fiber optic cable, single mode, armored, 144 fibers as detailed in the plans.
- FIBER OPTIC CABLE SPLICE – MAINLINE shall consist of 144 fibers spliced, tested, and accepted by the Engineer on splices between two fiber optic cable in conduit, single mode and/or one fiber optic cable in conduit, single mode and one HQ fiber optic connectivity where required as detailed in the plans.
- FIBER OPTIC CABLE SPLICE – LATERAL shall consist of 12 fibers spliced, tested, and accepted by the Engineer on splices between the fiber optic cable, single mode, armored, 12 fibers and fiber optic cable, single mode, armored, 144 fibers or fiber optic cable, single mode, armored, 48 fibers as detailed in the plans.

All materials, labor, equipment, testing, and documentation required for fiber optic cable splicing shall be included and will not be paid separately. Payment shall not be made until the cable is installed, spliced, tested, and accepted by the Engineer in compliance with these special provisions.

FIBER OPTIC PATCH PANEL, RACK MOUNT

Description. This work shall consist of furnishing and installing a 19" fiber optic patch panel, splice housing, and associated connection hardware (e.g., bulkheads, cassettes, splice trays, splice sleeves, blank panels, bonding/grounding, etc.) in the communications cabinets, as shown on the plans and as directed by the Engineer, complete with all the hardware and accessories required for the intended use of the equipment.

Materials. The Contractor shall provide a 19" fiber optic connector patch panel housing which shall be able to accept cassettes or termination panels. The Contractor shall also provide a 19" splice and storage module with splice trays to store excess fiber and splicing of individual pigtails. The pigtails shall be mounted on 12 port bulkhead sleeves using type LC optical connectors, unless otherwise approved by the Engineer. The housing and storage enclosure along with ancillary and accessory materials shall be equal to or exceed Corning Cable Systems closet connector housing. Closet housings which shall accommodate up to 12 connector panels or approved equivalents for termination of 144 SM FO cable assembly shall be Part No. CCH-04U. Closet housings which shall accommodate up to four connector panels or approved equivalents for termination of up to 48 SM FO cable assembly shall be CCH-02U. All mounting hardware and cable management (strain relief brackets, routing clips/guides, documentation labels, etc.) shall be incidental.

Contractor shall provide for each patch panel a 4U or 2U vertical wall mount bracket to mount the fiber optic patch panel to the existing shelf in the existing traffic signal cabinet. Each vertical wall mount bracket shall come with all the necessary mounting hardware to attach the bracket to the shelf. The vertical wall mount bracket shall be equal to or exceed Tripp Lite Smart Rack in either a 2U or 4U version depending on the application.

The Contractor shall use type LC duplex adapters only, unless otherwise specified in the plans or as directed by the Engineer. The optical connectors shall comply with the following:

- All connectors shall be factory installed LC compatible connectors. Field installed connectors shall not be allowed.
- Maximum attenuation 0.4dB, typical 0.2dB.
- No more than 0.2dB increase in attenuation after 1000 insertions.
- Attenuation of all connectors will be checked and recorded at the time of installation with an insertion test minimum five times checked with an OTDR.
- Terminated fibers as shown on the plans shall be connectorized at each end as directed by the Engineer. Unterminated fibers shall be capped and coiled neatly in the splice tray.
- Applicable fiber strands, as shown on the plans, shall be terminated at a fiber patch panel. The Contractor shall coordinate with the Engineer before any fibers are connected to the IDOT network equipment. No additional terminations or splicing shall be done by the Contractor without direction from IDOT.
- Unused fibers will be protected with a plastic cap to eliminate dust and moisture.
- Termination shall be facilitated by splicing factory OEM pigtails on the end of the bare fiber utilizing the fusion splicing method. The maximum splice loss shall not be greater than 0.1 dB per event, as defined elsewhere in this document. The splice loss shall be tested at the time of splicing.
- Pigtails shall be a minimum of 20 feet in length, unless otherwise approved by the Engineer.

All connectors shall comply with the TIA/EIA -568-A and TIA/EIA-604 standards, as applicable, and are tested according to the Telcordia/Bellcore GR326-CORE standard. When tested according to the TIA and EIA's Fiber Optic Test Procedure (FOTP)-171 (TIA/EIA-455-171), ensure that the connectors test to an average insertion loss of less than or equal to 0.4 dB.

Pre-terminated Connector Assemblies (Pigtails): Pigtails shall consist of 12-strand fiber optic cable with factory-installed and tested connectors on both ends of the cable. Each strand of the pre-terminated cable assembly shall not exceed a maximum attenuation 0.4dB. The pigtail shall be cut in half and fusion spliced to the bulkhead sleeves within the rack mounted connector panel housing. All buffer tubes and fibers shall be appropriately protected once the attachment of pre-terminated connector assemblies is complete. In addition, the pigtails shall comply with the following:

- The pigtails shall consist of a section of single fiber, jacketed cable equipped with optical connectors at both ends.
- The factory installed connector furnished as part of the pigtail shall meet or exceed the requirements for approved connectors specified herein. The fiber portion of each pigtail shall have optical properties identical to the optical cable furnished under the contract.

Construction Requirements. The Contractor shall install the fiber optic patch panel along with associated hardware including any ancillary material items required for properly installing the fiber optic patch panel and splice housing within the 19" equipment rack at communication cabinets as shown on the plans and as directed by the Engineer. All cables shall be neatly dressed, labeled, and fastened to the corresponding equipment with the appropriate hardware. Tie wraps are not permitted. Hook and loop bundling straps shall be used for cable management. In addition, the Contractor shall also supply and install the necessary material to properly ground and bond the equipment in accordance with the NEC telecommunications industry standards (ANSI/TIA/BICSI/IEEE) and manufacturer requirements.

Prior to inspection, testing, and connecting fiber optic jumpers or patch cables to the bulkheads within the fiber optic patch panel, all LC connectors require proper cleaning using lens grade and lint free tissues and a 98% isopropyl alcohol cleaning solution, unless another method and material is approved by the Engineer. Rubbing alcohol and medical wipes shall not be used and are not appropriate, as both may contain oil or water which leave residue. The Contractor shall wipe each connector twice, with a moistened and dry tissue area, and failure to wipe the connector immediately with the dry tissue area will result in needing to redo the entire process.

Testing The Contractor shall submit detailed test procedures for approval by the Engineer. All fibers (terminated and un-terminated) shall be tested bi-directionally at both 1310 nm and 1550 nm with both an OTDR and a power meter with an optical source. For testing, intermediate breakout fibers may be concatenated and tested end-to-end. Any discrepancies between the measured results and these specifications will be resolved to the satisfaction of the Engineer.

Fibers which are not to be terminated shall be tested with a temporary fusion spliced pigtail fiber.
Mechanical splice or bare fiber adapters are not acceptable.

The Contractor shall provide the date, time, and location of any tests required to the Engineer at least five working (seven calendar) days before performing the test. Included with the notification shall be a record drawing of the installed fiber optic cable system. The drawings shall indicate

actual installed routing of the cable, the locations of splices, and locations of cable slack with slack quantities identified.

Upon completion of the cable installation, splicing, and termination, the Contractor shall test all fibers for continuity, events above 0.1 dB, and total attenuation of the cable. The test procedure shall be as follows. A certified technician utilizing an OTDR and optical source/power meter shall conduct the installation test. The test equipment used shall have been calibrated within the year. Documentation shall be provided. The technician is directed to conduct the test using the standard operating procedures defined by the manufacturer of the test equipment. All fibers installed shall be tested in both directions.

A fiber ring or fiber box, commonly known as a launch kit, shall be used to connect the OTDR to the fiber optic cable under test at both the launch and receive ends. The tests shall be conducted at 1310 and 1550 nm for all fibers, bi-directionally.

All test results shall be provided on or the day following the test date. A copy of the test results on a CD ROM shall be submitted. At the completion of the test, the Contractor shall provide copies of the documentation of the test results to the Engineer. The test documentation shall be submitted as three CD ROM copies and shall include the following:

Cable & Fiber Identification:

• Cable ID	• Operator Name
• Fiber ID, including tube and fiber color	• Date & Time
• Pulse width (OTDR)	• Setup Parameters
• Cable Location -beginning and end point	• Range (OTDR)
• Wavelength	• Scale (OTDR)
• Refractory index (OTDR)	• Setup Option chosen to pass OTDR "dead zone"

Test results shall include:

- OTDR test results-including the raw test results file and the results in a .pdf format.
- Total fiber trace
- Measured length (cable marking)
- Total length (OTDR)
- Optical source/power meter total attenuation (dB/km)
- Splice loss/gain
- Events> 0.10 dB
- OTDR fiber trace viewer software details

Sample Power Meter Tabulation:

Power Meter Measurements (dB)									
Location		Fiber No.	Cable Length (km)	A to B		B to A		Bidirectional Average	
A	B			1310 nm	1550 nm	1310 nm	1550 nm	1310 nm	1550 nm
		1							
		2							
Maximum Loss									
Minimum Loss									

A copy of the test equipment manufacturer's software to read the test files, OTDR, and power shall be provided to IDOT. These results shall also be provided in tabular form. See sample below:

Sample OTDR Summary				
Cable Designation	<i>TCF-IK-03</i>	OTDR Location:	<i>Pump Sta. 67</i>	Date: <i>1/1/00</i>
Fiber Number	Event Type	Event Location	Event Loss (dB)	
			1310 nm	1550 nm
<i>1</i>	<i>Termination</i>	<i>23500 Ft.</i>	<i>.082</i>	<i>.078</i>
<i>1</i>	<i>Termination</i>	<i>29000 Ft.</i>	<i>.075</i>	<i>.063</i>
<i>2</i>	<i>Termination</i>	<i>29000 Ft.</i>	<i>.091</i>	<i>.082</i>
<i>3</i>	<i>Termination</i>	<i>26000 Ft.</i>	<i>.072</i>	<i>.061</i>
<i>3</i>	<i>Bend</i>	<i>27000 Ft.</i>	<i>.010</i>	<i>.009</i>

The following shall be the criteria for the acceptance of the cable:

- The test results shall show that the dB/km loss does not exceed +3% of the factory test or 1% of the cable's published production loss. However, no event shall exceed 0.10 dB. If any event is detected above 0.10 dB, the Contractor shall replace or repair the fiber including that event point.
- The total loss of the cable (dB), less events, shall not exceed the manufacturer's production specifications as follows: 0.4 dB/km at 1310 nm and 0.5 dB/km at 1550 nm.

If the total loss exceeds these specifications, the Contractor shall replace or repair the cable run at the no additional cost to IDOT, both labor and materials.

Basis of Payment: This work shall be paid for at the contract unit price per EACH for FIBER OPTIC PATCH PANEL, 144 PORT, RACK MOUNT, which shall be payment in full for all labor, equipment, materials, and documentation required to provide and install the equipment described above complete. Payment shall not be made until the panel is installed, terminated, and tested by the Contractor and accepted by the Engineer.

FIBER OPTIC UTILITY MARKER

This work shall be in accordance with the applicable Articles of Sections 810 and 1088 of the Standard Specifications with the following modifications.

Fiber optic utility marker shall be furnished in orange color and incorporate a premium UV inhibitor package to resist harmful effects to the sun. The post shall be capable of withstanding multiple directional impacts and provide a long lasting and extremely durable product requiring little field maintenance. The post shall have a minimum 0.20" wall thickness, stand up straight in all weather conditions, and self-right to straight upon impact. Top of post hat shall be removable, partially flattened, and transition to round to afford 360-degree visibility. The post materials shall include an anchor, test plate, a non-mechanical flexible joint, fiber optic innerduct split plugs, and a round delineator post.

The Contractor shall furnish and install fiber optic cable markers at each communication vault and every 500 feet along roadways and interchanges. Sign panels shall be non-reflective, 18" x 18", and shall be in accordance with Sections 1090- 1092 of the Standard Specifications.

The marker shall have a six-foot tall, 3-1/2" diameter post (white), and orange slide over poly-dome marker (3-1/2" OOD, 16" length) containing the following text: "Warning – Fiber Optic Cable", "IDOT District 9 (618) 549-2171". The marker shall be designed to self-erect after vehicle impact. Marker installation should be adequate so that marker cannot be pulled out or removed manually.

The Contractor shall submit catalog cut sheets for signs and markers for review by the Department prior to ordering materials.

Markers shall be installed so that all lengths of installed fiber optic cables in new conduit have a minimum of one marker. A minimum of two markers shall be installed along each fiber optic cable path in new conduit so that one forward and one behind are always visible. A marker shall be installed at each point along the fiber optic cable path where a 45-degree or greater change in direction occurs. Markers shall be installed at a maximum of 24 inches lateral displacement from the actual placement of the conduit and fiber optic cabling and shall be installed no later than three days following the installation of conduit that contains fiber optic cables or of direct buried fiber optic cables. The Contractor shall safeguard the conduit and cables during the installation of the markers and remove and replace any conduit or cables that are damaged during marker installation at no additional cost to the Department.

Test plate (terminal board) shall be preconfigured 11-hole terminal board easily accessible by removing the cap from the fiber optic marker. The ground wire and fiber cable shields shall be extended from the communications vault and terminated on the test plate. The fiber cable shields shall be labeled as shown in the plans. The label material shall be weather resistant, and the markings shall be non-fading.

The Contractor shall furnish and install all materials required for marker installation. The Contractor shall restore the ground to its original condition including topsoil, sand, concrete, or other required materials and dispose of surplus materials.

Basis of Payment: This work will be paid for at the contract unit price per EACH for FIBER OPTIC UTILITY MARKER, which price shall be payment in full for all labor, materials, and equipment required and as detailed in this special.

FILLING EXISTING CULVERTS

This work shall consist of abandoning and filling the culvert at the location shown on the plans or as directed by the Engineer, with CLSM) according to Articles 593.02 and 593.03 and as specified in this special provision. CLSM shall meet the requirements of Section 1019 of the Standard Specifications.

The portion of the culvert to be filled shall be cleaned and inspected to identify connections, locate obstructions, and assess the condition of the pipe prior to CLSM placement. The Engineer shall be notified of any connections that were not identified in the plans to be abandoned, removed or reconnected. Irregularities, open joints or broken pipe shall be documented, and the calculated fill volume shall be adjusted to account for anomalies.

Termini of the culvert to be filled shall be plugged with class SI concrete or brick and mortar. The plug shall be adequate to withstand the hydrostatic load created during the filling operation. If the plug fails during construction, the Contractor shall be responsible for the cost of repairing the plug and filling the remainder of the culvert.

CLSM shall be placed in a manner that allows all air or water to be displaced as the CLSM fills the culvert.

This work will be paid for at the contract unit price per CUBIC YARD for FILLING EXISTING CULVERTS.

FILTER FABRIC

The filter fabric placed on top of the aggregate base course, type A, 8" shall be nonwoven class 2 according to Article 1080.03. This work will be paid for at the contract unit price per SQUARE YARD for FILTER FABRIC.

FULL ACTUATED CONTROLLER AND TYPE V CABINET

The work shall be in accordance with applicable portions of Sections 857 and 864 of the Standard Specifications, except as revised by this special provision.

A traffic actuated solid state digital controller shall comply with the requirements of NEMA Standards for Traffic Control Systems, TS2-2016. This unit shall be capable of being used as a master or local controller. One possible start up mode shall be an all-red display for a minimum of 15 seconds.

The controller(s) supplied shall be the Siemens M60 Series or an approved equal for integration into the existing District 9 Eagle Signal system and shall be fully compatible with the District's Tactics software.

The controller shall be capable of telemetry for controller to controller and controller to computer system or solo operation data transfer. Through telemetry, the system or solo operation shall be capable of being monitored on an IBM AT or compatible personal computer. Typically, the controller shall be completely uploaded or downloaded through telemetry either from a remote location or side by side from the computer. The latest computer software shall be provided, so data, including all timing parameters, can be transferred. The controller will use non-volatile EEPROM memory. All harnesses shall be furnished, if different than provided previously, for the controller to controller and controller to computer data transfer. The controller shall contain all normal connectors and any special connectors required for data transfer. The controller's "D" connector termination panel and all other connectors shall be completely terminated, even if not required in this application. The twisted shielded field cables should remain shielded to within 1" of the cabinet terminals.

A slide out shelf shall be provided below the standard shelf and above the back panel terminal board. The pull-out shelf should be mounted as far left as possible. The cabinet shall be equipped with an IP addressable power strip. A standard TS-2 detector card rack shall be provided. The cabinet shall have a thermostat controller heater.

During conflict monitor flash, a means shall be provided to restart the controller at the beginning of startup, just as if the power had been removed, and reset the monitor with a momentary pulse. The signal to restart/reset shall be delivered by telemetry and/or a momentary switch, labeled RESET, located in the police door. The pulse shall only be functional while the signals are in a monitor flash mode. Jumpers shall be installed in the unused load switch sockets to prevent false red fail reports. Hardwiring of this feature on the back panel will not be permitted. The cabinet series/parallel surge protector shall be the plug-in type. The controller cabinet shall be a TS-2, type 1 equipped with a 16-load switch, load bay using a conflict monitor capable of operating with 16 or 12 channels.

The conflict monitor shall be a malfunction management unit meeting NEMA TS2-2016 standards and capable of supporting flashing yellow arrow (FYA) operation, and it shall also be equipped with IP addressable network capability. The conflict monitor shall be capable of providing modes in both TS-2 and TS-1 cabinet configurations. The conflict monitor shall provide error sensing of two +24Vdc cabinet supplies and the controller power supplies via +24V MONITOR I, +24V MONITOR II, and controller voltage monitor (CVM) inputs respectively. The conflict monitor shall

use a programmable alpha-numeric LCD to show monitor status and two icon based LCDs to show field signal channel and fault status.

Communication. Controller shall be designed to communicate in two formats. Controller shall communicate in NTCIP format in full compliance with standard NTCIP 1201. Controller shall communicate in the format of the legacy controllers of the District's Siemens traffic signal controller models: M01, M10, M30, M40, and M50. The communication format may be altered by installation of an alternate firmware version. Both firmware versions shall reside on the controller hardware at the same time, be fully licensed, and available for use.

Controller shall have the following communication ports at a minimum:

- USB
- (1) RJ-45
- 25 pin RJ-232 ports for serial communication
- Flat format 37 pin D-Connector with FSK modem

The USB port shall offer the following capabilities to a standard USB storage device that can be purchased at any big box store.

- Save data from/load data to controller
- Update controller firmware

Controller shall be capable of communicating to the central office software over the following mediums: IP, FSK over copper, phone modem, and serial over fiber. Controller shall be capable of communication in a closed-loop system with an existing master controller.

Interface. Controller display screen shall be in a menu format with a minimum of 16 lines of display. The interface shall be capable of displaying at least two active status screens from the menu of active status screen choices. Controller shall offer at least five favorites keys which store a display for easy access.

General Capabilities. Controller shall support the following functions:

- 4 rings and 16 phases
- Dynamic max timers
- 4 phase banks - an alternate set of phase data selectable by time-of-day command
- 8 overlaps in formats: standard, flashing yellow Arrow (FYA), timed, and pedestrian
- Detector diagnostics – 3 measurements, 2 levels activated by time of day
- FYA Support for any NEMA cabinet manufacturer format
- 64 vehicle detectors
- 8 special detectors
- 8 pedestrian detectors
- 6 pre-empt detectors

The cabinet shall include a new fiber optic distribution enclosure. The distribution enclosure shall be of adequate capacity to accommodate the number of fibers to be terminated in the cabinet as noted in the plans.

The enclosure shall be a wall mount with type LC duplex adapters for fusion splicing of individual pigtails. The pigtails shall be mounted on minimum six port panel using type LC optical

connectors, unless otherwise approved by the Engineer. The new fiber optic distribution enclosure shall be Multilink, Inc. or an approved equivalent. All the mounting hardware and cable management (spool for slack storage, adapter plate plugs, documentation labels, etc.) shall be incidental.

The Contractor shall use type LC duplex adapters only, unless otherwise specified in the plans or as directed by the Engineer. The optical connectors shall comply with the following:

- All connectors shall be factory installed LC compatible connectors. Field installed connectors shall not be allowed.
- Maximum attenuation 0.4dB, typical 0.2dB.
- No more than 0.2dB increase in attenuation after 1000 insertions.
- Attenuation of all connectors will be checked and recorded at the time of installation with an insertion test minimum five times checked with an OTDR.
- Terminated fibers as shown on the plans shall be connectorized at each end as directed by the Engineer. Unterminated fibers shall be capped and coiled neatly in the splice tray.
- Applicable fiber strands, as shown on the plans, shall be terminated at a fiber patch panel. The Contractor shall coordinate with the Engineer before any fibers are connected to IDOT network equipment. No additional terminations or splicing shall be done by the Contractor without direction from IDOT.
- Unused fibers will be protected with a plastic cap to eliminate dust and moisture.
- All connectors shall comply with the TIA/EIA -568-A and TIA/EIA-604 standards, as applicable, and are tested according to the Telcordia/Bellcore GR326-CORE standard.
- When tested according to the TIA and EIA's Fiber Optic Test Procedure (FOTP)-171 (TIA/EIA-455-171), ensure that the connectors test to an average insertion loss of less than or equal to 0.4 dB.

Pre-terminated Connector Assemblies (Pigtails): Pigtails shall consist of 12-strand fiber optic cable with factory-installed and tested connectors on one end of the cable and unterminated optical fiber on the other. Each strand of the pre-terminated cable assembly shall not exceed a maximum attenuation 0.4dB. The pre-terminated cable assembly shall be fusion spliced to the connector panel within the fiber optic distribution enclosure. All buffer tubes and fibers shall be appropriately protected once the attachment of pre-terminated connector assemblies is complete. In addition, the pigtails shall comply with the following:

- The pigtails shall consist of a section of single fiber, jacketed cable equipped with optical connectors at both ends.
- The factory installed connector furnished as part of the pigtail shall meet or exceed the requirements for approved connectors specified herein. The fiber portion of each pigtail shall have optical properties identical to the optical cable furnished under the contract.

Buffer Tube Fan-Out Kits: A buffer tube fan-out kit can be installed when fiber optic cables are terminated if approved by the Engineer. The kit shall be compatible with the fiber optic cable being terminated and shall be color-coded to match the optical fiber color scheme. The buffer tube fanout kit shall support 12 fiber strands, and the output tubing and the fiber strands contained therein shall be of sufficient length for routing and attachment of fiber optic cable to connected electronics or as directed by the Engineer. The kit and the connectors shall be supplied by the same manufacturer.

The controller shall be provided with an RS232 Port 3 as well as an RS232 Port 2. Connections on the "D" panel, Aux. one output should be connected to red rest. Aux. three should be connected to the special status 3 inputs. Special status 1 shall be connected to report if the cabinet door is open. A door open switch shall be provided. The controller's "D" connector termination panel shall be provided and fully connected to provide information to the controller of manual or monitor flash status. A slide out shelf shall be provided below the standard shelf and above the back panel terminal board. The pullout shelf should be mounted as far left as possible.

During conflict monitor flash, a means shall be provided to restart the controller at the beginning of startup, just as if the power had been removed, and reset the monitor with a momentary pulse. The signal to restart/reset shall be delivered by telemetry and/or a momentary switch, labeled RESET, located in the police door. The pulse shall only be functional while the signals are in a monitor flash mode. Jumpers shall be installed in the unused load switch sockets to prevent false red fail reports. Hardwiring of this feature on the back panel will not be permitted. The cabinet series/parallel surge protector shall be the plugin type. The controller cabinet shall be equipped with a 16 load switch bay using a 12 channel conflict monitor. The phasing for the new cabinet shall be as shown in the plans.

The traffic signal controller will not be approved for installation until the requirements of Articles 801.10(b) and 801.07 are satisfied. The Contractor shall prepare traffic signal materials at a suitable location meeting the approval of the Engineer. The cabinet shall be tested and approved by IDOT personnel at the Contractor's shop before moving it to the jobsite.

Basis of Payment. This work will be paid for at the contract unit price per EACH for FULL-ACTUATED CONTROLLER AND TYPE V CABINET, which price shall include furnishing and installing the controller complete with the necessary connections for proper operation.

FURNISHED EXCAVATION

Revised 08/02/21

In addition to the requirements of Article 107.22 and section 204, a Contractor's request for approval of the furnished excavation material source shall contain an 8 1/2" x 11" topographic map or sketch containing the dimensions of the area proposed and the locations of pertinent landmarks, the name(s) of the property owner, and the proposed depth of cut. Copies of this map may also be used for subsequent submittal required for the archeological survey of the borrow site.

The Contractor shall provide access for truck mounted drilling equipment, if required, to and from and in all areas where he/she requests material investigations.

Furnished excavation which is to be used in the roadway embankment without restrictions must have more than 35% of the total sample passing the No. 200 sieve. The soil must have a liquid limit valued of 50.0 or less and a plasticity index value of 12.0 or more as defined by the AASHTO Classification System. These soils shall be capable of obtaining the required design embankment strengths. Soils proposed by the Contractor for furnished excavation or borrow which do not meet these requirements will be assigned varying degrees of restrictions up to and including complete rejection depending on the nature and engineering properties of the material. These restrictions, if any, will be set forth in the proposed borrow material report.

It is anticipated that, depending upon the workload at the time, this field and laboratory investigation may take up to 15 days.

GRANULAR BACKFILL FOR STRUCTURES

Effective 3/6/2019

This work shall consist of placing granular backfill for structures according to the applicable portions of the Standard Specifications, the details in the plans, and the following. The material used for the backfill shall be either gradation CA-05 or CA-07.

Method of Measurement: The granular backfill for structures will be measured for payment in cubic yards.

Basis of Payment: This work will be paid for at the contract unit price per CUBIC YARD for GRANULAR BACKFILL FOR STRUCTURES.

GROUND ROD, 8' COPPER CLAD

Description. This work shall consist of all materials and labor required to install a copper clad ground rod at a handhole or double handhole. This work shall be completed in accordance with Section 806 of the Standard Specifications and with the details shown in the plans.

Ground rods associated with concrete foundations for traffic signal equipment shall be included in the cost of the concrete foundations.

Basis of Payment. This work will be paid for at the at the contract unit price per EACH for GROUND ROD, 8', COPPER CLAD which price includes furnishing and installing the ground rod.

HERBICIDES

During construction, application of any pesticides, herbicides and/or insecticides will be coordinated with CONWR prior to application and will be applied in accordance with their specifications. The use of pesticides, herbicides and/or insecticides requires prior CONWR approval. The Contractor shall provide the Refuge manager with product labeling and/or the safety data sheet two weeks prior to use to provide adequate time to determine approval or disapproval of the product. Pesticide, herbicide and/or insecticide use shall be reported (chemical trade name, active ingredient, rate & quantities used, acres treated) following the treatment. Spraying near wetlands will require maintaining appropriate buffers (300') and the use of aquatic safe herbicide.

HOT-MIX ASPHALT (COMPOSITE PAY FACTORS)

The quantities for all like mixes shall be combined to generate one set of random numbers for volumetric plate samples and density pavement cores. One composite pay factor (CPF) will be calculated and shall be used as basis of payment for both tonnage and square yard pay items. For Quality Control for Performance (QCP), the mix will be polymerized stone matrix asphalt surface, mix E, N80.

INTERSECTION LANE RENTAL

The Contractor will be allowed the following number of intersection lane rental days of closure as described below and as shown in the staging plan.

Stage 4 – 5 days

An Intersection Lane Rental day is defined as a 24-hour consecutive period of time beginning at 12:00 midnight and ending at 12:00 midnight for which any through lane on Cambria Rd. or turn lane on Cambria Rd. is closed to traffic in the stages indicated above. A full Intersection Lane Rental day will be charged for any partial days of closure. Only one intersection rental will be charged per 24-hour closure.

The Contractor shall be liable to the Department for \$5,000 for each Intersection Lane Rental day beyond the stated days allowed to complete the work. There is no limit to the number of Intersection Lane Rental days assessed that exceed the allotted days.

The Contractor shall be entitled to an Incentive Payment for the completion of all work necessary to open all lanes to traffic as set forth by the number of days allowed for intersection lane rental in the Contract.

The Incentive Payment shall be paid at the rate of \$3,000 for each day of Intersection Lane Rental less than the Intersection Rental days allowed by the Contract. The maximum number of incentive days under this plan will be 7 days.

Should the Contractor be delayed in the commencement, prosecution, or completion of the work for any reason, there shall be no extension of the incentive or disincentive payment calculation.

The Intersection Lane Rental Days are independent of the Drop-off Allowance Days and Nighttime Lane Closure days and can both be charged during the same 24-hour period.

MAINTAIN EXISTING LIGHTING SYSTEM

Description: This work shall consist of furnishing all labor, equipment, and incidental materials for maintaining roadway lighting systems and sign lighting systems until the proposed new systems are installed, energized, tested, and accepted for operation. This work shall include both the existing and temporary lighting systems at the project locations specified in the plans. This work shall also include the relocation of temporary lighting equipment as necessary to accommodate the various stages of construction. All work shall be according to the Standard Specifications, the plans, as directed by the Engineer, and as described herein.

Temporary lighting controllers, poles, mast arms, luminaires, conductors, and conduit shall be paid for as separate pay items when part of initial installation of temporary lighting systems. This work shall include all other necessary temporary devices required to maintain existing roadway illumination. All temporary lighting materials shall be furnished, installed, terminated, and maintained in service until the proposed lighting systems are installed, tested, and accepted for operation. All repair work required under maintenance terms shall reinstate the temporary lighting back to full compliance with the design of the system including all parts and components. The location and protection of all temporary devices necessary to comply with these requirements shall be subject to the approval of the Engineer.

Effective the date the Contractor's activities (electrical or otherwise) at the jobsite begin, the Contractor shall be responsible for the proper operation and maintenance of all existing and proposed lighting systems which are part of, or which may be affected by the work until final acceptance or as otherwise determined by the Engineer.

Existing lighting systems, when depicted on the plans, are intended only to indicate the general equipment installation of the systems involved and shall not be construed as an exact representation of the field conditions. It remains the Contractor's responsibility to visit the site to confirm and ascertain the exact condition of the electrical equipment and systems to be maintained. Contract documents shall indicate the circuit limits.

The Contractor shall submit for the Engineer's approval, any modifications to the lighting design plan showing the proposed locations of all temporary poles for each stage of construction associated with each phase of the project. Any modifications by the Contractor to the lighting design shall meet the requirements of the Department's BDE Manual Chapter 56 and no poles shall be installed until the Contractor's revised detailed lighting design plan is approved by the Engineer.

The Contractor shall not purchase temporary lighting equipment until the Contractor has submitted shop drawings and received the Engineer's approval to proceed. Any temporary lighting materials used by the Contractor which come from stock rather than being purchased new for this project shall require written approval by the Engineer.

The Contractor shall be responsible to maintain the temporary lighting system throughout the project and no additional compensation will be allowed for this work, no matter how many times temporary and/or permanent lighting equipment are relocated. The Contractor shall furnish to the Engineer the names and phone numbers of two persons responsible for call-out work on the lighting system on a 24/7 basis. All work required to keep the temporary and/or permanent lighting

systems operational shall be at the Contractor's expense. No lighting circuit or portion thereof shall be removed from nighttime operation without the approval of the Engineer.

Cable splicing, luminaire fusing, and lightning protection shall be submitted for the Engineer's approval. Dragging cable on the ground will not be permitted. Splices shall be rated for and designed to connect aluminum conductors to copper (or aluminum as applicable) conductors of the size range required. The cable shall be installed in one continuous length with no splices where possible. Underground portions of temporary lighting circuits shall be installed as shown on the plans with unit duct according to Section 816. No underground splicing of cable will be permitted. The cable shall be installed in trench or conduit as indicated on the plans and according to manufacturer's recommendations. The installation shall be inspected by the Engineer before it is backfilled.

An inspection and approval by the Engineer shall take place before the temporary lighting system or modified system is accepted for operation. Any damage to the existing lighting units and their circuitry as a result of the Contractor's negligence shall be repaired or replaced to the satisfaction of the Engineer at no cost to the Department. All burnouts shall be replaced on a next day basis and temporary wiring shall be installed as necessary to keep all lights functioning every night.

The Contractor shall not be responsible for any utility charges for establishing a point of service from the power company at the location(s) shown on the plans. The Contractor shall pay the energy costs until such time as the project is final inspected and accepted by IDOT. Any energy charges which the Contractor would like to present to the Department for reimbursement shall be properly metered, billed, and prorated by the Contractor at no cost to the Department.

Removal of Temporary Lighting: Disconnection and removal of all temporary lighting systems shall be in accordance with the requirements of Section 841.

Basis of Payment: This work will be paid for at the contract unit price per LUMP SUM for MAINTAIN EXISTING LIGHTING SYSTEM.

MILE MARKER POST

Description. This special provision covers work related to the installation of mile marker posts on the multi-use path that runs along the south side of IL13 EB. The mile marker posts are to be installed every ½ mile along the multi-use path.

Materials. The mile marker posts shall be a minimum of 3 1/4" by 3 1/4" by 60". The material shall be long lasting, heavy duty, durable plastic that doesn't need to be stained or painted and can be sunk into the ground a minimum of 2 feet. Words and numbers shall be engraved on all four sides and shall include a decorative cap. Posts should be similar to Berntsen Mile Marker Trail Posts or Baldwin Design Works engraved posts. The posts shall be green with letter and number engraving that includes resin fill white letters and numbers. The engraved text on all four sides of each post shall read as shown in the plan details.

The additional quantity for path signage and mile markers to be given to Kevin Reichert with CONWR.

Basis of Payment: This work will be paid for at the contract unit price per EACH for MILE MARKER POST.

MOWING

Effective December 11, 2001

Revised 7/17/17

This work shall consist of mowing the entire median up to 100' in width and the roadway foreslopes of the outside lanes to the ditchline or for a width of 15' from the edge of pavement or paved shoulder, whichever is less. At intersecting roadways, the mowing shall extend to the proposed right of way for 300' on either side of the intersection. The height of the mowing shall not be more than 6". Equipment used shall be capable of completely severing all growth at the cutting height and distributing it evenly over the mowed area. The Contractor will not be required to mow continuously wet ditches and drainage ways, slopes greater than 1:2.5 (V:H), or areas which may be designated by the Engineer as not mowable. Mowing shall be done within the project limits during the construction of the project as directed by the Engineer and prior to the final inspection of the project. Any subsequent mowing required to disperse mowed material shall be considered as included in the cost of the mowing. Debris encountered during mowing, which interferes with the mowing operation or is visible from the roadway shall be removed and disposed of according to Article 201.01(a) and 201.10(a).

Method of Measurement: Mowing will be measured for payment in units of 100' in horizontal distances along the roadway center line/survey line. For purposes of measurement, the quantity of units to be paid for each individual mowing is defined as the net length of the project as shown on the cover sheet of the construction plans divided by 100'. On and off ramps will not be measured separately. No allowances will be made for variations in width of mowing.

Basis of Payment: This work will be paid for at the contract unit price per UNIT for MOWING.

NO BOAT TRAFFIC SIGNS

Description. This work shall consist of the furnishing, installation, maintenance, relocation, and removal of anchored buoys and floating signs used for the purpose of temporarily prohibiting boaters from accessing the south end of the lake to the north end during construction and when deemed unsafe to travel under IL 13.

Construction Requirements. The anchored buoys and floating signs shall be placed inside of Crab Orchard Lake along the south end of IL 13 at the discretion of the Engineer. The anchored buoys and floating signs shall remain in place only as long as needed and shall be removed when directed by the Engineer. The floating signs shall read as follows: NO BOAT TRAFFIC.

Basis of Payment. This work shall be included in the cost of Traffic Control and Protection Plan, (Special).

PORTLAND CEMENT CONCRETE PAVEMENT 10" JOINTED

Revised 2/10/17

The construction of the 10" PCC pavement shall be completed as quickly as possible and shall be subject to the Lane Rental, Intersection Rental, Weekend Closure or other restrictions as appropriate special provisions. The mix design shall utilize class PP concrete criteria and should be based on obtaining a compressive strength of no less than 2000 psi in 24 hours. Only non-calcium chloride accelerators will be permitted.

The requirements in Article 420.07 paragraph 8 regarding use of newly constructed adjacent lanes will be waived; however, the concrete must obtain a strength of no less than 2000 psi before allowing mechanical equipment or traffic on the pavement. Curing will be maintained until opening strength is attained. Finishing shall meet the requirements of the Article 420.09; Article 420.09a(3) and b(3) will be allowed.

RELOCATE MODULAR GLARE SCREEN SYSTEM

Description: This work consists of relocating the temporary modular glare screen system installed atop the temporary concrete barrier during each stage of construction as shown in the plans. All work shall be in accordance with Section 638 of the Standard Specifications, the plans, and as herein modified.

Method of Measurement: This work will be measured for payment in feet in place along the centerline of the modular glare screen system.

Basis of Payment: This work will be paid for at the contract unit price per FOOT for RELOCATE MODULAR GLARE SCREEN SYSTEM.

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. For stationing, the lateral distance is measured from centerline and the farthest distance is the offset distance or construction limit, whichever is less.

The following contract specific work areas shall be monitored by the environmental firm for soil contamination and workers protection.

ISGS Site 2776F-3 - Commercial Buildings, 10466 Brayfield Road, Carbondale, Williamson County, Illinois

- Station 274+10 to Station 275+15 (IL 13 WB), 0 to 83 feet LT: The Engineer has determined this material meets the criteria of, and shall be managed in accordance with Article 669.05(a)(1). COC sampling parameters: benzo(a)pyrene, dibenzo(a,h)anthracene, manganese.

- Station 275+15 to Station 277+10 (IL 13 WB), 0 to 83 feet LT: The Engineer has determined this material meets the criteria of, and shall be managed in accordance with Article 669.05(c). COC sampling parameter: manganese.

ISGS Site 2776F-4 - Crab Orchard National Wildlife Refuge, 8588 IL 148, Marion, Williamson County, Illinois

- Station 278+30 to Station 280+25 (IL 13 WB), 0 to 83 feet LT: The Engineer has determined this material from 4 to 7-feet bgs in the vicinity of the station and off-sets meets the criteria of, and shall be managed in accordance with Article 669.05(a)(1). COC sampling parameter: manganese, lead.
- Station 280+25 to Station 282+75 (IL 13 WB), 0 to 83 feet LT: The Engineer has determined this material from 0 to 4-feet bgs in the vicinity of the station and off-sets meets the criteria of, and shall be managed in accordance with Article 669.05(a)(2). COC sampling parameter: arsenic.
- Station 280+25 to Station 285+30 (IL 13 WB), 0 to 83 feet LT: The Engineer has determined this material from 4 to 7-feet bgs in the vicinity of the station and off-sets meets the criteria of, and shall be managed in accordance with Article 669.05(b)(1). COC sampling parameter: pH.
- Station 282+75 to Station 285+30 (IL 13 WB), 0 to 83 feet LT: The Engineer has determined this material from 4 to 7-feet bgs in the vicinity of the station and off-sets meets the criteria of, and shall be managed in accordance with Article 669.05(b)(1). COC sampling parameter: pH.
- Station 285+30 to Station 287+75 (IL 13 WB), 0 to 83 feet LT: The Engineer has determined this material from 0 to 4-feet bgs in the vicinity of the station and off-sets meets the criteria of, and shall be managed in accordance with Article 669.05(a)(3). COC sampling parameter: benzo(a)pyrene.
- Station 287+75 to Station 290+20 (IL 13 WB), 0 to 83 feet LT: The Engineer has determined this material from 0 to 4-feet bgs in the vicinity of the station and off-sets meets the criteria of, and shall be managed in accordance with Article 669.05(a)(1). COC sampling parameter: lead, benzo(a)pyrene.
- Station 290+20 to Station 292+70 (IL 13 WB), 0 to 83 feet LT: The Engineer has determined this material from 0 to 4-feet bgs in the vicinity of the station and off-sets meets the criteria of, and shall be managed in accordance with Article 669.05(a)(3). COC sampling parameter: benzo(a)pyrene, arsenic.
- Station 290+20 to Station 292+70 (IL 13 WB), 0 to 83 feet LT: The Engineer has determined this material from 4 to 7-feet bgs in the vicinity of the station and off-sets meets the criteria of, and shall be managed in accordance with Article 669.05(c). COC sampling parameter: manganese.
- Station 292+70 to Station 298+00 (IL 13 WB), 0 to 83 feet LT: The Engineer has determined this material from 0 to 4-feet bgs in the vicinity of the station and off-sets meets the criteria of, and shall be managed in accordance with Article 669.05(a)(1). COC sampling parameter: benzo(a)pyrene, lead, manganese.
- Station 292+70 to Station 295+25 (IL 13 WB), 0 to 83 feet LT: The Engineer has determined this material from 4 to 8-feet bgs in the vicinity of the station and off-sets meets the criteria of, and shall be managed in accordance with Article 669.05(a)(2). COC sampling parameter: lead.
- Station 295+25 to Station 298+00 (IL 13 WB), 0 to 74 feet LT: The Engineer has determined this material from 4 to 8-feet bgs in the vicinity of the station and off-sets meets

the criteria of, and shall be managed in accordance with Article 669.05(a)(5). COC sampling parameter: manganese, pH.

- Station 298+00 to Station 300+15 (IL 13 WB), 0 to 74 feet LT: The Engineer has determined this material from 0 to 4-feet bgs in the vicinity of the station and off-sets meets the criteria of, and shall be managed in accordance with Article 669.05(a)(3). COC sampling parameter: benzo(a)pyrene.
- Station 298+00 to Station 300+15 (IL 13 WB), 0 to 74 feet LT: The Engineer has determined this material from 4 to 8-feet bgs in the vicinity of the station and off-sets meets the criteria of, and shall be managed in accordance with Article 669.05(b)(1). COC sampling parameter: pH.
- Station 287+95 to Station 289+75 (IL 13 EB), 0 to 130 feet RT: The Engineer has determined this material from 0 to 2-feet bgs in the vicinity of the station and off-sets meets the criteria of, and shall be managed in accordance with Article 669.05(c). COC sampling parameter: manganese.
- Station 292+00 to Station 294+00 (IL 13 EB), 0 to 90 feet RT: The Engineer has determined this material from 0 to 3-feet bgs in the vicinity of the station and off-sets meets the criteria of, and shall be managed in accordance with Article 669.05(a)(3). COC sampling parameter: benzo(a)pyrene.
- Station 296+00 to Station 298+00 (IL 13 EB), 0 to 78 feet RT: The Engineer has determined this material from 0 to 5-feet bgs in the vicinity of the station and off-sets meets the criteria of, and shall be managed in accordance with Article 669.05(b)(1). COC sampling parameter: pH.
- Station 298+00 to Station 302+00 (IL 13 EB), 0 to 78 feet RT: The Engineer has determined this material from 0 to 5-feet bgs in the vicinity of the station and off-sets meets the criteria of, and shall be managed in accordance with Article 669.05(a)(1). COC sampling parameter: manganese, iron, VOCs.

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); Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); or as deemed necessary. For this project, the work zones apply for the following ISGS PESA Sites:
None

Additional information on the contract specific work areas listed above collected during the regulated substances due-diligence process is available through the District's Environmental Studies Unit (DESU).

REMOVE AND RE-ERECT EXISTING SIGN

This work shall consist of the removal of existing Haven Sign per Section 724 of the Standard Specifications. Care shall be taken during removal so as not to damage existing posts and sign panels. Once removed, said posts and sign panels shall be stored in a secure location for the duration of construction activities. Upon completion of the final grading and seeding, said signs shall be re-erected to the satisfaction of the Engineer at a location determined by the Engineer. The sign shall be erected and placed in a similar condition as the existing conditions.

This work shall be paid for at the contract unit price per EACH for REMOVE AND RE-ERECT EXISTING SIGN.

REMOVE CONCRETE END SECTION

This work shall consist of the complete removal and disposal of concrete end sections, including any traversable pipe grate and debris broken off the concrete end sections at locations as called out on the plans. The work shall be performed in accordance with Section 501 of the Standard Specifications.

This work will be paid for at the contract unit price per EACH for REMOVE CONCRETE END SECTION.

REMOVE EXISTING FLARED END SECTION

This work shall include all materials, labor, and equipment necessary for the removal and disposal of flared end sections at the locations shown on the plans and as directed by the Engineer. The flared end sections, including grates as applicable, shall be disposed in accordance with Article 202.03 of the Standard Specifications.

This work will be measured for payment in place per each existing flared end section removed.

This work will be paid for at the contract unit price per EACH for REMOVE EXISTING FLARED END SECTION.

REMOVE INLET BOX

This work consists of removing inlet boxes at the locations shown on the plans. This work shall be done according to Section 605 of the Standard Specifications. Any void left by the removal of the inlets and inlet boxes shall be filled and compacted with the same material used for trench backfill and will not be paid for separately.

This work will be paid for at the contract unit price per EACH for REMOVE INLET BOX.

SERVICE INSTALLATION (TRAFFIC SIGNALS)

Revise Section 805 of the Standard Specifications to read:

Description. This work shall consist of all materials and labor required to install, modify, or extend the electric service installation.

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

The Contractor must request in writing for service and/or service modification within ten days of contract award and must follow-up with the electric utility to assure all necessary documents and payment are received by the utility. The Contractor shall forward copies of all correspondence between the Contractor and utility company to the Engineer and Owner. The service agreement and sketch shall be submitted for signature to the Owner.

Materials.

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

Enclosures.

1. Ground Mounted Cabinet. The cabinet shall be UL 50, NEMA type 3R unfinished with a customer & utility section with lockable hasp design. The cabinet shall be constructed from raw uncoated aluminum. Seams shall be continuous welded and ground smooth. Hinges shall be stainless steel and piano type. The cabinet shall be 16" wide. The cabinet shall be bolted with stainless steel hardware to mounting base secured in concrete pad as indicated on the plans. The foundation is paid for separately.

Electric Utility Meter Housing. The electric meter housing and meter socket shall be supplied and installed by the Contractor. The Contractor is to coordinate the work to be performed and the materials required with the utility company to make the final connection at the power source. Electric utility required risers, weather/service head and any other materials necessary for connection shall also be included in the pay item. Materials shall be in accordance with the electric utility's requirements. For ground-mounted service, the electric utility meter shall be exposed. The meter shall be supplied by the utility company. Metered service shall not be used unless specified in the plans.

Surge Protector. SPD installed on load side of main breaker Hubbel Part HBLSDSA36 -- 36KA single phase with LED indicator or equal.

Circuit Breakers. Circuit breakers shall be standard UL listed molded case, thermal-magnetic bolt-on type circuit breakers with trip free indicating handles. Must include lug to lug connections. Circuit breakers need to be 480 V rated Cutler EHD series or equal. Unless otherwise indicated, the main disconnect circuit breaker shall be rated 100 amperes, 120 V-240V single phase 3 wire. The auxiliary circuit breakers shall be rated 30 amp-2pole, 120 V-240V for signals and 20 amp-2 pole, 120V-240V for lighting.

GFCI Receptacle. A 20 amp GFCI shall be mounted to dead front.

Lighting Circuit. If lighting circuits are present in power supply, a photo cell & a hand off auto (HOA) will be required. Photo cell to be mounted internally with a window and external shield. A contactor 30A-2 pole electrically held (120V coil) is needed for each lighting circuit. Contactor shall be square D 8903LO20V02 or equal.

Ground and Neutral Bus Bars. A single copper ground and neutral bus bar mounted on the equipment panel shall be provided.

Utility Services Connection. The Contractor shall notify the utility company marketing representative a minimum of 30 working days prior to the anticipated date of hook-up. This 30 day advance notification will begin only after the utility company marketing representative has received service charge payments from the Contractor. Prior to contacting the utility company marketing representative for service connection, the service installation controller cabinet and cable must be installed for inspection by the utility company.

Ground Rod. Ground rods shall be copper-clad steel, a minimum of 8 feet in length, and 3/4 inch in diameter. Ground rod resistance measurements to ground shall be 10 ohms or less. If necessary additional rods shall be installed to meet resistance requirements at no additional cost to the contract.

Installation.

General. The Contractor shall confirm the orientation of the traffic service installation and its door side with the Engineer, prior to installation. All conduit entrances into the service installation shall be sealed with a pliable waterproof material.

Ground Mounted. The service installation shall be mounted plumb and level on the foundation. The space between the bottom of the enclosure and the top of the foundation shall be caulked at the base with silicone.

Basis of Payment. The service installation will be paid for at the contract unit price per EACH for SERVICE INSTALLATION of the type specified which shall be payment in full for furnishing and installing the service installation complete. The concrete foundation, which includes the ground rod, shall be paid for separately. Any charges by the utility companies shall be approved by the Engineer and paid for as an addition to the contract according to Article 109.05 of the Standard Specifications.

SETTLEMENT PLATFORMS

Description. This work shall be done according to applicable articles in Section 204 of the Standard Specification and as shown on the plans except as herein modified. This work shall consist of furnishing and placing settlement platforms meeting the requirements of Article 204.03 and Article 204.06 of the Standard Specifications and the plan details. The settlement platforms shall be installed at the locations on the plans or as directed by the Engineer.

The settlement platforms shown on the plans shall be installed prior to constructing the embankments. The settlement platforms will be monitored by the Engineer to determine when the construction of the approach slabs, approach footings, additional lanes, outside shoulders, and multi-use path can commence.

The minimum monitoring period for the settlement platforms shall be four months and the period shall begin following completion of the embankment. Settlement readings shall be taken a minimum of once each week, or more frequently, as approved by the Engineer. Monitoring and collecting readings on the platforms, along with plotting data, shall be performed by the District. Upon completion of the minimum monitoring period, settlement readings will continue to be taken by the Engineer until no more than 0.01' of settlement occurs per week for a minimum of two weeks in a row. Once this occurs and upon approval of the Engineer, the Contractor may proceed with construction of the approach footings, approach slabs, additional lanes, outside shoulders and multi-use path. No piles shall be driven until after all settlement has occurred.

Basis of Payment This work will be paid for at the contract unit price per EACH for SETTLEMENT PLATFORMS, which price shall include all labor, equipment, and materials necessary to install, maintain, and partially remove and cap the settlement platforms. Additional settlement platforms requested by the Engineer to aid in the determination of settlement rate and amount will be paid as Settlement Platforms.

If the Contractor requests credit for the placement of additional embankment due to settlement during construction, the Engineer may require additional settlement platforms be installed for quantity determination. Settlement platforms installed for quantity determination shall not be paid for separately but shall be considered included in the cost of Furnished Excavation.

SIGN PANEL TYPE 1 - (SPECIAL)

Description. This special provision covers work related to the fabrication and installation of sign panels onto posts that shall run along the multi-use path on the south side of IL 13 EB. Materials shall be according to the requirements in Article 720 Sign Panels and Appurtenances and the details shown in the plans.

Sign panel "A" shall include a multicolored graphic consisting of the following colors and similar to the one included below. Final multicolored graphics will be provided by the district after the contract is awarded.

PANTONE 294 U
PANTONE 349 U

PANTONE 382 U
SPOT COLOR C=0,M=0,Y=0,K=20
SPOT COLOR C=0,M=0,Y=0,K=100
PANTONE 431 U

Final design of all sign panels shall be approved by the Engineer. The additional quantity for path signage to be given to Kevin Reichert with CONWR.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE FOOT for SIGN PANEL - TYPE 1 (SPECIAL).



SIGN PANEL TYPE 1 - (SPECIAL) DOUBLE SIDED

Description. This special provision covers work related to the fabrication and installation of double-sided sign panels onto posts that shall run along the multi-use path on the south side of IL 13 EB. Materials shall be according to the requirements in Article 720 Sign Panels and Appurtenances and the details shown in the plans.

Sign panels "B" and "C" shall be PANTONE 349 U with their respective symbols SPOT COLOR C=0, M=0, Y=0, K=20. Sign panels "B" and "C" shall be double sided and mounted as shown in the plan details.

Final design of all sign panels shall be approved by the Engineer. The additional quantity for path signage to be given to Kevin Reichert with CONWR.

Basis of Payment: This work will be paid for at the contract unit price per SQUARE FOOT for SIGN PANEL - TYPE 1 (SPECIAL) DOUBLE SIDED.

SIGHT SCREEN (CHAIN LINK FENCE) 6'

This work includes construction of the sight screen (chain-link fence) 6' shown in the plans or as directed by the Engineer. This item shall be constructed in accordance with the applicable portions of Section 640 of the Standard Specifications.

All materials listed under Section 640.02 and 664.02 of the Standard Specifications shall be black with the only exception being the Portland cement concrete.

Chain link gates 6' x 14' double shown in the plans will be constructed in accordance with Section 664.09 of the Standard Specifications and under the same requirements as the sight screen (chain link fence) 6', including color.

This work will be paid for at the contract unit price per FOOT for SIGHT SCREEN (CHAIN LINK FENCE) 6'.

SPECIAL USE PERMIT & PERMIT EASEMENT

The Department has secured a special use permit with the Crab Orchard National Wildlife Refuge. In the case of non-compliance with any provision of this permit, the refuge manager may serve a 60-day written notice of suspension of this permit upon the Department and the Contractor specifying the reasons for the suspension. If the Department or the Contractor has not satisfactorily responded to the notice or taken corrective action to comply with the permit within the 60 days, then the refuge manager may suspend the permit. In accordance with the special use permit, the Contractor shall not disturb areas outside the permit easement lines, as shown in the plans. For areas without permit easement lines shown in the plans, the Engineer shall designate permit easement limits in conjunction with CONWR personnel. The Contractor shall not disturb areas outside the permit easement as designated by the Engineer. The Special Use Permit #24-128 is included in the special provisions.



General Activities Special Use Permit

OMB Control Number 1018-0102 | 1

Station #: 33610

(For Official Use Only)

Permit #: 25-106

Permit Term: From 05/01/25 To 09/20/29

1) Permittee Name/Business: Nancy Heil, Illinois Department of Transportation


- 2) Permit Status: a) Approved: ☒ If approved, provide special conditions (if any) in the text box below.
b) Denied: ☐ If denied, provide justification in the text box below.

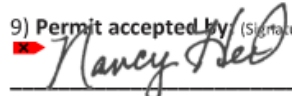
[Type in additional Special Conditions or Justification for Denied Permit in the space provided]

All NEPA compliance must be in order prior to multi-use path construction near Cambria Road.
All heavy equipment and materials should be staged in agreed upon secure locations.
A Traffic Control Plan must be submitted prior to construction.
Notifications and updates to Refuge personnel must be made regularly as to when/where current construction is taking place.
Advance notice for temporary closures of public areas are required as well (for trails, roads, etc.)

- 3) Are there additional special conditions attached to the permit? Yes ☐ No ☒
4) Are other licenses/permits required, and have they been verified? Yes ☒ No ☐ N/A ☐
5) Are Insurance and/or Certification(s) required, and have they been verified? Yes ☒ No ☐ N/A ☐
6) Record of Payments: Full ☐ Partial ☐ Exempt ☒
Amount of full payment: Record of partial payments:
7) Is a surety bond or security deposit required? Yes ☐ No ☒ N/A ☐

This permit is issued by the U.S. Fish and Wildlife Service and accepted by the applicant signed below, subject to the terms, covenants, obligations, and reservations, expressed or implied herein, and to the notice, conditions, and requirements included or attached. A copy of this permit should be kept on-hand so that it may be shown at any time to any refuge staff.

8) Permit approved/issued by: (Signature and title)

JUSTIN
SEXTON
Date: 2025.01.22 14:00:05 -06'00'

9) Permit accepted by: (Signature of permittee)

Nancy Heil
Date: 1-17-25

PRINT FORM

FWS Form 3-1383-R

General Conditions and Requirements

- 1) Responsibility of Permittee: The permittee, by operating on the premises, shall be considered to have accepted these premises with all facilities, fixtures, or improvements in their existing condition as of the date of this permit. At the end of the period specified or upon earlier termination, the permittee shall give up the premises in as good order and condition as when received except for reasonable wear, tear, or damage occurring without fault or negligence. The permittee will fully repay the Service for any and all damage directly or indirectly resulting from negligence or failure on his/her part, and/or the part of anyone of his/her associates, to use reasonable care.
- 2) Operating Rules and Laws: The permittee shall keep the premises in a neat and orderly condition at all times, and shall comply with all municipal county, and State laws applicable to the operations under the permit as well as all Federal laws, rules, and regulations governing national wildlife refuges and the area described in this permit. The permittee shall comply with all instructions applicable to this permit issued by the refuge official in charge. The permittee shall take all reasonable precautions to prevent the escape of fires and to suppress fires and shall render all reasonable assistance in the suppression of refuge fires.
- 3) Use Limitations: The permittee's use of the described premises is limited to the purposes herein specified and does not, unless provided for in this permit, allow him/her to restrict other authorized entry onto his/her area; and allows the U.S. Fish and Wildlife Service to carry on whatever activities are necessary for: (1) protection and maintenance of the premises and adjacent lands administered by the U.S. Fish and Wildlife Service; and (2) the management of wildlife and fish using the premises and other U.S. Fish and Wildlife Service lands.
- 4) Transfer of Privileges: This permit is not transferable, and no privileges herein mentioned may be sublet or made available to any person or interest not mentioned in this permit. No interest hereunder may accrue through lien or be transferred to a third party without the approval of the Regional Director of the U.S. Fish and Wildlife Service and the permit shall not be used for speculative purposes.
- 5) Compliance: The U.S. Fish and Wildlife Service's failure to require strict compliance with any of this permit's terms, conditions, and requirements shall not constitute a waiver or be considered as a giving up of the U.S. Fish and Wildlife Service's right to thereafter enforce any of the permit's terms or conditions.
- 6) Conditions of Permit not Fulfilled: If the permittee fails to fulfill any of the conditions and requirements set forth herein, the U.S. Fish and Wildlife Service shall retain all money paid under this permit to be used to satisfy as much of the permittee's obligation as possible.
- 7) Payments: All payment shall be made on or before the due date to the local representative of the U.S. Fish and Wildlife Service by a postal money order or check made payable to the U.S. Fish and Wildlife Service.
- 8) Termination Policy: At the termination of this permit the permittee shall immediately give up possession to the U.S. Fish and Wildlife Service representative, reserving, however, the rights specified in paragraph 11 below. If he/she fails to do so, he/she will pay the U.S. Fish and Wildlife Service, as liquidated damages, an amount double the rate specified in this permit for the entire time possession is withheld. Upon yielding possession, the permittee will still be allowed to reenter as needed to remove his/her property as stated in paragraph 11 below. The acceptance of any fee for the liquidated damages or any other act of administration relating to the continued tenancy is not to be considered as an affirmation of the permittee's action nor shall it operate as a waiver of the U.S. Fish and Wildlife Service's right to terminate or cancel the permit for the breach of any specified condition or requirement.
- 9) Revocation Policy: The Regional Director of the U.S. Fish and Wildlife Service may revoke this permit without notice for noncompliance with the terms hereof, or for violation of general and/or specific laws or regulations governing national wildlife refuges, or for nonuse. It is at all times subject to discretionary revocation by the Director of the Service. Upon such revocation the U.S. Fish and Wildlife Service, by and through any authorized representative, may take possession of said premises for its own and sole use, and/or may enter and possess the premises as the agent of the permittee and for his/her account.
- 10) Damages: The U.S. Fish and Wildlife Service shall not be responsible for: any loss or damage to property including but not limited to crops, animals, and machinery; injury to the permittee or his/her relatives or to the officers, agents, employees, or any other(s) who are on the premises from instructions; the sufferance from wildlife or employees or representatives of the U.S. Fish and Wildlife Service carrying out their official responsibilities. The permittee agrees to hold the U.S. Fish and Wildlife Service harmless from any and all claims for damages or losses that may arise to be incident to the flooding of the premises resulting from any associated government river and harbor, flood control, reclamation, or Tennessee Valley Authority activity.
- 11) Removal of Permittee's Property: Upon the expiration or termination of this permit, if all rental charges and/or damage claims due to the U.S. Fish and Wildlife Service have been paid, the permittee may, within a reasonable period as stated in the permit or as determined by the U.S. Fish and Wildlife Service official in charge, but not to exceed 60 days, remove all structures, machinery, and/or equipment, etc., from the premises for which he/she is responsible. Within this period the permittee also must remove any other of his/her property including his/her acknowledged share of products or crops grown, cut, harvested, stored, or stacked on the premises. Upon failure to remove any of the above items within the aforesaid period, they shall become the property of the U.S. Fish and Wildlife Service.

**STAMPED COLORED PORTLAND CEMENT CONCRETE MEDIAN SURFACE, 4 INCH
(SPECIAL)**

Description. This work shall consist of the installation of stamped colored PCC median surface, 4 inch on the splitter islands as shown on the plans. This work shall be completed in accordance with the applicable portions of Section 606 of the Standard Specifications.

Construction Requirements. The installer shall provide a qualified foreman or supervisor who has a minimum of three years experience with imprinted and textured concrete, and who has successfully completed at least five imprinted concrete installations of high quality and similar in scope to that required.

Prior to beginning work, the contract shall provide field samples of integrally colored PCC median surface with the imprinted pattern. The sample is to be 48" x 48" in size, 4" thick, with surface colors and patterns as directed by the Engineer. Work shall not proceed until the workmanship, pattern and color are approved by the Engineer. The Contractor will be required to provide additional samples as required to obtain the Engineer's approval.

The concrete shall be integrally colored for the full depth of the median surface. The color shall be Solomon color 418 brick red or approved equal. Pigment shall meet the requirements of ASTM C979 and be on the Department's Approved List of Pigments for Integrally Colored Concrete. All work shall also be in accordance with the manufacturer's recommendations, including pigment %, pigment mixing, additional concrete admixture compatibility, concrete curing, required sealants, etc. Care shall be taken such that different batches of concrete do not have different finished colors.

Do not add calcium chloride to the concrete mix design.

Note that the adjacent combination curb and gutter is measured and paid for separately and is to remain natural concrete color.

Method of Measurement. Stamped colored PCC median surface, 4 inch shall be measured for payment in square feet.

Basis of Payment. This work will be paid for at the contract unit price per SQUARE FOOT for STAMPED COLORED PORTLAND CEMENT CONCRETE MEDIAN SURFACE, 4" (SPECIAL).

SUBGRADE

Effective 1984

Revised 12/09/20

In addition to the provisions of Article 301.04 which require that the entire subgrade shall be compacted to no less than 95% of the standard laboratory density, in cut sections the top 6" of the subgrade shall not contain more than 120% of the optimum moisture determined in accordance with AASHTO T 99 (method A or C). The cost of this work will not be paid for directly but shall be included in the cost of the various pay items for the pavement structure.

SUBGRADE TREATMENT

When compacted, the subgrade of the proposed additional lanes and shoulders shall have a minimum IBV of 8.0 before new embankment or aggregate subbase is placed. If the subgrade does not achieve the minimum IBV, the Contractor shall take the following steps to obtain the required stability.

- Step 1. Cut plan ditches, which drain the area, at least to grade. This shall be done at least two weeks prior to step 2.
- Step 2. Air dry the top 8 in. of subgrade. This procedure shall include at least two 8 in. deep processing utilizing disks or tillers each day for three consecutive good drying days.
- Step 3. Recompact the layer processed in step 2 to achieve a minimum IBV of 8.0, or until at least nine passes of a roller which has demonstrated ability to obtain the required stability on adjacent earth work have been made.

If these steps have been performed and the required stability still has not been attained, the unstable soil shall be undercut and replaced with rockfill at locations and at depths determined by the Engineer.—The material to be used for rockfill shall be granular material that will provide a stable platform for construction. The granular material shall be 3" bedding stone meeting the gradation limits of RR 1. The rockfill shall be placed in lifts not exceeding 12" and compacted in a manner approved by the Engineer. Scrapers or other equipment which result in excessive rutting of the rockfill will not be allowed on the rockfill. The rockfill shall be capped with a minimum of 4" of granular material meeting the gradation limits of CA 6 or CA 10. The CA 6 or CA 10 lift shall be compacted with a steel wheel roller meeting the requirements of Note 1 to 95% of the Standard Proctor density as determined by AASHTO T 99.

Note 1. Steel rollers shall weigh no less than 6 tons nor more than 12 tons and shall have a compression on the drive wheels of no less than 190 lb/in. nor more than 400 lb/in of width of roller.

The excavated undercut material may be used elsewhere in the embankment, at no additional cost to the Department, subject to the placement location of the undercut soils must be approved by the Engineer, and the moisture content of the undercut material must be reduced by thorough disking to no more than 110% of standard proctor optimum.

Compacting, processing, and recompacting the subgrade of the proposed additional lanes and shoulders will not be measured for payment but shall be included in the cost of Earth Excavation. If necessary, undercut and rockfill for the proposed additional lanes and shoulders will be paid according to Article 109.04 of the Standard Specifications.

TEMPORARY TRAFFIC BARRIER TERMINAL, TYPE 1 ,SPECIAL (TANGENT)

This work consists of furnishing equipment, labor, and materials to install temporary traffic barrier terminal, type 1, special (tangent) as detailed in the plans and according to the manufacturer's specifications. All work shall be according to Section 705 of the Standard Specifications and/or as directed by the Engineer.

The terminal shall be delineated with a terminal marker-direct applied. No other guardrail delineation shall be attached to the terminal section.

This work will be paid for at the contract unit price per EACH for TEMPORARY TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT).

TRAFFIC SIGNAL BACKPLATE, RETROREFLECTIVE

This work shall be in accordance with Sections 882 and 1078.03 of the Standard Specifications except as modified herein.

The traffic signal backplate shall be fabricated from black ABS UV stabilized plastic sheeting and shall have a smooth finish on the front side. The backplate shall be split to allow installation without removal of the signal head from its mounting bracket.

The Contractor shall be responsible for verifying the proposed backplate is compatible and fits the existing traffic signal heads prior to ordering materials. The Contractor shall be responsible for removal and disposal of existing backplates and any associated hardware.

The Contractor shall furnish all new hardware and other miscellaneous items required for backplate installation.

Basis of Payment. This work will be paid for at the contract unit price per EACH for TRAFFIC SIGNAL BACKPLATE, RETROREFLECTIVE.

TUBULAR MARKER

Description. This work will consist of the installation of tubular markers for maintenance of traffic as shown on the plans or as directed by the Engineer. All work shall comply with the applicable portions of Section 701 of the Standard Specifications.

Basis of Payment. This work will be paid for at the contract unit price per EACH for TUBULAR MARKER. The unit price shall include all materials, labor, equipment, and miscellaneous work necessary to complete the installation, removal, and disposal of the items.

TURBIDITY CURTAIN

Description. This work shall consist of the furnishing, installation, maintaining, and removal of turbidity curtains, used for the purpose of temporarily controlling the erosion of turbidity encountered during construction in a waterway. The work shall consist of furnishing all materials, equipment, and labor and performance of all required operations. These locations shall be limited to the designated areas either shown on the plans or otherwise designated by the Engineer. All materials shall conform to the applicable requirements of Section 1080 and be approved by the Engineer.

The turbidity curtain shall be installed at the location(s) as shown on the plans. The curtain shall be installed in such a manner to prevent drifting shoreward or downstream. The bottom of the curtain shall reach the bottom of the waterway using one or two vertical sections as required. Anchors shall be installed to the manufacturer's recommendations on both the shore and stream to maximize stability. Stream anchors shall be of sufficient size, type, and strength to stabilize the curtain with the number and spacing dependent on the current velocities. Anchors shall be buoyed to prevent the curtain from being pulled underwater.

The Contractor shall be responsible for maintenance of the curtain throughout construction operations.

On completion of the project, the Contractor shall remove the curtain in a manner that will prevent siltation of the waterway.

Method of Measurement. The turbidity curtain shall be measured for payment in square yards.

Basis of Payment. This work will be paid for at the contract unit price per SQUARE YARD for TURBIDITY CURTAIN.

UNINTERRUPTABLE POWER SUPPLY, EXTENDED

In addition to the requirements of Section 862 and 1074.04, the unit shall be full graphic LCD, 480 x272 pixels, and resistive touch screen.

VIDEO AND RADAR HYBRID DETECTION SYSTEM

Description: This work shall include installation of vehicle detection system that detects vehicles on a roadway using a multi-sensor detection system. This work shall consist of furnishing and installing video cameras, cables, video processors, a controller interface unit and a remote communication module to operate the video vehicle detection system.

The multi-sensor system shall utilize two different sensors of different technologies, video imaging and radar, to detect and track licensed and unlicensed vehicles at distances over 500 feet. The sensor system shall fuse vehicle information from the two sensors to provide highly accurate and

precise detection for simultaneous stop bar presence detection, advanced detection, and special or advanced applications.

Detection Performance: The system shall use video imaging for stop bar detection and radar for advanced detection up to 500 ft. Advanced detection will only be required on the mainline approaches, as shown in the plans. The system features shall include vehicle volumes (including turning movements) on all four approaches and advanced detection on IL 13, speed and dilemma zone detection on IL 13. The system shall have the capability of detecting and differentiating bicycles. The system shall be able to detect and count pedestrians in the crosswalk.

All video detection systems shall be equipped with the latest software and firmware revision.

Hardware: The multi-sensor detection system (MSDS) shall consist of two hybrid video camera/radar sensors, two video-only sensors, up to two detection processors (DP) capable of processing from one to two sensors each, one central control unit (CCU), (either 19" rack or shelf-mount form factor), input/output extension modules, video surge suppressors, HDMI monitor and a pointing device, or any combination thereof.

The vehicle detection system shall include all necessary camera risers, electric cable, electrical junction boxes, hardware, software, programming, and any camera brackets that are required for installation and configuration. These items should be taken into consideration and shall be included in the bid price for the video detection system.

The CCU shall be supplied in three separate form factors. Users may choose one form factor for use within their controller cabinet system:

1. Standard One Rack Unit (1U) 19" Rack Format. There shall be brackets to allow the CCU to be mounted under shelves where a 19" frame is not available.
2. Shelf-Mount Format; TS1 Version. The CCU shall be able to stand up on available shelf-space within the cabinet. All connections shall be made from the front of the CCU, including connections to separate DPs located within the cabinet.
3. Shelf-Mount Format; TS2 version. The CCU shall be able to stand up on available shelf-space within the cabinet. All connections shall be made from the front of the CCU, and no external DPs will be required.

The CCU shall incorporate surge suppression for each sensor input. The CCU shall be appropriately grounded to the cabinet ground rod using 14 AWG minimum. The CCU shall incorporate power surge suppression both on the input power and on the power supplied to the sensors. The CCU shall be appropriately grounded to the cabinet ground rod using 14 AWG minimum.

An Ethernet communications port shall be provided on the front panel. The Ethernet port shall be compliant with IEEE 802.3 and shall use a RJ-45 type connector mounted on the front panel of the CCU. The Ethernet communications interface shall allow the user to remotely configure the system and/or to extract calculated vehicle/roadway information. The interface protocol shall be documented or interface software shall be provided. Each MSDS shall have the capability to be IP addressable. The DP shall support data rates of up to 100Mbps.

The CCU shall provide a Wi-Fi connection. The connection shall be over a standard 2.4GHz connection. The Wi-Fi connection shall be enabled and disabled by a switch on the CCU. The CCU shall provide an indicator when the Wi-Fi connection is active.

Software: The system shall include software that discriminately detects the presence of individual vehicles and bicycles in a single or multiple lanes using only the video image. Detection zones shall be defined using only an embedded software application. A monitor a keyboard and a pointing device are used to place the zones on a video image. A minimum of 32 video detection zones and 16 radar detection zones plus five trip lines per sensor shall be available.

A separate computer shall not be required to program the detection zones. In addition to creating vehicle and bicycle zones, the system shall automatically define a pedestrian crossing area in front of the stop bar zones. The system shall provide a tracking mechanism that counts pedestrian volume moving within this crossing area, and also determine the average, maximum, and minimum speed of pedestrians moving within this crossing zone. The system shall also provide discrete outputs when pedestrians are in the crosswalk during normal crossing phases (one for each direction of travel) and when a red phase input has been detected. The system shall also provide a visual indication on the video image that a pedestrian is in the crosswalk.

Installation: The video detection cameras shall be installed in accordance with the manufacturer recommendations. All holes drilled into signal poles, mast arms, or posts shall require rubber grommets to prevent the chafing of wires.

Warranty and Support: A vendor/manufacture representative shall be present the day of activation to assist in the setup of the detection zones.

The video detection system shall be warranted by the supplier for a minimum of three years from the date of turn-on. This warranty shall cover all material defects and shall also provide all parts and labor as well as unlimited technical support. Ongoing software updates to the system shall be included in the cost of the system.

A training session shall be provided to City/IDOT personnel in the operation, setup and maintenance of the video detection system if requested.

Basis of Payment: This work will be paid for at the contract unit price per EACH for VIDEO AND RADAR HYBRID DETECTION SYSTEM.

VERTICAL TYPE TERMINAL BLOCK HOUSING

A bare aluminum terminal compartment and mounting hardware, attached with stainless steel bands, shall be mounted on the vertical shaft of each mast arm. The compartment shall be mounted approximately 10 feet above the surface. This terminal shall only contain the cables for the horizontal mast arm signal faces.

One vertical terminal block shall be provided on the vertical shaft of each mast arm pole if more than one (vehicle or pedestrian) face is to be mounted. This terminal shall contain the cables for the signal faces mounted on the vertical shaft of the mast arm. Cables for the pedestrian push buttons or for highway lighting should not terminate in either terminal compartment.

Basis of Payment: The furnishing and installation of the vertical terminal block(s) and housing shall be included in the contract unit price of the electric cable involved.

DIAMOND GRINDING AND SURFACE TESTING BRIDGE SECTIONS

Effective: December 6, 2004

Revised: April 15, 2022

Description. This work shall consist of diamond grinding and surface testing bridge sections.

The bridge section shall consist of the bridge deck plus the bridge approach slab and pavement connector, if present, at each end of the bridge.

Equipment. Equipment shall be according to the following.

- (a) Diamond Grinder. The diamond grinder shall be a self-propelled planing machine specifically designed for diamond saw grinding. It shall be capable of accurately establishing the profile grade and controlling the grinding cross slope. It shall also have an effective means for removing excess material and slurry from the surface and for preventing dust from escaping into the air. The removal of slurry shall be continuous throughout the grinding operation. The slurry shall be disposed of according to Article 202.03.

The grinding head shall be a minimum of 4 ft. (1.2 m) wide and the diamond saw blades shall be gang mounted on the grinding head at a rate of 50 to 60 blades / ft. (164 to 197 blades/m).

- (b) Surface Testing Equipment. Required surface testing and analysis equipment and their jobsite transportation shall be provided by the Contractor. The Profile Testing Device shall be according to Illinois Test Procedure 701 except the trace analysis shall be based on traces from bridge sections.

CONSTRUCTION REQUIREMENTS

General. After all components have been properly cured, the bridge section shall be ground over its entire length and over a width that extends to within 2 ft. (600 mm) of the curbs or parapets. Grinding shall be done separately before any saw cut grooving, and no concurrent combination of the two operations will be permitted. Whenever possible, each subsequent longitudinal grinding pass shall progress down the cross slope from high to low. The maximum thickness removed shall be 1/4 inch (6 mm); however, when the bridge deck thickness noted on the plans can be maintained, as a minimum, additional removal thickness may be permitted.

The grinding process shall produce a pavement surface that is true in grade and uniform in appearance with longitudinal line-type texture. The line-type texture shall contain corrugations parallel to the outside pavement edge and present a narrow ridge corduroy type appearance. The peaks of the ridges shall be 1/8-inch +/- 1/16-inch (3 mm +/- 1.5 mm) higher than the bottom of the grinding with evenly spaced ridges. It shall be the Contractor's responsibility to select the actual number of blades per foot (meter) to be used to provide the proper surface finish for the aggregate type and concrete present on the project within the limits specified above.

The vertical difference between longitudinal passes shall be 1/8 inch (3 mm) maximum. The grinding at the ends of the bridge section shall be diminished uniformly at a rate of 1:240 over the pavement connectors.

Grinding shall be continuous through all joints. All expansion joints and bridge components under the joints shall be protected from damage or contact with the grinding slurry.

Surface Testing. The diamond ground bridge section shall be surface tested in the presence of the Engineer prior to opening to traffic.

A copy of the approval letter and recorded settings from the Profile Equipment Verification (PEV) Program shall be submitted to the Engineer prior to testing.

The Contractor shall notify the Engineer a minimum of 24 hours prior to commencement of measurements. All objects and debris shall be removed from the bridge section surface prior to testing. During surface testing, joint openings may be temporarily filled with material approved by the Engineer.

Profiles shall be taken in both wheel paths of each lane, 3 ft. (1 m) from, and parallel to, the planned lane lines.

The profile report shall have stationing indicated every 500 ft. (150 m) at a minimum. The profile report shall include the following information: contract number, structure number, beginning and ending stationing, which lane was tested, direction of travel on the trace, date of collection, time of collection, ambient air temperature at time of collection, and the device operator name(s). The data file created from the testing will be submitted to the Engineer and the Bureau of Research for analysis. The file shall be in a format that is compatible with ProVAL software (ERD, PPF).

Trace Reduction and Bump Locating Procedure. All traces shall be reduced using ProVal. This software shall calculate the Mean International Roughness Index (MRI) in inches/mile (mm/km) and indicate any areas of localized roughness in excess of 200 inches/mile (3105 mm/km) on a continuous 25 feet (8 meters) basis.

The average MRI and locations with deviations exceeding the 200 inches/mile (3105 mm/km) limit will be recorded on the Profile Report for Bridge Deck Smoothness.

All ProVAL files shall be provided to the Engineer within two working days of completing the testing. Bureau of Construction Form BC 2450 shall be provided to the Engineer. An example Form BC 2450 is attached. All files shall contain serial numbers for the vehicle and profiling equipment, the approved settings from the PEV program. The Engineer will compare these settings with the approved settings from the PEV Program. If the settings do not match, the results will be rejected and the section shall be retested/reanalyzed with the appropriate settings.

Corrective Actions. Within the bridge section, all deviations in excess of 200 inches/mile (1575 mm) within any continuous length of 25 ft. (8 m) shall be corrected. Correction of deviations shall not result in the deck thickness being less than the minimum. Where corrective work is performed, the bridge section shall be retested to verify that corrections have produced a MRI of 200 inch/mile (3105 mm/km) within an continuous length of 25 ft (8 m) or less for each lane. The Contractor shall furnish and Form BC 2450 the ProVAL files to the Engineer and the Bureau of Research within two working days after any corrections are made.

Corrective actions shall be performed at no additional cost to the department.

The Engineer may perform profile testing on the surface at any time for monitoring and comparison purposes.

Method of Measurement. This work will be measured for payment in place and the area computed in square yards (square meters) of diamond grinding performed.

Basis of Payment. This work will be paid for at the contract unit price per square yard (square meter) for DIAMOND GRINDING (BRIDGE SECTION).

Instructions for Completing Bridge Deck Smoothness Assessment Summary ALR

This form shall be prepared and submitted, along with the raw data files, to the Engineer.

Report Type:

Initial – Testing of bridge section prior to any smoothness grinding.

Intermediate – After initial pass of smoothness grinding has been completed.

Final – All smoothness grinding has been completed.

Other information:

Submission Date – Date in which it has been submitted to the Engineer

Project Type – New Deck, Microsilica Overlay, Latex Overlay, Fly Ash Overlay

Specification Effective Date – revision date of the specification in the contract

Begin ALR Section 1 – beginning station of ALR finding

End ALR Section 1 – end station of ALR finding

Distance – End ALR minus the Begin ALR station number

MRI – The value of the ALR at that location.



Bridge Deck Smoothness Assessment Summary

Areas of Localized Roughness

This worksheet is intended as a reference for documenting Areas of Localized Roughness (ALR) as described in GBSP-59.					
Contract Information		Contact Info			
Contract	60111	IDOT RE Name	Jerry Jones		
District	1	IDOT RE E-Mail	Jerry.Jones2@illinois.gov		
Letting Date	1/15/2022	IDOT RE Phone	217-555-4183		
Item #	26	Contractor Rep. Name	Bob Builder		
Route	IL 164	Contractor Rep. E-Mail	Bob.Builder@RTBRConstr.com		
Report Type (Initial or Post Grinding)	Initial	Contractor Rep. Phone	217-555-2822		
Lane	Driving	General Comments			
Direction	Eastbound				
Begin Station	13+45.00				
End Station	14+65.00				
Contractor	Bob the Bridge Builder				
Submission Date	4/1/2022				
Overlay Type	Microsilica				
Specification Effective Date	1/1/2022				
Begin ALR Section 1	13+56.00			Distance (ft)	MRI (in/mi)
End ALR Section 1	13+64.20			8.2	256.40
Begin ALR Section 2	14+04.60	1.4	278.90		
End ALR Section 2	14+06.00				
Begin ALR Section 3					
End ALR Section 3					
Begin ALR Section 4					
End ALR Section 4					
Begin ALR Section 5					
End ALR Section 5					
Begin ALR Section 6					
End ALR Section 6					
Begin ALR Section 7					
End ALR Section 7					
Begin ALR Section 8					
End ALR Section 8					
Begin ALR Section 9					
End ALR Section 9					
Begin ALR Section 10					
End ALR Section 10					

BRIDGE DECK CONSTRUCTION

Effective: October 22, 2013

Revised: December 21, 2016

When Diamond Grinding of Bridge Sections is specified, hand finishing of the deck surface shall be limited to areas not finished by the finishing machine and to address surface corrections according to Article 503.16(a)(2). Hand finishing shall be limited as previously stated solely for the purpose of facilitating a more timely application of the curing protection. In addition the requirements of 503.16(a)(3)a. and 503.16(a)(4) will be waived.

Revise the Second Paragraph of Article 503.06(b) to read as follows.

“When the Contractor uses cantilever forming brackets on exterior beams or girders, additional requirements shall be as follows.”

Revise Article 503.06(b)(1) to read as follows.

- “(1) Bracket Placement. The spacing of brackets shall be per the manufacturer’s published design specifications for the size of the overhang and the construction loads anticipated. The resulting force of the leg brace of the cantilever bracket shall bear on the web within 6 inches (150 mm) of the bottom flange of the beam or girder.”

Revise Article 503.06(b)(2) to read as follows.

- “(2) Beam Ties. The top flange of exterior steel beams or girders supporting the cantilever forming brackets shall be tied to the bottom flange of the next interior beam. The top flange of exterior concrete beams supporting the cantilever forming brackets shall be tied to the top flange of the next interior beam. The ties shall be spaced at 4 ft (1.2 m) centers. Permanent cross frames on steel girders may be considered a tie. Ties shall be a minimum of 1/2 inch (13 mm) diameter threaded rod with an adjusting mechanism for drawing the tie taut. The ties shall utilize hanger brackets or clips which hook onto the flange of steel beams. No welding will be permitted to the structural steel or stud shear connectors, or to reinforcement bars of concrete beams, for the installation of the tie bar system. After installation of the ties and blocking, the tie shall be drawn taut until the tie does not vary from a straight line from beam to beam. The tie system shall be approved by the Engineer.”

Revise Article 503.06(b)(3) to read as follows.

- “(3) Beam Blocks. Suitable beam blocks of 4 in x 4 in (100 x 100 mm) timbers or metal structural shapes of equivalent strength or better, acceptable to the Engineer, shall be wedged between the webs of the two beams tied together, within 6 inches (150 mm) of the bottom flange at each location where they are tied. When it is not feasible to have the resulting force from the leg brace of the cantilever brackets transmitted to the web within 6 inches (150 mm) of the bottom flange, then additional blocking shall be placed at each bracket to transmit the resulting force to within 6 inches (150 mm) of the bottom flange of the next interior beam or girder.”

Delete the last paragraph of Article 503.06(b).

BRIDGE DECK GROOVING (LONGITUDINAL)

Effective: December 29, 2014

Revised: March 29, 2017

Revise Article 503.16(a)(3)b. to read as follows.

b. Saw Cut Grooving. The grooving operation shall not be started until after the expiration of the required curing or protection period and after correcting excessive variations by grinding or cutting has been completed.

The grooves shall be cut into the hardened concrete, parallel to the centerline of the roadway, using a mechanical saw device equipped with diamond blades that will leave grooves 1/8 in. wide and 3/16 in. \pm 1/16 in. deep (3 mm wide and 5 mm \pm 1.5 mm deep), with a uniform spacing of 3/4 in. \pm 1/16 in. (20 mm \pm 1.5 mm) centers. The grooving shall typically extend the full width of the traffic lanes and terminate at the edge of the traffic lane or shoulder. If the bridge has a variable width traffic lane, the grooving shall remain parallel to the centerline of the main roadway. Any staggering of the groove terminations to accommodate the variable width shall be within the shoulders. Grooves shall not be cut closer than 3 inches (75 mm) nor further than 6 inches (150 mm) from any construction joint running parallel to the grooving. In addition, grooves shall not be cut within 6 in. \pm 1 in. (150 mm \pm 25 mm) from deck drains and expansion joints.

The grooving machine shall contain diamond blades mounted on a multi-blade arbor on a self-propelled machine built for grooving hardened concrete surfaces. The grooving machine shall have a depth control device that detects variations in the deck surface and adjusts the cutting head height to maintain a specified depth of groove. The grooving machine shall have a guide device to control multi-pass alignment.

The removal of slurry shall be continuous throughout the grooving operations. The grooving equipment shall be equipped with vacuum slurry pickup equipment which shall continuously pick up water and sawing dust, and pump the slurry to a collection tank. The slurry shall be disposed of offsite according to Article 202.03.

Cleanup shall be continuous throughout the grooving operation. All grooved areas of the deck shall be flushed with water as soon as possible to remove any slurry material not collected by the vacuum pickup. Flushing shall be continued until all surfaces are clean.

Method of Measurement. This work shall be measured for payment according to Article 503.21(b) except no measurement will be made for any grooving of the shoulders to accommodate a variable width traffic lane.

Basis of Payment. This work will be paid for at the contract unit price per square yard (square meter) for BRIDGE DECK GROOVING (LONGITUDINAL).

HOT DIP GALVANIZING FOR STRUCTURAL STEEL

Effective: June 22, 1999

Revised: June 28, 2024

Description. This work shall consist of surface preparation and hot dip galvanizing all structural steel specified on the plans and painting of galvanized structural steel when specified on the plans.

Materials. Fasteners shall be ASTM F 3125, Grade 325, Type 1, High Strength bolts with matching nuts and washers.

Fabrication Requirements. Hot-dip galvanizing shall be indicated on the shop drawings. The fabricator shall coordinate with the galvanizer to incorporate additional steel details required to facilitate galvanizing of the steel. These additional details shall be indicated on the shop drawings.

Additional temporary stiffeners may be added at the contractor's expense as necessary to prevent distortion of the girders during galvanizing. The contractor shall coordinate with the fabricator and the galvanizer to determine if additional stiffeners are necessary, and where these shall be placed. Any proposed changes shall be submitted to the Engineer for approval prior to making any changes and documented on the shop drawings.

Temporary stiffener angles shall be bolted to each side of the splice ends of each girder segment to prevent distortion during galvanizing. Temporary stiffener angles shall bolt or fit tight against top and bottom flanges and include spacer tubes to minimize damage to galvanizing during removal.

To ensure identification after galvanizing, piece marks shall be supplemented with metal tags for all items where fit-up requires matching specific pieces.

After fabrication (cutting, welding, drilling, etc.) is complete, all holes shall be deburred and all fins, scabs or other surface/edge anomalies shall be ground or repaired per ASTM A6. The items shall then be cleaned per Steel Structures Painting Council's Surface Preparation Specification SSPC-SP1 (Solvent Cleaning) and SSPC-SP6 (Commercial Blast Cleaning). All surfaces shall be inspected to verify no fins, scabs or other similar defects are present.

The Contractor shall consult with the galvanizer to ensure proper removal of grease, paint and other deleterious materials prior to galvanizing.

Surface Preparation and Hot Dip Galvanizing

General. Surfaces of the structural steel specified on the plans shall be prepared and hot dip galvanized as described herein.

Cleaning Structural Steel. If rust, mill scale, dirt, oil, grease or other foreign substances have accumulated prior to galvanizing, steel surfaces shall be cleaned by a combination of caustic cleaning and cleaning according to SSPC-SP8 (Pickling).

Special attention shall be given to the cleaning of corners and reentrant angles.

Surface Preparation. A flux shall be applied to all steel surfaces to be galvanized. Any surfaces which will receive field-installed stud shear connectors shall not be galvanized within 2 in. (50 mm) of the stud location. Either the entire area receiving studs or just individual stud locations may be left ungalvanized. The following steel surfaces of bearings shall not be galvanized: stainless steel surfaces, surfaces which will be machined (except for fixed bearing sole plates), and surfaces which will have TFE, elastomer, or stainless steel parts bonded to them.

The cleaned surfaces shall be galvanized within 24 hours after cleaning, unless otherwise authorized by the Engineer.

Application of Hot Dip Galvanized Coating. Steel members, fabrications and assemblies shall be galvanized by the hot dip process in the shop according to AASHTO M 111.

Bolts, nuts, and washers shall be galvanized according to ASTM F 2329.

All steel shall be safeguarded against embrittlement according to ASTM A 143. Water quenching or chromate conversion coating shall not be used on any steel work that is to be painted. All galvanized steel work shall be handled in such a manner as to avoid any mechanical damage and to minimize distortion.

Beams and girders shall be handled, stored and transported with their webs vertical and with proper cushioning to prevent damage to the member and coating. Members shall be supported and externally stiffened during galvanizing to prevent permanent distortion.

Hot Dip Galvanized Coating Requirements. Coating weight, surface finish, appearance and adhesion shall conform to requirements of ASTM A 385, ASTM F2329, AASHTO M 111 or AASHTO M 232, as appropriate.

Any high spots of zinc coating, such as metal drip lines and rough edges, left by the galvanizing operation in areas that are to be field connected or in areas that are to be painted shall be removed by cleaning per SSPC-SP2 (Hand Tool Cleaning) or SSPC-SP3 (Power Tool Cleaning). The zinc shall be removed until it is level with the surrounding area, leaving at least the minimum required zinc thickness.

Shop assemblies producing field splices shall provide 1/8 in. (3 mm) minimum gaps between ends of members to be galvanized. At field splices of beams or girders, galvanizing exceeding 0.08 in. (2 mm) on the cross-sectional (end) face shall be partially removed until it is 0.04 in. to 0.08 in. (1 to 2 mm) thick.

Testing of Hot Dip Galvanized Coating. Inspection and testing of hot dip galvanized coatings shall follow the guidelines provided in the American Galvanizers Association publication "*Inspection of Products Hot Dip Galvanized After Fabrication*". Sampling, inspection, rejection and retesting for conformance with requirements shall be according to AASHTO M 111 or AASHTO M 232, as applicable. Coating thickness shall be measured according to AASHTO M 111, for magnetic thickness gage measurement or AASHTO M 232, as applicable.

All steel shall be visually inspected for finish and appearance.

Bolts, nuts, washers, and steel components shall be packaged according to ASTM F 2329. Identity of bolts, nuts and washers shall be maintained for lot-testing after galvanizing according to Article 505.04(f)(2) for high strength steel bolts.

A notarized certificate of compliance with the requirements listed herein shall be furnished. The certificate shall include a detailed description of the material processed and a statement that the processes used met or exceeded the requirements for successful galvanizing of the surface, where applicable. The certificate shall be signed by the galvanizer.

Repair of Hot Dip Galvanized Coating. Surfaces with inadequate zinc thickness shall be repaired in the shop according to ASTM A 780 and AASHTO M 111.

Surfaces of galvanized steel that are damaged after the galvanizing operation shall be repaired according to ASTM A 780 whenever damage exceeds 3/16 in. (5 mm) in width and/or 4 in. (100 mm) in length. Damage that occurs in the shop shall be repaired in the shop. Damage that occurs during transport or in the field shall be repaired in the field.

Connection Treatment. All bolt holes shall be reamed or drilled to their specified diameters after galvanizing. All bolts shall be installed after galvanizing.

Surface Preparation and Painting

Surface Preparation. When galvanized steel surfaces are specified to be painted they shall be clean and free of oil, grease, and other foreign substances. Surface preparation necessary to provide adequate adhesion of the coating shall be performed according to ASTM D6386. Surface preparation shall include, but not be limited to the following:

- All galvanized steel surfaces that are to be painted shall be cleaned according to SSPC-SP1 (Solvent Cleaning). After cleaning, all chemicals shall be thoroughly rinsed from the surface with a suitable solvent. The steel shall be allowed to completely dry prior to coating application.
- All galvanized steel surfaces that are to be painted shall be checked for the presence of chromate conversion coating according to ASTM D 6386 Appendix X1. Surfaces where chromate conversion coating is found shall be cleaned according to the same appendix and blown down with clean, compressed air according to ASTM D 6386 Section 6.1.
- All galvanized steel surfaces that are to be painted shall be checked for the presence of wet storage stain. Surfaces where wet storage stain is found shall be cleaned, rinsed and completely dried according to ASTM D 6386 Section 6.2.
- Following galvanizing, thickness readings shall verify the acceptable thickness of the galvanizing according to AASHTO M111/ASTM A123.

Paint Requirements. The paint materials (epoxy intermediate coat and aliphatic urethane finish coat) shall meet the requirements of the Articles 1008.05(d) and (e) of the Standard Specification.

All paint materials for the shop and field shall be supplied by the same manufacturer, and samples of components submitted for approval by the Department, before use.

Paint storage, mixing, and application shall be according to Section 506 of the Standard Specifications and the paint manufacturer's written instructions and product data sheets. In the event of a conflict the Contractor shall advise the Engineer and comply with the Engineer's written resolution. Until a resolution is provided, the most restrictive conditions shall apply.

Shop Application of the Paint System. The areas to be painted shall receive one full coat of an epoxy intermediate coat and one full coat of an aliphatic urethane finish coat. The film thickness of each coat shall be according to Article 506.09(f)(2).

Construction Requirements. The contact surfaces of splice flange connections (mating flange faces and areas under splice bolt heads and nuts) shall be free of paint prior to assembly. If white rust is visible on the mating flange surfaces, the steel shall be prepared by hand wire brushing or brush-off blasting according to SSPC-SP7. Power wire brushing is not allowed.

After field erection, the following areas shall be prepared by cleaning according to SSPC-SP1 (Solvent Cleaning), tie- or wash-coated if applicable, and then painted or touched up with the paint specified for shop application (the intermediate coat and/or the finish coat):

- exposed unpainted areas at bolted connections
- areas where the shop paint has been damaged
- any other unpainted, exposed areas as directed by the Engineer.

Special Instructions. Painting Date/System Code. At the completion of the work, the Contractor shall stencil in contrasting color paint the date of painting the bridge and the paint type code from the Structure Information and Procedure Manual for the system used according to Article 506.10(i). The code designation for galvanizing is "V". If painting of the structural steel is not specified then the word "PAINTED" may be omitted, the month and year shall then correspond to the date the stencil is applied.

Basis of Payment. The cost of all surface preparation, galvanizing, painting and all other work described herein shall be considered as included in the unit price bid for the applicable pay items to be galvanized and painted, according to the Standard Specifications.

PREFORMED PAVEMENT JOINT SEAL

Effective: October 4, 2016

Revised: March 24, 2023

Description. This work shall consist of furnishing all labor, equipment and materials necessary to prepare the joint opening and install pavement joint seal(s) at the locations specified. Unless otherwise detailed on the plans, the joint shall be sized for a rated movement of 2 inches (50 mm).

Materials: Unless otherwise specified, one of the following prefabricated joint seals will be permitted.

(a) Preformed Elastomeric Joint Seal. This material shall be according to Section 1053.01.

(b) Preformed Pre-compressed, Silicone Coated, Self-Expanding Sealant System. This Sealant system shall be comprised of three components: 1) cellular polyurethane foam impregnated with hydrophobic 100% acrylic, water-based emulsion, factory coated with highway-grade,

fuel resistant silicone; 2) field-applied epoxy adhesive primer, 3) field-injected silicone sealant bands.

The preformed, pre-compressed silicone joint seal shall, as a minimum, be according to the following:

- The joint seal shall be held in place by a non-sag, high modulus silicone adhesive.
- The joint seal shall be compatible with the epoxy and header material.
- The joint seal shall withstand the effects of vertical and lateral movements, skew movements and rotational movement without adhesive or cohesive failure.
- The joint seal shall be designed so that, the material is capable of movement of +50%, -50% (100% total) of nominal material size.
- The gland shall not contain any open, unsealed joints along its length in its final condition.
- Changes in plane and direction shall be executed using factory fabricated 90 degree transition assemblies. The transitions shall be watertight at the inside and outside corners through the full movement of the product.
- The depth of the joint shall be recessed 3/4 in. (19 mm) below the riding surface throughout the normal limits of joint movement.
- The joint seal shall be resistant to ultraviolet rays.
- The joint seal shall be resistant to abrasion, oxidation, oils, gasoline, salt, and other materials that may be spilled on or applied to the surface.
- The manufacturer shall certify that the joint composition shall be free of any waxes or wax compounds; asphalts or asphalt compounds.

The joint material shall meet the following physical properties:

Property	Requirement	Test Method
Tensile Strength of Silicone Coating (min)	140 psi	ASTM D 412
UV Resistance of Joint System	No Changes--2000 Hours	ASTM C793
Density of Cellular Polyurethane Foam	4.0 lb/ cu ft (200kg/cu m)	ASTM D545
Heat Aging Effects (Silicone Coating)	No cracking, chalking	ASTM C 792
Joint System Operating temp range (min)	-40° F to 185° F	ASTM C 711

The adhesive shall be a two-component, 100% solid, modified epoxy meeting the requirements of ASTM C881, Type I, Grade 3, Class B & C. The adhesive shall also have the following properties:

Property	Requirement	Test method
Tensile Strength	2,500 psi (24 MPa) min.	ASTM D638
Compressive Strength	7000 psi (48 MPa) min.	ASTM D695
Bond Strength (Dry Cure)	2000 psi (28MPa) min	ASTM C882
Water Absorption	0.1% by weight	ASTM D570

The silicone band adhesive shall have the following properties:

Property	Requirement	Test Method
Movement Capability	+50/-50%	ASTM C 719
Elongation at Break	>600%	ASTM D 5893
Slump	≤0.3"	ASTM D 2202
Hardness (Shore A) max.	20	ASTM C 661
Tack free time (max)	60 minutes	ASTM C 679
Heat Aging Effects	No cracking, chalking	ASTM C 792
Resilience	≥ 75%	ASTM D5329
Bond	0% Adhesive or Cohesive Failure after 5 cycles @100%extension	ASTM D 5329

- (c) Performed Silicone Joint Seal. The preformed silicone joint seal used for this item shall conform to the following specifications:

Table 1
Physical Properties of Preformed Silicone Gland

Property	Requirement	Test Method
Rated Movement Capability	+2 ¼ inch total	N/A
Tensile Strength, psi.	1000 min	ASTM D 412
Elongation	400% min	ASTM D 412
Tear (die B)	100 ppi. min	ASTM D 624
Hardness Durometer (Shore A).	55 +/- 5 max	ASTM D 2240
Compression set at 212°F, 70 hrs	30% max	ASTM D 395
Heat Aged Properties	5pt max loss on Durometer	ASTM D 573
Tensile and Elongation % Loss	10 % max	

The color of the preformed silicone seal shall be black, made by the addition of Carbon Black fillers which increases UV resistance, tensile strength, and abrasion wear properties.

The locking adhesive shall be non-sag, high modulus silicone adhesive conforming to the following specifications:

Table 2
Physical Properties of the Silicone Locking Adhesive

Property	Requirement	Test Method
Tensile Strength, psi.	200 min	ASTM D 412
Elongation, %	450 min	ASTM D 412
Tack Free Time, minutes.	20 max.	ASTM C 679
Cure Time ¼" bead, hrs	24 max	ASTM C 679
Resistance to U.V.	No cracking, chalking, or degradation	ASTM C793
VOC (g/L)	0	ASTM D 3960

Any rips, tears, or bond failure will be cause for rejection.

The two part epoxy primer shall be supplied for application to the vertical faces of the joint opening. The supplied primer shall be equally as effective when bonded to concrete or steel. This primer shall meet the following criteria:

Table 3
Physical Properties of Preformed Silicone Joint System Primer

Property	Requirement	Test Method
Viscosity (cps)	44	ASTM D 2196
Color	Light Amber	Visual
Solids (%)	41	ASTM D 4209
Specific Gravity	0.92	ASTM D 1217
Product Flash Point (°F, T.C.C.)	48	ASTM D 56
Package Stability	N/A	One year in tightly sealed containers
Cleaning	N/A	Mineral Spirits
VOC (g/L)	520	ASTM D 3960

- (d) Preformed Inverted EPDM Joint Seal. The preformed inverted EPDM joint seal used for this item shall conform to the following specifications:

Table 1
Physical Properties of Preformed Silicone Gland

Property	Requirement	Test Method
Rated Movement Capability	Up To 5 inch total	N/A
Tensile Strength, psi.	1200 psi min	ASTM D 412
Elongation	400 % min	ASTM D 412
Tear (Die C)	150 pli. min	ASTM D 624
Durometer Content	50 +/- 5 max	ASTM D 2240
Water Resistance (70 hrs @ 100c)	10% max	ASTM D 471
Ozone Resistance	100 min	ASTM D 1171

V-Epoxy-R adhesive meets the requirements of ASTM C881 Type III, Grade 2. The adhesive shall also have the following properties:

Table 2
Physical Properties of the V-Epoxy-R

Property	Requirement	Test Method
Color	Gray	Visual
Viscosity	45,000 CP (typ.)	N/A
Gel Time (minutes)	30 min.	ASTM C 881
Shelf Life (Separate Sealed Containers)	12 Months	N/A
Resistance to U.V.	No cracking, chalking, or degradation	ASTM C793
VOC (g/L)	0	ASTM D 3960

Any rips, tears, or bond failure will be cause for rejection.

- (e) Bonded Preformed Joint Seal. This joint system shall consist of preformed elastomeric seal bonded to the side walls of the joint opening using an adhesive as specified by the Manufacturer of the joint seal.

The bonded preformed joint seal shall be according to Table 1 of ASTM D2628 with the following exceptions: Compression set shall not be over 40 percent when tested according to Method B (Modified) of ASTM D 395 after 70 hours at 212 °F (100 °C). The Compression-Deflection requirement will not apply to the bonded preformed joint seal.

The adhesive shall be epoxy base, dual component, which resists salt, diluted acids, alkalis, solvents, greases, oils, moisture, sunlight and weathering. Temperatures up to 200 °F (93 °C) shall not reduce bond strength. At 68 °F (20 °C), the bond strength shall be a minimum of 1000 psi (6.9 MPa) within 24 hours.

Any primers or cleaning solutions used on the faces of the joint or on the profile of the sides of the bonded preformed joint seal shall be supplied by the manufacturer of the bonded preformed joint seal.

Any additional installation materials and adhesive for splicing joint sections shall be as supplied by the manufacturer of the preformed joint seal.

The Contractor shall submit the Manufacturer's material certification documentation stating that their materials meet the applicable requirements of this specification for the joint seal(s) installed.

CONSTRUCTION REQUIREMENTS

General. The Contractor shall furnish the Engineer with the manufacturer's product information and installation procedures at least two weeks prior to installation.

The minimum ambient air temperature in which the joint seal can be installed is 40° F (4.4° C) and rising, except for bonded preformed joint seals which shall not be installed when temperatures below 50 °F (10 °C) are predicted within a 48 hour period.

The joint surface shall be completely dry before installing the Joint Seal. For newly placed concrete, the concrete shall be fully cured and allowed to dry out a minimum of seven additional days prior to placement of the seal. Cold, wet, inclement weather will require an extended drying time.

The Joint Seal shall not be installed immediately after precipitation or if precipitation is forecasted for the day. Joint preparation and installation of Joint Seal shall be done during the same day.

Surface Preparation. Surface preparation shall be according to the joint seal manufacturer's written instructions.

After surface preparation is completed, the joint shall be cleaned of debris using compressed air with a minimum pressure of 90 psi (620 kPa). The air compressor shall be equipped with traps to prevent the inclusion of water and/or oil in the air line. The compressed air shall be according to the cleanliness requirements of ASTM D 4285.

When priming is required per the manufacturer's instruction, this operation shall immediately follow cleaning.

Joint Installation. The Joint installation shall be per the manufacturer's instructions; special attention shall be given to ensure the joint seal is properly recessed below the top of the riding surface as recommended by the manufacturer.

For bonded joint seals the seal shall be inserted into the joint and held tightly against both sides of the joint until sufficient bond strength has been developed to resist the expected expansion forces.

Opening to traffic. As these joint systems are supposed to be recessed below the top of the riding surface, there should be no restriction, based on the joint seal installation, on when these joints can be reopened to traffic.

Method of Measurement. The installed prefabricated joint seal will not be measured for payment.

Basis of Payment. The prefabricated joint seal will not be paid for separately but shall be considered included in the cost of the adjacent concrete work involved.

BAR SPLICERS, HEADED REINFORCEMENT

Effective: September 2, 2022

Revised: October 27, 2023

Add the following to Article 508.08(b):

When bar splicers are epoxy-coated, all damaged or uncoated areas near the threaded ends shall be coated with a two-part epoxy according to ASTM D 3963 (D 3963M). All threaded ends of Stage II construction threaded splicer bars shall be coated according to ASTM D 3963 or dipped in an epoxy-mastic primer prior to joining the Stage II construction threaded splicer bar to the threaded coupler.

Add the following Article 508.02 (d)

Bar Terminators 1006.10(a)(1)h

Add the following paragraph after Article 508.08 (c):

Bar terminators are threaded, headed attachments to reinforcement to form headed reinforcement. When specified on the plans, a bar terminator shall be attached to the designated reinforcement for development.

Add the following 4th paragraph to Article 508.11:

Bar Terminators will be paid for at the contract unit price per each for BAR TERMINATORS.

Add the following to Article 1006.10(a)(1)g:

For bar splicers with welded connections between the threaded coupler and threaded rod, the Stage I construction threaded splicer bar shall be welded to the threaded coupler using an all-around fillet weld.

Add the following Article 1006.10(a)(1)h:

Bar Terminators. Designated bars shall use a bar terminator to form headed reinforcement. Headed reinforcement shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706, except the connection strength of the bar terminator to the reinforcement bar shall meet, in tension, at least 125 percent of the specified yield strength of the reinforcement bar. The bar terminator shall be on the Department's qualified product list.

When the reinforcement bar to receive the bar terminator is epoxy coated, the bar terminator shall also be epoxy coated according to ASTM A 775 (A 775M)

BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE)

Effective: November 2, 2006

Revised: August 1, 2017

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

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

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

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

Where: CA = Cost Adjustment, \$.

BPI_P = Bituminous Price Index, as published by the Department for the month the work is performed, \$/ton (\$/metric ton).

BPI_L = Bituminous Price Index, as published by the Department for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price, \$/ton (\$/metric ton).

%AC_V = Percent of virgin Asphalt Cement in the Quantity being adjusted. For HMA mixtures, the % AC_V will be determined from the adjusted job mix formula. For bituminous materials applied, a performance graded or cutback asphalt will be considered to be 100% AC_V and undiluted emulsified asphalt will be considered to be 65% AC_V.

Q = Authorized construction Quantity, tons (metric tons) (see below).

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

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

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

Where: A = Area of the HMA mixture, sq yd (sq m).

D = Depth of the HMA mixture, in. (mm).

G_{mb} = Average bulk specific gravity of the mixture, from the approved mix design.

V = Volume of the bituminous material, gal (L).

SG = Specific Gravity of bituminous material as shown on the bill of lading.

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

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

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

CEMENT, FINELY DIVIDED MINERALS, ADMIXTURES; CONCRETE, AND MORTAR (BDE)

Effective: January 1, 2025

Revise the first paragraph of Article 285.05 of the Standard Specifications to read:

“285.05 Fabric Formed Concrete Revetment Mat. The grout shall consist of a mixture of cement, fine aggregate, and water so proportioned and mixed as to provide a pumpable slurry. Fly ash or ground granulated blast furnace (GGBF) slag, and concrete admixtures may be used at the option of the Contractor. The grout shall have an air content of not less than 6.0 percent nor more than 9.0 percent of the volume of the grout. The mix shall obtain a compressive strength of 2500 psi (17,000 kPa) at 28 days according to Article 1020.09.”

Revise Article 302.02 of the Standard Specifications to read:

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

Item	Article/Section
(a) Cement	1001
(b) Water	1002
(c) Hydrated Lime	1012.01
(d) By-Product, Hydrated Lime	1012.02
(e) By-Product, Non-Hydrated Lime	1012.03
(f) Lime Slurry	1012.04
(g) Fly Ash	1010
(h) Soil for Soil Modification (Note 1)	1009.01
(i) Bituminous Materials (Note 2)	1032

Note 1. This soil requirement only applies when modifying with lime (slurry or dry).

Note 2. The bituminous materials used for curing shall be emulsified asphalt RS-2, CRS-2, HFE 90, or HFE 150; rapid curing liquid asphalt RC-70; or medium curing liquid asphalt MC-70 or MC-250.”

Revise Article 312.07(c) of the Standard Specifications to read:

“(c) Cement1001”

Add Article 312.07(i) of the Standard Specifications to read:

“(i) Ground Granulated Blast Furnace (GGBF) Slag1010”

Revise the first paragraph of Article 312.09 of the Standard Specifications to read:

“312.09 Proportioning and Mix Design. At least 60 days prior to start of placing CAM II, the Contractor shall submit samples of materials to be used in the work for proportioning and testing. The mixture shall contain a minimum of 200 lb (120 kg) of cement per cubic yard (cubic meter). Cement may be replaced with fly ash or ground granulated blast furnace (GGBF) slag according to Article 1020.05(c)(1) or 1020.05(c)(2), respectively, however the minimum cement content in the mixture shall be 170 lbs/cu yd (101 kg/cu m). Blends of coarse and fine aggregates will be permitted, provided the volume of fine aggregate does not exceed the volume of coarse aggregate. The Engineer will determine the proportions of materials for the mixture according to the “Portland Cement Concrete Level III Technician Course” manual. However, the Contractor may substitute their own mix design. Article 1020.05(a) shall apply, and a Level III PCC Technician shall develop the mix design.”

Revise Article 352.02 of the Standard Specifications to read:

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

Item	Article/Section
(a) Cement (Note 1)	1001
(b) Soil for Soil-Cement Base Course	1009.03
(c) Water	1002
(d) Bituminous Materials (Note 2)	1032

Note 1. Bulk cement may be used for the traveling mixing plant method if the equipment for handling, weighing, and spreading the cement is approved by the Engineer.

Note 2. The bituminous materials used for curing shall be emulsified asphalt RS-2, CRS-2, HFE 90, or HFE 150; rapid curing liquid asphalt RC-70; or medium curing liquid asphalt MC-70 or MC-250.”

Revise Article 404.02 of the Standard Specifications to read:

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

Item	Article/Section
(a) Cement	1001
(b) Water	1002
(c) Fine Aggregate	1003.08
(d) Bituminous Material (Tack Coat)	1032.06
(e) Emulsified Asphalts (Note 1) (Note 2)	1032.06
(f) Fiber Modified Joint Sealer	1050.05
(g) Additives (Note 3)	

Note 1. When used for slurry seal, the emulsified asphalt shall be CQS-1h according to Article 1032.06(b).

Note 2. When used for micro-surfacing, the emulsified asphalt shall be CQS-1hP according to Article 1032.06(e).

Note 3. Additives may be added to the emulsion mix or any of the component materials to provide the control of the quick-traffic properties. They shall be included as part of the mix design and be compatible with the other components of the mix.

Revise the last sentence of the fourth paragraph of Article 404.08 of the Standard Specifications to read:

“When approved by the Engineer, the sealant may be dusted with fine sand, cement, or mineral filler to prevent tracking.”

Revise Note 2 of Article 516.02 of the Standard Specifications to read:

“Note 2. The sand-cement grout mix shall be according to Section 1020 and shall be a 1:1 blend of sand and cement comprised of a Type I, IL, or II cement at 185 lb/cu yd (110 kg/cu m). The maximum water cement ratio shall be sufficient to provide a flowable mixture with a typical slump of 10 in. (250 mm).”

Revise Note 2 of Article 543.02 of the Standard Specifications to read:

“Note 2. The grout mixture shall be 6.50 hundredweight/cu yd (385 kg/cu m) of cement plus fine aggregate and water. Fly ash or ground granulated blast furnace (GGBF) slag may replace a maximum of 5.25 hundredweight/cu yd (310 kg/cu m) of the cement. The water/cement ratio, according to Article 1020.06, shall not exceed 0.60. An air-entraining admixture shall be used to produce an air content, according to Article 1020.08, of not less than 6.0 percent nor more than 9.0 percent of the volume of the grout. The Contractor shall have the option to use a water-reducing or high range water-reducing admixture.”

Revise Article 583.01 of the Standard Specifications to read:

“583.01 Description. This work shall consist of placing cement mortar along precast, prestressed concrete bridge deck beams as required for fairing out any unevenness between adjacent deck beams prior to placing of waterproofing membrane and surfacing.”

Revise Article 583.02(a) of the Standard Specifications to read:

“(a) Cement1001”

Revise the first paragraph of Article 583.03 of the Standard Specifications to read:

“ 583.03 General. This work shall only be performed when the air temperature is 45 °F (7 °C) and rising. The mixture for cement mortar shall consist of three parts sand to one part cement by volume. The amount of water shall be no more than that necessary to produce a workable, plastic mortar.”

Revise Note 2/ in Article 1003.01(b) of the Standard Specifications to read:

“2/ Applies only to sand. Sand exceeding the colorimetric test standard of 11 (Illinois Modified AASHTO T 21) will be checked for mortar making properties according to Illinois Modified ASTM C 87 and shall develop a compressive strength at the age of 14 days when using Type I, IL, or II cement of not less than 95 percent of the comparable standard.

Revise the second sentence of Article 1003.02(e)(1) of the Standard Specifications to read:

“The test will be performed with Type I, IL, or II portland cement having a total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.90 percent or greater.”

Revise the first sentence of the second paragraph of Article 1003.02(e)(3) of the Standard Specifications to read:

“The ASTM C 1293 test shall be performed with Type I, IL, or II portland cement having a total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.80 percent or greater.”

Revise the second sentence of Article 1004.02(g)(1) of the Standard Specifications to read:

“The test will be performed with Type I, IL, or II portland cement having a total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.90 percent or greater.”

Revise Article 1017.01 of the Standard Specifications to read:

“1017.01 Requirements. The mortar shall be high-strength according to ASTM C 387 and shall have a minimum 80.0 percent relative dynamic modulus of elasticity when tested by the Department according to Illinois Modified AASHTO T 161 or AASHTO T 161 when tested by an independent lab. The high-strength mortar shall have a water-soluble chloride ion content of less than 0.40 lb/cu yd (0.24 kg/cu m). The test shall be performed according to ASTM C 1218, and the high-strength mortar shall have an age of 28 to 42 days at the time of test. The ASTM C 1218 test shall be performed by an independent lab a minimum of once every five years, and the test results shall be provided to the Department. Mixing of the high-strength mortar shall be according to the manufacturer’s specifications. The Department will maintain a qualified product list.”

Revise the fourth sentence of Article 1018.01 of the Standard Specifications to read:

“The ASTM C 1218 test shall be performed by an independent lab a minimum of once every five years, and the test results shall be provided to the Department.”

Revise Article 1019.02 of the Standard Specifications to read:

“1019.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Cement	1001
(b) Water	1002
(c) Fine Aggregate for Controlled Low-Strength Material (CLSM)	1003.06
(d) Fly Ash	1010

- (e) Ground Granulated Blast Furnace (GGBF) Slag..... 1010
(f) Admixtures (Note 1)

Note 1. The air-entraining admixture may be in powder or liquid form. Prior to approval, a CLSM air-entraining admixture will be evaluated by the Department. The admixture shall be able to meet the air content requirements of Mix 2. The Department will maintain a qualified product list.”

Revise Article 1019.05 of the Standard Specifications to read:

“**1019.05 Department Mix Design.** The Department mix design shall be Mix 1, 2, or 3 and shall be proportioned to yield approximately one cubic yard (cubic meter).

Mix 1	
Cement	50 lb (30 kg)
Fly Ash – Class C or F, and/or GGBF Slag	125 lb (74 kg)
Fine Aggregate – Saturated Surface Dry	2900 lb (1720 kg)
Water	50-65 gal (248-322 L)
Air Content	No air is entrained

Mix 2	
Cement	125 lb (74 kg)
Fine Aggregate – Saturated Surface Dry	2500 lb (1483 kg)
Water	35-50 gal (173-248 L)
Air Content	15-25 %

Mix 3	
Cement	40 lb (24 kg)
Fly Ash – Class C or F, and/or GGBF Slag	125 lb (74 kg)
Fine Aggregate – Saturated Surface Dry	2500 lb (1483 kg)
Water	35-50 gal (179-248 L)
Air Content	15-25 %”

Revise Article 1020.04, Table 1, Note (8) of the Standard Specifications to read:

“(8) In addition to the Type III portland cement, 100 lb/cu yd of ground granulated blast-furnace slag and 50 lb/cu yd of microsilica (silica fume) shall be used. For an air temperature greater than 85 °F, the Type III portland cement may be replaced with Type I, IL, or II portland cement.”

Revise Article 1020.04, Table 1 (Metric), Note (8) of the Standard Specifications to read:

“(8) In addition to the Type III portland cement, 60 kg/cu m of ground granulated blast-furnace slag and 30 kg/cu m of microsilica (silica fume) shall be used. For an air temperature greater than 30 °C, the Type III portland cement may be replaced with Type I, IL, or II portland cement.”

Revise the second paragraph of Article 1020.05(a) of the Standard Specifications to read:

“For a mix design using a portland-pozzolan cement, portland blast-furnace slag cement, portland-limestone cement, or replacing portland cement with finely divided minerals per Articles 1020.05(c) and 1020.05(d), the Contractor may submit a mix design with a minimum portland cement content less than 400 lbs/cu yd (237 kg/cu m), but not less than 375 lbs/cu yd (222 kg/cu m), if the mix design is shown to have a minimum relative dynamic modulus of elasticity of 80 percent determined according to AASHTO T 161. Testing shall be performed by an independent laboratory accredited by AASHTO re:source for Portland Cement Concrete.”

Revise the first sentence of the first paragraph of Article 1020.05(b) of the Standard Specifications to read:

“Corrosion inhibitors and concrete admixtures shall be according to the qualified product lists.”

Delete the fourth and fifth sentences of the second paragraph of Article 1020.05(b) of the Standard Specifications.

Revise the third sentence of the second paragraph of Article 1020.05(b)(5) of the Standard Specifications to read:

“The qualified product lists of concrete admixtures shall not apply.”

Revise second paragraph of Article 1020.05(b)(10) of the Standard Specifications to read:

“When calcium nitrite is used, it shall be added at the rate of 4 gal/cu yd (20 L/cu m) and shall be added to the mix immediately after all compatible admixtures have been introduced to the batch. Other corrosion inhibitors shall be added per the manufacturer’s specifications.”

Delete the third paragraph of Article 1020.05(b)(10) of the Standard Specifications.

Revise Article 1020.15(b)(1)c. of the Standard Specifications to read:

“c. The minimum portland cement content in the mixture shall be 375 lbs/cu yd (222 kg/cu m). When the total of organic processing additions, inorganic processing additions, and limestone addition exceed 5.0 percent in the cement, the minimum portland cement content in the mixture shall be 400 lbs/cu yd (237 kg/cu m). For a drilled shaft, foundation, footing, or substructure, the minimum portland cement may be reduced to as low as 330 lbs/cu yd (196 kg/cu m) if the concrete has adequate freeze/thaw durability. The Contractor shall provide freeze/thaw test results according to AASHTO T 161, and the relative dynamic modulus of elasticity of the mix design shall be a minimum of 80 percent. Testing shall be performed by an independent laboratory accredited by AASHTO re:source for Portland Cement Concrete. Freeze/thaw testing will not be required for concrete that will not be exposed to freezing and thawing conditions as determined by the Engineer.”

Revise Article 1021.01 of the Standard Specifications to read:

“1021.01 General. Admixtures shall be furnished in liquid or powder form ready for use. The admixtures shall be delivered in the manufacturer's original containers, bulk tank trucks or such containers or tanks as are acceptable to the Engineer. Delivery shall be accompanied by a ticket which clearly identifies the manufacturer, the date of manufacture, and trade name of the material. Containers shall be readily identifiable as to manufacturer, the date of manufacture, and trade name of the material they contain.

Concrete admixtures shall be on one of the Department's qualified product lists. Unless otherwise noted, admixtures shall have successfully completed and remain current with the AASHTO Product Eval and Audit Concrete Admixture (CADD) testing program. For admixture submittals to the Department; the product brand name, manufacturer name, admixture type or types, an electronic link to the product's technical data sheet, and the NTPEP testing number which contains an electronic link to all test data shall be provided. In addition, a letter shall be submitted certifying that no changes have been made in the formulation of the material since the most current round of tests conducted by AASHTO Product Eval and Audit. After 28 days of testing by AASHTO Product Eval and Audit, air-entraining admixtures may be provisionally approved and used on Departmental projects. For all other admixtures, unless otherwise noted, the time period after which provisionally approved status may be earned is 6 months.

The manufacturer shall include the following in the submittal to the AASHTO Product Eval and Audit CADD testing program: the manufacturing range for specific gravity, the midpoint and manufacturing range for residue by oven drying, and manufacturing range of pH. The submittal shall also include an infrared spectrophotometer trace no more than five years old.

For air-entraining admixtures according to Article 1021.02, the specific gravity allowable manufacturing range established by the manufacturer shall be according to AASHTO M 194. For residue by oven drying and pH, the allowable manufacturing range and test methods shall be according to AASHTO M 194.

For admixtures according to Articles 1021.03, 1021.04, 1021.05, 1021.06, 1021.07, and 1021.08, the pH allowable manufacturing range established by the manufacturer shall be according to ASTM E 70. For specific gravity and residue by oven drying, the allowable manufacturing range and test methods shall be according to AASHTO M 194.

All admixtures, except chloride-based accelerators, shall contain a maximum of 0.3 percent chloride by weight (mass) as determined by an appropriate test method. To verify the test result, the Department will use Illinois Modified AASHTO T 260, Procedure A, Method 1.

Prior to final approval of an admixture, the Engineer reserves the right to request a sample for testing. The test and reference concrete mixtures tested by the Engineer will contain a cement content of 5.65 cwt/cu yd (335 kg/cu m). For freeze-thaw testing, the Department will perform the test according to Illinois Modified AASHTO T 161. The flexural strength test will be performed according to AASHTO T 177. If the Engineer decides to test the admixture, the manufacturer shall submit AASHTO T 197 water content and set time test results on the standard cement used by the Department. The manufacturer may select their lab or an independent lab to perform this testing. The laboratory is not required to be accredited by AASHTO.

Random field samples may be taken by the Department to verify an admixture meets specification. A split sample will be provided to the manufacturer if requested. Admixtures that

do not meet specification requirements or an allowable manufacturing range established by the manufacturer shall be replaced with new material.”

Revise Article 1021.03 of the Standard Specifications to read:

“**1021.03 Retarding and Water-Reducing Admixtures.** The admixture shall be according to the following.

- (a) Retarding admixtures shall be according to AASHTO M 194, Type B (retarding) or Type D (water-reducing and retarding).
- (b) Water-reducing admixtures shall be according to AASHTO M 194, Type A.
- (c) High range water-reducing admixtures shall be according to AASHTO M 194, Type F (high range water-reducing) or Type G (high range water-reducing and retarding).”

Revise Article 1021.05 of the Standard Specifications to read:

“**1021.05 Self-Consolidating Admixtures.** Self-consolidating admixture systems shall consist of either a high range water-reducing admixture only or a high range water-reducing admixture combined with a separate viscosity modifying admixture. The one or two component admixture system shall be capable of producing a concrete that can flow around reinforcement and consolidate under its own weight without additional effort and without segregation.

High range water-reducing admixtures shall be according to AASHTO M 194, Type F.

Viscosity modifying admixtures shall be according to AASHTO M 194, Type S (specific performance).”

Revise Article 1021.06 of the Standard Specifications to read:

“**1021.06 Rheology-Controlling Admixture.** Rheology-controlling admixtures shall be capable of producing a concrete mixture with a lower yield stress that will consolidate easier for slipform applications used by the Contractor. Rheology-controlling admixtures shall be according to AASHTO M 194, Type S (specific performance).”

Revise Article 1021.07 of the Standard Specifications to read:

“**1021.07 Corrosion Inhibitor.** The corrosion inhibitor shall be according to one of the following.

- (a) Calcium Nitrite. Corrosion inhibitors shall contain a minimum 30 percent calcium nitrite by weight (mass) of solution and shall comply with either the requirements of AASHTO M 194, Type C (accelerating) or the requirements of ASTM C 1582. The corrosion inhibiting performance requirements of ASTM C 1582 shall not apply.
- (b) Other Materials. The corrosion inhibitor shall be according to ASTM C 1582.

For submittals requiring testing according to ASTM M 194, Type C (accelerating), the admixture shall meet the requirements of the AASHTO Product Eval and Audit CADD testing program according to Article 1021.01.

For submittals requiring testing according to ASTM C 1582, a report prepared by an independent laboratory accredited by AASHTO re:source for portland cement concrete shall be provided. The report shall show the results of physical tests conducted no more than five years prior to the time of submittal, according to applicable specifications. However, ASTM G 109 test information specified in ASTM C 1582 is not required to be from an independent accredited lab. All other information in ASTM C 1582 shall be from an independent accredited lab. Test data and other information required to be submitted to AASHTO Product Eval and Audit according to Article 1021.01, shall instead be submitted directly to the Department.”

Add Article 1021.08 of the Standard Specifications as follows:

“1021.08 Other Specific Performance Admixtures. Other specific performance admixtures shall, at a minimum, be according to AASHTO M 194, Type S (specific performance). The Department also reserves the right to require other testing, as determined by the Engineer, to show evidence of specific performance characteristics.

Initial testing according to AASHTO M 194 may be conducted under the AASHTO Product Eval and Audit CADD testing program according to Article 1021.01, or by an independent laboratory accredited by AASHTO re:source for Portland Cement Concrete. In either case, test data and other information required to be submitted to AASHTO Product Eval and Audit according to Article 1021.01, shall also be submitted directly to the Department. The independent accredited lab report shall show the results of physical tests conducted no more than five years prior to the time of submittal, according to applicable specifications.”

Revise Article 1024.01 of the Standard Specifications to read:

“1024.01 Requirements for Grout. The grout shall be proportioned by dry volume, thoroughly mixed, and shall have a minimum temperature of 50 °F (10 °C). Water shall not exceed the minimum needed for placement and finishing.

Materials for the grout shall be according to the following.

Item	Article/Section
(a) Cement	1001
(b) Water	1002
(c) Fine Aggregate	1003.02
(d) Fly Ash	1010
(e) Ground Granulated Blast Furnace (GGBF) Slag.....	1010
(f) Concrete Admixtures	1021”

Revise Note 1 of Article 1024.02 of the Standard Specifications to read:

“Note 1. Nonshrink grout shall be according to Illinois Modified ASTM C 1107.

The nonshrink grout shall have a water-soluble chloride ion content of less than 0.40 lb/cu yd (0.24 kg/cu m). The test shall be performed according to ASTM C 1218, and the grout shall

have an age of 28 to 42 days at the time of test. The ASTM C 1218 test shall be performed by an independent lab a minimum of once every five years, and the test results shall be provided to the Department. Mixing of the nonshrink grout shall be according to the manufacturer's specifications. The Department will maintain a qualified product list."

Revise Article 1029.02 of the Standard Specifications to read:

" **1029.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Cement.....	1001
(b) Fly Ash	1010
(c) Ground Granulated Blast Furnace (GGBF) Slag	1010
(d) Water.....	1002
(e) Fine Aggregate.....	1003
(f) Concrete Admixtures	1021
(g) Foaming Agent (Note 1)	

Note 1. The manufacturer shall submit infrared spectrophotometer trace and test results indicating the foaming agent meets the requirements of ASTM C 869 in order to be on the Department's qualified product list. Submitted data/results shall not be more than five years old."

Revise the second paragraph of Article 1103.03(a)(4) the Standard Specifications to read:

"The dispenser system shall provide a visual indication that the liquid admixture is actually entering the batch, such as via a transparent or translucent section of tubing or by independent check with an integrated secondary metering device. If approved by the Engineer, an alternate indicator may be used for admixtures dosed at rates of 25 oz/cwt (1630 mL/100 kg) or greater, such as accelerating admixtures, corrosion inhibitors, and viscosity modifying admixtures."

Revise the first two sections of Check Sheet #11 of the Supplemental Specifications and Recurring Special Provisions to read:

"Description. This work shall consist of filling voids beneath rigid and composite pavements with cement grout.

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

Item	Article/Section
(a) Cement	1001
(b) Water	1002
(c) Fly Ash	1010
(d) Ground Granulated Blast Furnace (GGBF) Slag.....	1010
(e) Admixtures	1021
(f) Packaged Rapid Hardening Mortar or Concrete	1018"

Revise the third paragraph of Materials Note 2 of Check Sheet #28 of the Supplemental Specifications and Recurring Special Provisions to read:

“The Department will maintain a qualified product list of synthetic fibers, which will include the minimum required dosage rate. For the minimum required fiber dosage rate based on the Illinois Modified ASTM C 1609 test, a report prepared by an independent laboratory accredited by AASHTO re:source for Portland Cement Concrete shall be provided. The report shall show results of tests conducted no more than five years prior to the time of submittal.”

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."

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)

Effective: September 1, 2000

Revised: January 2, 2025

1. **OVERVIEW AND GENERAL 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 in accordance with the requirements of 49 CFR Part 26 and listed in the Illinois Unified Certification Program (IL UCP) DBE Directory. Award of the contract is conditioned on meeting the requirements of 49 CFR Part 26, and failure by the Contractor to carry out the requirements of Part 26 is a material breach of the contract and may result in the termination of the contract or such other remedies as the Department deems appropriate.
2. **CONTRACTOR ASSURANCE.** All assurances set forth in FHWA 1273 are hereby incorporated by reference and will be physically attached to the final contract and all subcontracts.

3. CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. The Department has determined the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies and that, in the absence of unlawful discrimination and in an arena of fair and open competition, DBE companies can be expected to perform **5.00 %** 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 in accordance with the requirements of 49 CFR 26.53 and SBE Memorandum No. 24-02.
4. IDENTIFICATION OF CERTIFIED DBE. Information about certified DBE Contractors can be found in the Illinois UCP Directory. Bidders can obtain additional information and assistance with identifying DBE-certified companies at the Department's website or by contacting the Department's Bureau of Small Business Enterprises at (217) 785-4611.
5. BIDDING PROCEDURES. Compliance with this Special Provision and SBE Policy Memorandum 24-02 is a material bidding requirement. The following shall be included with the bid.
 - (a) DBE Utilization Plan (form SBE 2026) documenting enough DBE participation has been obtained to meet the goal, or a good faith effort has been made to meet the goal even though the efforts did not succeed in obtaining enough DBE participation to meet the goal.
 - (b) Applicable DBE Participation Statement (form SBE 2023, 2024, and/or 2025) for each DBE firm the bidder has committed to perform the work to achieve the contract goal.

The required forms and documentation shall 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 bid if it does not meet the bidding procedures set forth herein and the bid will be declared non-responsive. A bidder declared non-responsive for failure to meet the bidding procedures will not give rise to an administrative reconsideration. In the event the bid is declared non-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.

6. UTILIZATION PLAN EVALUATION. 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 the bidder has committed to DBE participation sufficient to meet the goal, or that the bidder has made good faith efforts to do so, in the event the bidder cannot meet the goal, in order for the Department to 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 Department determines, based upon the documentation submitted, that the bidder has made a good faith effort to meet the contract goal pursuant to 49 CFR Part 26, Appendix A and the requirements of SBE 2026.

If the Department determines that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan of that determination in accordance with SBE Policy Memorandum 24-02.

7. CALCULATING DBE PARTICIPATION. The Utilization Plan values represent work the bidder commits to have performed by the specified DBEs 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 firms. 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 guidelines for counting goal credit are provided in 49 CFR Part 26.55. In evaluating Utilization Plans for award the Department will count goal credit as set forth in Part 26 and in accordance with SBE Policy Memorandum 24-02.
8. CONTRACT COMPLIANCE. The Contractor must utilize the specific DBEs listed to perform the work and supply the materials for which each DBE is listed in the Contractor's approved Utilization Plan, unless the Contractor obtains the Department's written consent to terminate the DBE or any portion of its work. The DBE Utilization Plan approved by SBE is a condition-of-award, and any deviation to that Utilization Plan, the work set forth therein to be performed by DBE firms, or the DBE firms specified to perform that work, must be approved, in writing, by the Department in accordance with federal regulatory requirements. Deviation from the DBE Utilization Plan condition-of-award without such written approval is a violation of the contract and may result in termination of the contract or such other remedy the Department deems appropriate. The following administrative procedures and remedies govern the compliance by the Contractor with the contractual obligations established by the Utilization Plan.
 - (a) NOTICE OF DBE PERFORMANCE. The Contractor shall provide the Engineer with at least three days advance notice of when all DBE firms are expected to perform the work committed under the Contractor's Utilization Plan.
 - (b) SUBCONTRACT. If awarded the contract, the Contractor is required to enter into written subcontracts with all DBE firms indicated in the approved Utilization Plan and must provide copies of fully executed 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.
 - (c) PAYMENT TO DBE FIRMS. 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 goal has been paid to the DBE. The Contractor shall document and report all payments for work performed by DBE certified firms in accordance with Article 109.11 of the Standard Specifications. All records of payment for work performed by DBE certified firms shall be made available to the Department upon request.
 - (d) FINAL PAYMENT. After the performance of the final item of work or trucking, or delivery of material by a DBE and final payment 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 (form SBE 2115) to the Engineer. 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.

- (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.

FUEL COST ADJUSTMENT (BDE)

Effective: April 1, 2009

Revised: August 1, 2017

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

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

(a) **Categories of Work.**

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

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

(b) Fuel Usage Factors.

English Units		
Category	Factor	Units
A - Earthwork	0.34	gal / cu yd
B – Subbase and Aggregate Base courses	0.62	gal / ton
C – HMA Bases, Pavements and Shoulders	1.05	gal / ton
D – PCC Bases, Pavements and Shoulders	2.53	gal / cu yd
E – Structures	8.00	gal / \$1000
Metric Units		
Category	Factor	Units
A - Earthwork	1.68	liters / cu m
B – Subbase and Aggregate Base courses	2.58	liters / metric ton
C – HMA Bases, Pavements and Shoulders	4.37	liters / metric ton
D – PCC Bases, Pavements and Shoulders	12.52	liters / cu m
E – Structures	30.28	liters / \$1000

(c) Quantity Conversion Factors.

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

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

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

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

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

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

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

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

HOT-MIX ASPHALT (BDE)

Effective: January 1, 2024

Revised: January 1, 2025

Revise the first and second paragraphs of Articles 1030.06(c)(2) of the Standard Specifications to read:

- “(2) Personnel. The Contractor shall provide a QC Manager who shall have overall responsibility and authority for quality control. This individual shall maintain active certification as a Hot-Mix Asphalt Level II technician.

In addition to the QC Manager, the Contractor shall provide sufficient personnel to perform the required visual inspections, sampling, testing, and documentation in a timely manner. Mix designs shall be developed by personnel with an active certification as a Hot-Mix Asphalt Level III technician. Technicians performing mix design testing and plant sampling/testing shall maintain active certification as a Hot-Mix Asphalt Level I technician. The Contractor may provide a technician trainee who has successfully completed the Department's "Hot-Mix Asphalt Trainee Course" to assist in the activities completed by a Hot-Mix Asphalt Level I technician for a period of one year after the course completion date. The Contractor may also provide a Gradation Technician who has successfully completed the Department's "Gradation Technician Course" to run gradation tests only under the supervision of a Hot-Mix Asphalt Level II Technician. The Contractor shall provide a Hot-Mix Asphalt Density Tester who has successfully completed the Department's "Nuclear Density Testing" course to run all nuclear density tests on the job site.”

Revise the second paragraph of Articles 1030.07(a)(11) and 1030.08(a)(9) of the Standard Specifications to read:

“When establishing the target density, the HMA maximum theoretical specific gravity (G_{mm}) will be based on the running average of four available Department test results for that project. If less than four G_{mm} test results are available, an average of all available Department test results for that project will be used. The initial G_{mm} will be the last available Department test result from a QMP project. If there is no available Department test result from a QMP project, the Department mix design verification test result will be used as the initial G_{mm} .”

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

- “(2) The Contractor shall complete split verification sample tests listed in the Limits of Precision table in Article 1030.09(h)(1).”

In the Supplemental Specifications, replace the revision for the end of the third paragraph of Article 1030.09(h)(2) with the following:

“When establishing the target density, the HMA maximum theoretical specific gravity (G_{mm}) will be the Department mix design verification test result.”

Revise the tenth paragraph of Article 1030.10 of the Standard Specifications to read:

“Production is not required to stop after a test strip has been constructed.”

HOT-MIX ASPHALT – LONGITUDINAL JOINT SEALANT (BDE)

Effective: November 1, 2022

Revised: August 1, 2023

Add the following after the second sentence in the eighth paragraph of Article 406.06(h)(2) of the Standard Specifications:

“If rain is forecasted and traffic is to be on the LJS or if pickup/tracking of the LJS material is likely, the LJS shall be covered immediately following its application with FA 20 fine aggregate mechanically spread uniformly at a rate of 1.5 ± 0.5 lb/sq yd (0.75 ± 0.25 kg/sq m). Fine aggregate landing outside of the LJS shall be removed prior to application of tack coat.”

Add the following after the first sentence in the ninth paragraph of Article 406.06(h)(2) of the Standard Specifications:

“LJS half-width shall be applied at a width of 9 ± 1 in. (225 ± 25 mm) in the immediate lane to be placed with the outside edge flush with the joint of the next HMA lift. The vertical face of any longitudinal joint remaining in place shall also be coated.”

Add the following after the eleventh paragraph of Article 406.06(h)(2) of the Standard Specifications:

“LJS Half-Width Application Rate, lb/ft (kg/m) ^{1/}			
Lift Thickness, in. (mm)	Coarse Graded Mixture (IL-19.0, IL-19.0L, IL-9.5, IL-9.5L, IL-4.75)	Fine Graded Mixture (IL-9.5FG)	SMA Mixture (SMA-9.5, SMA-12.5)
$\frac{3}{4}$ (19)	0.44 (0.66)		
1 (25)	0.58 (0.86)		
1 $\frac{1}{4}$ (32)	0.66 (0.98)	0.44 (0.66)	
1 $\frac{1}{2}$ (38)	0.74 (1.10)	0.48 (0.71)	0.63 (0.94)
1 $\frac{3}{4}$ (44)	0.82 (1.22)	0.52 (0.77)	0.69 (1.03)
2 (50)	0.90 (1.34)	0.56 (0.83)	0.76 (1.13)
$\geq 2 \frac{1}{4}$ (60)	0.98 (1.46)		

1/ The application rate includes a surface demand for liquid. The thickness of the LJS may taper from the center of the application to a lesser thickness on the edge of the application, provided the correct width and application rate are maintained.”

Revise the second paragraph of Article 406.13(b) of the Standard Specifications to read:

“Aggregate for covering tack, LJS, or FLS will not be measured for payment.”

Add the following to the end of the second paragraph of Article 406.14 of the Standard Specifications:

“Longitudinal joint sealant (LJS) half-width will be paid for at the contract unit price per foot (meter) for LONGITUDINAL JOINT SEALANT, HALF-WIDTH.”

PAVEMENT MARKING INSPECTION (BDE)

Effective: April 1, 2025

Revise the second sentence of the first paragraph of Article 780.13 of the Standard Specifications to read:

“In addition, thermoplastic, preformed plastic, epoxy, preformed thermoplastic, polyurea, and modified urethane pavement markings will be inspected following a winter performance period that extends from November 15 to April 1 of the next year.”

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, ΔT_c , 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs)	-5 °C min.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Table 4 - Requirements for Softener Modified Asphalt Binders		
Test	Asphalt Grade	
	SM PG 46-28 SM PG 52-28 SM PG 58-22 SM PG 64-22	SM PG 46-34 SM PG 52-34 SM PG 58-28
Small Strain Parameter (AASHTO PP 113) BBR, ΔT_c , 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, $\Delta G^* _{peak}$, 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.”

PREFORMED PLASTIC PAVEMENT MARKING (BDE)

Effective: June 2, 2024

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

“(h) Glass Beads. Glass beads shall be colorless and uniformly distributed throughout the yellow and white portions of the material only. A top coating of beads shall be bonded to or directly embedded into the surface of the markings such that the beads are not easily removed when the film is scratched firmly with a thumb nail.

The glass bead refractive index shall be tested using the liquid immersion method.

Type B material shall have an inner mix of glass beads with a minimum refractive index of 1.50 and a top coating of ceramic beads bonded to top urethane wear surface with a minimum refractive index of 1.70. Beads with a refractive index greater than 1.80 shall not be used.

Type C material shall have glass beads with a minimum refractive index of 1.50 and a layer of skid resistant ceramic particles bonded to the top urethane wear surface. The urethane wear surface shall have a nominal thickness of 5 mils (0.13 mm).”

Revise Article 1095.03(n) of the Standard Specifications to read:

“(n) Sampling and Inspection.

(1) Sample. Prior to approval and use of preformed plastic pavement markings, the manufacturer shall submit a notarized certification from an independent laboratory, together with the results of all tests, stating that the material meets the requirements as set forth herein. The independent laboratory test report shall state the lot tested, the manufacturer’s name, and the date of manufacture.

After initial approval by the Department, samples and certification by the manufacturer shall be submitted for each subsequent batch used. The manufacturer shall submit a

certification stating that the material meets the requirements as set forth herein and is essentially identical to the material sent for qualification. The certification shall state the lot tested, the manufacturer's name, and the date of manufacture.

- (2) Inspection. The Contractor shall provide a manufacturer's certification to the Engineer stating the material meets all requirements of this specification. All material samples for acceptance tests will be taken or witnessed by a representative of the Bureau of Materials and will be submitted to the Engineer of Materials, 126 East Ash Street, Springfield, Illinois 62704-4766 at least 30 days in advance of the pavement marking operations."

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES (BDE)

Effective: January 1, 2024

Revised: April 1, 2024

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

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

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

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

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

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

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

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

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

Topsoil for re-use as final cover which has been field screened and found not to exhibit PID readings over daily background readings as documented on the BDE 2732, visual staining or odors, and is classified according to Articles 669.05(a)(2), (a)(3), (a)(4), (b)(1), or (c) may be temporarily staged at the Contractor’s option.”

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

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

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

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

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.

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PROJECT BR-NHPP-3BX2(535)
SECTION (1-4)R-5,RS-2,B-1,B-2,B-3,B-4
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CONTRACT NO. 78373

TABLE 1 - SEEDING MIXTURES			
Class - Type	Seeds	lb/acre (kg/hectare)	
1 Lawn Mixture 1/	Kentucky Bluegrass	100	(110)
	Perennial Ryegrass	60	(70)
	<i>Festuca rubra</i> ssp. <i>rubra</i> (Creeping Red Fescue)	40	(50)
1A Salt Tolerant Lawn Mixture 1/	Kentucky Bluegrass	60	(70)
	Perennial Ryegrass	20	(20)
	<i>Festuca rubra</i> ssp. <i>rubra</i> (Creeping Red Fescue)	20	(20)
	<i>Festuca brevipila</i> (Hard Fescue)	20	(20)
	<i>Puccinellia distans</i> (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)
	<i>Festuca rubra</i> ssp. <i>rubra</i> (Creeping Red Fescue)	20	(20)
2 Roadside Mixture 1/	<i>Lolium arundinaceum</i> (Tall Fescue)	100	(110)
	Perennial Ryegrass	50	(55)
	<i>Festuca rubra</i> ssp. <i>rubra</i> (Creeping Red Fescue)	40	(50)
	Red Top	10	(10)
2A Salt Tolerant Roadside Mixture 1/	<i>Lolium arundinaceum</i> (Tall Fescue)	60	(70)
	Perennial Ryegrass	20	(20)
	<i>Festuca rubra</i> ssp. <i>rubra</i> (Creeping Red Fescue)	30	(20)
	<i>Festuca brevipila</i> (Hard Fescue)	30	(20)
	<i>Puccinellia distans</i> (Fults Saltgrass or Salty Alkaligrass)	60	(70)
3 Northern Illinois Slope Mixture 1/	<i>Elymus canadensis</i> (Canada Wild Rye) 5/	5	(5)
	Perennial Ryegrass	20	(20)
	Alsike Clover 4/	5	(5)
	<i>Desmanthus illinoensis</i> (Illinois Bundleflower) 4/ 5/	2	(2)
	<i>Schizachyrium scoparium</i> (Little Bluestem) 5/	12	(12)
	<i>Bouteloua curtipendula</i> (Side-Oats Grama) 5/	10	(10)
	<i>Puccinellia distans</i> (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)
	<i>Elymus canadensis</i> (Canada Wild Rye) 5/	20	(20)
	<i>Panicum virgatum</i> (Switchgrass) 5/	10	(10)
	<i>Schizachyrium scoparium</i> (Little Blue Stem) 5/	12	(12)
	<i>Bouteloua curtipendula</i> (Side-Oats Grama) 5/	10	(10)
	<i>Dalea candida</i> (White Prairie Clover) 4/ 5/	5	(5)
	<i>Rudbeckia hirta</i> (Black-Eyed Susan) 5/	5	(5)
	Oats, Spring	50	(55)

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Class – Type	Seeds	lb/acre (kg/hectare)
4 Native Grass 2/ 6/	<i>Andropogon gerardi</i>	4 (4)
	(Big Blue Stem) 5/	
	<i>Schizachyrium scoparium</i>	5 (5)
	(Little Blue Stem) 5/	
	<i>Bouteloua curtipendula</i>	5 (5)
	(Side-Oats Grama) 5/	
	<i>Elymus canadensis</i>	1 (1)
	(Canada Wild Rye) 5/	
	<i>Panicum virgatum</i> (Switch Grass) 5/	1 (1)
	<i>Sorghastrum nutans</i> (Indian Grass) 5/	2 (2)
4A Low Profile Native Grass 2/ 6/	Annual Ryegrass	25 (25)
	Oats, Spring	25 (25)
	Perennial Ryegrass	15 (15)
	<i>Schizachyrium scoparium</i>	5 (5)
	(Little Blue Stem) 5/	
	<i>Bouteloua curtipendula</i>	5 (5)
	(Side-Oats Grama) 5/	
	<i>Elymus canadensis</i>	1 (1)
	(Canada Wild Rye) 5/	
	<i>Sporobolus heterolepis</i>	0.5 (0.5)
4B Wetland Grass and Sedge Mixture 2/ 6/	(Prairie Dropseed) 5/	
	Annual Ryegrass	25 (25)
	Oats, Spring	25 (25)
	Perennial Ryegrass	15 (15)
	Wetland Grasses (species below) 5/	6 (6)
	<u>Species:</u>	<u>% By Weight</u>
	<i>Calamagrostis canadensis</i> (Blue Joint Grass)	12
	<i>Carex lacustris</i> (Lake-Bank Sedge)	6
	<i>Carex slipata</i> (Awl-Fruited Sedge)	6
	<i>Carex stricta</i> (Tussock Sedge)	6
	<i>Carex vulpinoidea</i> (Fox Sedge)	6
	<i>Eleocharis acicularis</i> (Needle Spike Rush)	3
	<i>Eleocharis obtusa</i> (Blunt Spike Rush)	3
	<i>Glyceria striata</i> (Fowl Manna Grass)	14
	<i>Juncus effusus</i> (Common Rush)	6
	<i>Juncus tenuis</i> (Slender Rush)	6
	<i>Juncus torreyi</i> (Torrey's Rush)	6
	<i>Leersia oryzoides</i> (Rice Cut Grass)	10
	<i>Scirpus acutus</i> (Hard-Stemmed Bulrush)	3
	<i>Scirpus atrovirens</i> (Dark Green Rush)	3
	<i>Bolboschoenus fluviatilis</i> (River Bulrush)	3
	<i>Schoenoplectus tabernaemontani</i> (Softstem Bulrush)	3
	<i>Spartina pectinata</i> (Cord Grass)	4

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Class – Type	Seeds	lb/acre (kg/hectare)
5	<p>Forb with Annuals Mixture (Below)</p> <p>Annuals Mixture 2/ 5/ 6/ Forb Mixture (Below)</p>	<p>1 (1)</p> <p>10 (10)</p>
<p>Annuals Mixture - Mixture not exceeding 25 % by weight of any one species, of the following:</p> <p><i>Coreopsis lanceolata</i> (Sand Coreopsis)</p> <p><i>Leucanthemum maximum</i> (Shasta Daisy)</p> <p><i>Gaillardia pulchella</i> (Blanket Flower)</p> <p><i>Ratibida columnifera</i> (Prairie Coneflower)</p> <p><i>Rudbeckia hirta</i> (Black-Eyed Susan)</p>		
<p>Forb Mixture - Mixture not exceeding 5 % by weight PLS of any one species, of the following:</p> <p><i>Amorpha canescens</i> (Lead Plant) 4/</p> <p><i>Anemone cylindrica</i> (Thimble Weed)</p> <p><i>Asclepias tuberosa</i> (Butterfly Weed)</p> <p><i>Aster azureus</i> (Sky Blue Aster)</p> <p><i>Symphyotrichum leave</i> (Smooth Aster)</p> <p><i>Aster novae-angliae</i> (New England Aster)</p> <p><i>Baptisia leucantha</i> (White Wild Indigo) 4/</p> <p><i>Coreopsis palmata</i> (Prairie Coreopsis)</p> <p><i>Echinacea pallida</i> (Pale Purple Coneflower)</p> <p><i>Eryngium yuccifolium</i> (Rattlesnake Master)</p> <p><i>Helianthus mollis</i> (Downy Sunflower)</p> <p><i>Heliopsis helianthoides</i> (Ox-Eye)</p> <p><i>Liatris aspera</i> (Rough Blazing Star)</p> <p><i>Liatris pycnostachya</i> (Prairie Blazing Star)</p> <p><i>Monarda fistulosa</i> (Prairie Bergamot)</p> <p><i>Parthenium integrifolium</i> (Wild Quinine)</p> <p><i>Dalea candida</i> (White Prairie Clover) 4/</p> <p><i>Dalea purpurea</i> (Purple Prairie Clover) 4/</p> <p><i>Physostegia virginiana</i> (False Dragonhead)</p> <p><i>Potentilla arguta</i> (Prairie Cinquefoil)</p> <p><i>Ratibida pinnata</i> (Yellow Coneflower)</p> <p><i>Rudbeckia subtomentosa</i> (Fragrant Coneflower)</p> <p><i>Silphium laciniatum</i> (Compass Plant)</p> <p><i>Silphium terebinthinaceum</i> (Prairie Dock)</p> <p><i>Oligoneuron rigidum</i> (Rigid Goldenrod)</p> <p><i>Tradescantia ohimensis</i> (Spiderwort)</p> <p><i>Veronicastrum virginicum</i> (Culver's Root)</p>		

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Class – Type	Seeds	lb/acre (kg/hectare)
5A Large Flower Native Forb Mixture 2/ 5/ 6/	Forb Mixture (see below)	5 (5)
<u>Species:</u> <i>Aster novae-angliae</i> (New England Aster) <i>Echinacea pallida</i> (Pale Purple Coneflower) <i>Helianthus mollis</i> (Downy Sunflower) <i>Heliopsis helianthoides</i> (Ox-Eye) <i>Liatris pycnostachya</i> (Prairie Blazing Star) <i>Ratibida pinnata</i> (Yellow Coneflower) <i>Rudbeckia hirta</i> (Black-Eyed Susan) <i>Silphium laciniatum</i> (Compass Plant) <i>Silphium terebinthinaceum</i> (Prairie Dock) <i>Oligoneuron rigidum</i> (Rigid Goldenrod)		<u>% By Weight</u> 5 10 10 10 10 5 10 10 20 10
5B Wetland Forb 2/ 5/ 6/	Forb Mixture (see below)	2 (2)
<u>Species:</u> <i>Acorus calamus</i> (Sweet Flag) <i>Angelica atropurpurea</i> (Angelica) <i>Asclepias incarnata</i> (Swamp Milkweed) <i>Aster puniceus</i> (Purple Stemmed Aster) <i>Bidens cernua</i> (Beggarticks) <i>Eutrochium maculatum</i> (Spotted Joe Pye Weed) <i>Eupatorium perfoliatum</i> (Boneset) <i>Helenium autumnale</i> (Autumn Sneeze Weed) <i>Iris virginica shrevei</i> (Blue Flag Iris) <i>Lobelia cardinalis</i> (Cardinal Flower) <i>Lobelia siphilitica</i> (Great Blue Lobelia) <i>Lythrum alatum</i> (Winged Loosestrife) <i>Physostegia virginiana</i> (False Dragonhead) <i>Persicaria pensylvanica</i> (Pennsylvania Smartweed) <i>Persicaria lapathifolia</i> (Curlytop Knotweed) <i>Pychanthemum virginianum</i> (Mountain Mint) <i>Rudbeckia laciniata</i> (Cut-leaf Coneflower) <i>Oligoneuron riddellii</i> (Riddell Goldenrod) <i>Sparganium eurycarpum</i> (Giant Burreed)		<u>% By Weight</u> 3 6 2 10 7 7 7 2 2 5 5 2 5 10 10 5 5 2 5
6 Conservation Mixture 2/ 6/	<i>Schizachyrium scoparium</i> (Little Blue Stem) 5/ <i>Elymus canadensis</i> (Canada Wild Rye) 5/ Buffalo Grass 5/ 7/ Vernal Alfalfa 4/ Oats, Spring	5 (5) 2 (2) 5 (5) 15 (15) 48 (55)
6A Salt Tolerant Conservation Mixture 2/ 6/	<i>Schizachyrium scoparium</i> (Little Blue Stem) 5/ <i>Elymus canadensis</i> (Canada Wild Rye) 5/ Buffalo Grass 5/ 7/ Vernal Alfalfa 4/ Oats, Spring <i>Puccinellia distans</i> (Fults Saltgrass or Salty Alkaligrass)	5 (5) 2 (2) 5 (5) 15 (15) 48 (55) 20 (20)
7 Temporary Turf Cover Mixture	Perennial Ryegrass Oats, Spring	50 (55) 64 (70)

Notes:

- 1/ Seeding shall be performed when the ambient temperature has been between 45 °F (7 °C) and 80 °F (27 °C) 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 °F (7 °C) for a minimum of seven (7) consecutive days and ending when the ambient temperature exceeds 80 °F (27 °C) 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 KNO₃ 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.”

SHORT TERM AND TEMPORARY PAVEMENT MARKINGS (BDE)

Effective: April 1, 2024

Revised: April 2, 2024

Revise Article 701.02(d) of the Standard Specifications to read:

“(d) Pavement Marking Tapes (Note 3)1095.06”

Add the following Note to the end of Article 701.02 of the Standard Specifications:

“Note 3. White or yellow pavement marking tape that is to remain in place longer than 14 days shall be Type IV tape.”

Revise Article 703.02(c) of the Standard Specifications to read:

“(c) Pavement Marking Tapes (Note 1)1095.06”

Add the following Note to the end of Article 703.02 of the Standard Specifications:

“Note 1. White or yellow pavement marking tape that is to remain in place longer than 14 days shall be Type IV tape.”

Revise Article 1095.06 of the Standard Specifications to read:

“**1095.06 Pavement Marking Tapes.** Type I white or yellow marking tape shall consist of glass spheres embedded into a binder on a foil backing that is precoated with a pressure sensitive adhesive. The spheres shall be of uniform gradation and distributed evenly over the surface of the tape.

Type IV tape shall consist of white or yellow tape with wet reflective media incorporated to provide immediate and continuing retroreflection in wet and dry conditions. The wet retroreflective media shall be bonded to a durable polyurethane surface. The patterned surface shall have approximately 40 ± 10 percent of the surface area raised and presenting a near vertical face to traffic from any direction. The channels between the raised areas shall be substantially free of exposed reflective elements or particles.

Blackout tape shall consist of a matte black, non-reflective, patterned surface that is precoated with a pressure sensitive adhesive.

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

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

*Shall match Aerospace Material Specification Standard 595 33538 (Orange Yellow) and the chromaticity limits as follows.

x	0.490	0.475	0.485	0.530
y	0.470	0.438	0.425	0.456

- (b) Retroreflectivity. The white and yellow markings shall be retroreflective. Reflective values measured in accordance with the photometric testing procedure of ASTM D 4061 shall not be less than those listed in the table below. The coefficient of retroreflected luminance, R_L , shall be expressed as average millicandelas/footcandle/sq ft (millicandelas/lux/sq m), measured on a 3.0 x 0.5 ft (900 mm x 150 mm) panel at 86 degree entrance angle.

Coefficient of Retroreflected Luminance, R_L , Dry					
Type I			Type IV		
Observation Angle	White	Yellow	Observation Angle	White	Yellow
0.2°	2700	2400	0.2°	1300	1200
0.5°	2250	2000	0.5°	1100	1000

Wet retroreflectance shall be measured for Type IV under wet conditions according to ASTM E 2177 and meet the following.

Wet Retroreflectance, Initial R _L	
Color	R _L 1.05/88.76
White	300
Yellow	200

- (c) Skid Resistance. The surface of Type IV and blackout markings shall provide a minimum skid resistance of 45 BPN when tested according to ASTM E 303.
- (d) Application. The pavement marking tape shall have a precoated pressure sensitive adhesive and shall require no activation procedures. Test pieces of the tape shall be applied according to the manufacturer's instructions and tested according to ASTM D 1000, Method A, except that a stiff, short bristle roller brush and heavy hand pressure will be substituted for the weighted rubber roller in applying the test pieces to the metal test panel. Material tested as directed above shall show a minimum adhesion value of 750 g/in. (30 g/mm) width at the temperatures specified in ASTM D 1000. The adhesive shall be resistant to oils, acids, solvents, and water, and shall not leave objectionable stains or residue after removal. The material shall be flexible and conformable to the texture of the pavement.
- (e) Durability. Type IV and blackout tape shall be capable of performing for the duration of a normal construction season and shall then be capable of being removed intact or in large sections at pavement temperatures above 40 °F (4 °C) either manually or with a roll-up device without the use of sandblasting, solvents, or grinding. The Contractor shall provide a manufacturer's certification that the material meets the requirements for being removed after the following minimum traffic exposure based on transverse test decks with rolling traffic.
- (1) Time in place - 400 days
 - (2) ADT per lane - 9,000 (28 percent trucks)
 - (3) Axle hits - 10,000,000 minimum

Samples of the material applied to standard specimen plates will be measured for thickness and tested for durability in accordance with ASTM D 4060, using a CS-17 wheel and 1000-gram load, and shall meet the following criteria showing no significant change in color after being tested for the number of cycles indicated.

Test	Type I	Type IV	Blackout
Minimum Initial Thickness, mils (mm)	20 (0.51)	65 (1.65) ^{1/} 20 (0.51) ^{2/}	65 (1.65) ^{1/} 20 (0.51) ^{2/}
Durability (cycles)	5,000	1,500	1,500

1/ Measured at the thickest point of the patterned surface.

2/ Measured at the thinnest point of the patterned surface.

The pavement marking tape, when applied according to the manufacturer's recommended procedures, shall be weather resistant and shall show no appreciable fading, lifting, or

shrinkage during the useful life of the marking. The tape, as applied, shall be of good appearance, free of cracks, and edges shall be true, straight, and unbroken.

(f) Sampling and Inspection.

- (1) Sample. Prior to approval and use of Type IV pavement marking tape, the manufacturer shall submit a notarized certification from an independent laboratory, together with the results of all tests, stating that the material meets the requirements as set forth herein. The independent laboratory test report shall state the lot tested, the manufacturer's name, and the date of manufacture.

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

- (2) Inspection. The Contractor shall provide a manufacturer's certification to the Engineer stating the material meets all requirements of this specification. All material samples for acceptance tests shall be taken or witnessed by a representative of the Bureau of Materials and shall be submitted to the Engineer of Materials, 126 East Ash Street, Springfield, Illinois 62704-4766 at least 30 days in advance of the pavement marking operations."

SIGN PANELS AND APPURTENANCES (BDE)

Effective: January 1, 2025

Revised: April 1, 2025

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

"(c) Aluminum Epoxy Mastic1008.03"

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

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

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

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

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

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.”

STEEL COST ADJUSTMENT (BDE)

Effective: April 2, 2004

Revised: January 1, 2022

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

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

- Metal Piling (excluding temporary sheet piling)
- Structural Steel
- Reinforcing Steel

Other steel materials such as dowel bars, tie bars, welded reinforcement, guardrail, steel traffic signal and light poles, towers and mast arms, metal railings (excluding wire fence), and frames

and grates will be subject to a steel cost adjustment when the pay items they are used in have a contract value of \$10,000 or greater.

The adjustments shall apply to the above items when they are part of the original proposed construction, or added as extra work and paid for by agreed unit prices. The adjustments shall not apply when the item is added as extra work and paid for at a lump sum price or by force account.

Documentation. Sufficient documentation shall be furnished to the Engineer to verify the following:

- (a) The dates and quantity of steel, in lb (kg), shipped from the mill to the fabricator.
- (b) The quantity of steel, in lb (kg), incorporated into the various items of work covered by this special provision. The Department reserves the right to verify submitted quantities.

Method of Adjustment. Steel cost adjustments will be computed as follows:

$$SCA = Q \times D$$

Where: SCA = steel cost adjustment, in dollars
Q = quantity of steel incorporated into the work, in lb (kg)
D = price factor, in dollars per lb (kg)

$$D = MPI_M - MPI_L$$

Where: MPI_M = The Materials Cost Index for steel as published by the Engineering News-Record for the month the steel is shipped from the mill. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

MPI_L = The Materials Cost Index for steel as published by the Engineering News-Record for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price,. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

The unit weights (masses) of steel that will be used to calculate the steel cost adjustment for the various items are shown in the attached table.

No steel cost adjustment will be made for any products manufactured from steel having a mill shipping date prior to the letting date.

If the Contractor fails to provide the required documentation, the method of adjustment will be calculated as described above; however, the MPI_M will be based on the date the steel arrives at the job site. In this case, an adjustment will only be made when there is a decrease in steel costs.

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

$$\text{Percent Difference} = \{(MPI_L - MPI_M) \div MPI_L\} \times 100$$

FAP ROUTE (IL 13)
PROJECT BR-NHPP-3BX2(535)
SECTION (1-4)R-5,RS-2,B-1,B-2,B-3,B-4
WILLIAMSON COUNTY
CONTRACT NO. 78373

Steel cost adjustments will be calculated by the Engineer and will be paid or deducted when all other contract requirements for the items of work are satisfied. Adjustments will only be made for fluctuations in the cost of the steel as described herein. No adjustment will be made for changes in the cost of manufacturing, fabrication, shipping, storage, etc.

The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

Attachment

Item	Unit Mass (Weight)
Metal Piling (excluding temporary sheet piling)	
Furnishing Metal Pile Shells 12 in. (305 mm), 0.179 in. (3.80 mm) wall thickness	23 lb/ft (34 kg/m)
Furnishing Metal Pile Shells 12 in. (305 mm), 0.250 in. (6.35 mm) wall thickness	32 lb/ft (48 kg/m)
Furnishing Metal Pile Shells 14 in. (356 mm), 0.250 in. (6.35 mm) wall thickness	37 lb/ft (55 kg/m)
Other piling	See plans
Structural Steel	See plans for weights (masses)
Reinforcing Steel	See plans for weights (masses)
Dowel Bars and Tie Bars	6 lb (3 kg) each
Welded Reinforcement	63 lb/100 sq ft (310 kg/sq m)
Guardrail	
Steel Plate Beam Guardrail, Type A w/steel posts	20 lb/ft (30 kg/m)
Steel Plate Beam Guardrail, Type B w/steel posts	30 lb/ft (45 kg/m)
Steel Plate Beam Guardrail, Types A and B w/wood posts	8 lb/ft (12 kg/m)
Steel Plate Beam Guardrail, Type 2	305 lb (140 kg) each
Steel Plate Beam Guardrail, Type 6	1260 lb (570 kg) each
Traffic Barrier Terminal, Type 1 Special (Tangent)	730 lb (330 kg) each
Traffic Barrier Terminal, Type 1 Special (Flared)	410 lb (185 kg) each
Steel Traffic Signal and Light Poles, Towers and Mast Arms	
Traffic Signal Post	11 lb/ft (16 kg/m)
Light Pole, Tenon Mount and Twin Mount, 30 - 40 ft (9 - 12 m)	14 lb/ft (21 kg/m)
Light Pole, Tenon Mount and Twin Mount, 45 - 55 ft (13.5 - 16.5 m)	21 lb/ft (31 kg/m)
Light Pole w/Mast Arm, 30 - 50 ft (9 - 15.2 m)	13 lb/ft (19 kg/m)
Light Pole w/Mast Arm, 55 - 60 ft (16.5 - 18 m)	19 lb/ft (28 kg/m)
Light Tower w/Luminaire Mount, 80 - 110 ft (24 - 33.5 m)	31 lb/ft (46 kg/m)
Light Tower w/Luminaire Mount, 120 - 140 ft (36.5 - 42.5 m)	65 lb/ft (97 kg/m)
Light Tower w/Luminaire Mount, 150 - 160 ft (45.5 - 48.5 m)	80 lb/ft (119 kg/m)
Metal Railings (excluding wire fence)	
Steel Railing, Type SM	64 lb/ft (95 kg/m)
Steel Railing, Type S-1	39 lb/ft (58 kg/m)
Steel Railing, Type T-1	53 lb/ft (79 kg/m)
Steel Bridge Rail	52 lb/ft (77 kg/m)
Frames and Grates	
Frame	250 lb (115 kg)
Lids and Grates	150 lb (70 kg)

SUBCONTRACTOR AND DBE PAYMENT REPORTING (BDE)

Effective: April 2, 2018

Add the following to Section 109 of the Standard Specifications.

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

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

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

SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)

Effective: November 2, 2017

Revised: April 1, 2019

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

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

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

SUBMISSION OF BIDDERS LIST INFORMATION (BDE)

Effective: January 2, 2025

Revised: March 2, 2025

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

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

SUBMISSION OF PAYROLL RECORDS (BDE)

Effective: April 1, 2021

Revised: November 2, 2023

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

"STATEMENTS AND PAYROLLS

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

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

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

- "3. Submission of Payroll Records. The Contractor and each subcontractor shall, no later than the 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."

SURFACE TESTING OF PAVEMENTS – IRI (BDE)

Effective: January 1, 2021

Revised: January 1, 2023

Description. This work shall consist of testing the ride quality of the finished surface of pavement sections with new concrete pavement, PCC overlays, full-depth HMA, and HMA overlays with at least 2.25 in. (57 mm) total thickness of new HMA combined with either HMA binder or HMA surface removal, according to Illinois Test Procedure 701, "Ride Quality Testing Using the International Roughness Index (IRI)". Work shall be according to Sections 406, 407, or 420 of the Standard Specifications, except as modified herein.

Hot-Mix Asphalt (HMA) Overlays

Add the following to Article 406.03 of the Standard Specifications:

"(n) Pavement Surface Grinding Equipment..... 1101.04"

Revise Article 406.11 of the Standard Specifications to read:

"406.11 Surface Tests. Prior to HMA overlay pavement improvements, the Engineer will measure the smoothness of the existing high-speed mainline pavement. The Contractor shall measure the smoothness of the finished high-speed mainline, low-speed mainline, and miscellaneous pavements after the pavement improvement is complete but within the same construction season. Testing shall be performed in the presence of the Engineer and according to Illinois Test Procedure 701. The pavement will be identified as high-speed mainline, low-speed mainline, or miscellaneous as follows.

(a) Test Sections.

- (1) High-Speed Mainline Pavement. High-speed mainline pavement consists of pavements, ramps, and loops with a posted speed limit greater than 45 mph. These sections shall be tested with an inertial profiling system (IPS).

- (2) Low-Speed Mainline Pavement. Low-speed mainline pavement consists of pavements, ramps, and loops with a posted speed limit of 45 mph or less. These sections shall be tested using a 16 ft (5 m) straightedge or with an IPS analyzed using the rolling 16 ft (5 m) straightedge simulation in ProVAL.
- (3) Miscellaneous Pavement. Miscellaneous pavement are segments that either cannot readily be tested by an IPS or conditions beyond the control of the Contractor preclude the achievement of smoothness levels typically achievable with mainline pavement construction. This may include the following examples or as determined by the Engineer.
- a. Pavement on horizontal curves with a centerline radius of curvature of less than or equal to 1,000 ft (300 m) and the pavement within the superelevation transition of such curves;
 - b. Pavement on vertical curves having a length less than or equal to 200 ft (60 m) in combination with an algebraic change in tangent grade greater than or equal to 3 percent as may occur on urban ramps or other constricted-space facilities;
 - c. The first and last 50 ft (15 m) of a pavement section where the Contractor is not responsible for the adjoining surface;
 - d. Intersections and the 25 ft (7.6 m) before and after an intersection or end of radius return;
 - e. Variable width pavements;
 - f. Side street returns, to the end of radius return;
 - g. Crossovers;
 - h. Pavement connector for bridge approach slab;
 - i. Bridge approach slab;
 - j. Pavement that must be constructed in segments of 600 ft (180 m) or less;
 - k. Pavement within 25 ft (7.6 m) of manholes, utility structures, at-grade railroad crossings, or other appurtenances;
 - l. Turn lanes; and
 - m. Pavement within 5 ft (1.5 m) of jobsite sampling locations for HMA volumetric testing that fall within the wheel path.

Miscellaneous pavement shall be tested using a 16 ft (5 m) straightedge.

- (4) International Roughness Index (IRI). An index computed from a longitudinal profile measurement using a quarter-car simulation at a simulation speed of 50 mph (80 km/h).

- (5) Mean Roughness Index (MRI). The average of the IRI values for the right and left wheel tracks.
 - a. MRI_O . The MRI of the existing pavement prior to construction.
 - b. MRI_I . The MRI value that warrants an incentive payment.
 - c. MRI_F . The MRI value that warrants full payment.
 - d. MRI_D . The MRI value that warrants a financial disincentive.
 - (6) Areas of Localized Roughness (ALR). Isolated areas of roughness, which can cause significant increase in the calculated MRI for a given subplot.
 - (7) Sublot. A continuous strip of pavement 0.1 mile (160 m) long and one lane wide. A partial subplot greater than or equal to 264 ft (80 m) will be subject to the same evaluation as a whole subplot. Partial sublots less than 264 ft (80 m) shall be included with the previous subplot for evaluation purposes.
- (b) Corrective Work. Corrective work shall be completed according to the following.
- (1) High-Speed Mainline Pavement. For high-speed mainline pavement, any 25 ft (7.6 m) interval with an ALR in excess of 200 in./mile (3,200 mm/km) will be identified by the Engineer and shall be corrected by the Contractor. Any subplot having a MRI greater than MRI_D , including ALR, shall be corrected to reduce the MRI to the MRI_F , or replaced at the Contractor's option.
 - (2) Low-Speed Mainline Pavement. Surface variations in low-speed mainline pavement which exceed the 5/16 in. (8 mm) tolerance will be identified by the Engineer and shall be corrected by the Contractor.
 - (3) Miscellaneous Pavements. Surface variations in miscellaneous pavement which exceed the 5/16 in. (8 mm) tolerance will be identified by the Engineer and shall be corrected by the Contractor.

Corrective work shall be completed with pavement surface grinding equipment or by removing and replacing the pavement. Corrective work shall be applied to the full lane width. When completed, the corrected area shall have uniform texture and appearance, with the beginning and ending of the corrected area perpendicular to the centerline of the paved surface.

Upon completion of the corrective work, the surface of the subplot(s) shall be retested. The Contractor shall furnish the data and reports to the Engineer within 2 working days after corrections are made. If the MRI and/or ALR still do not meet the requirements, additional corrective work shall be performed.

Corrective work shall be at no additional cost to the Department.

- (c) Smoothness Assessments. Assessments will be paid to or deducted from the Contractor for each subplot of high-speed mainline pavement per the Smoothness Assessment Schedule. Assessments will be based on the MRI of each subplot prior to performing any corrective work unless the Contractor has chosen to remove and replace the pavement. For pavement that is replaced, assessments will be based on the MRI determined after replacement.

The upper MRI thresholds for high-speed mainline pavement are dependent on the MRI of the existing pavement before construction (MRI_0) and shall be determined as follows.

Upper MRI Thresholds ^{1/}	MRI Thresholds (High-Speed, HMA Overlay)	
	$MRI_0 \leq 125.0$ in./mile ($\leq 1,975$ mm/km)	$MRI_0 > 125.0$ in./mile ^{1/} ($> 1,975$ mm/km)
Incentive (MRI_I)	45.0 in./mile (710 mm/km)	$0.2 \times MRI_0 + 20$
Full Pay (MRI_F)	75.0 in./mile (1,190 mm/km)	$0.2 \times MRI_0 + 50$
Disincentive (MRI_D)	100.0 in./mile (1,975 mm/km)	$0.2 \times MRI_0 + 75$

1/ MRI_0 , MRI_I , MRI_F , and MRI_D shall be in in./mile for calculation.

Smoothness assessments for high-speed mainline pavement shall be determined as follows.

SMOOTHNESS ASSESSMENT SCHEDULE (High-Speed, HMA Overlay)	
Mainline Pavement MRI Range	Assessment Per Subplot ^{1/}
$MRI \leq MRI_I$	$+ (MRI_I - MRI) \times \$20.00$ ^{2/}
$MRI_I < MRI \leq MRI_F$	$+ \$0.00$
$MRI_F < MRI \leq MRI_D$	$- (MRI - MRI_F) \times \$8.00$
$MRI > MRI_D$	$- \$200.00$

1/ MRI , MRI_I , MRI_F , and MRI_D shall be in in./mile for calculation.

2/ The maximum incentive amount shall not exceed \$300.00.

Smoothness assessments will not be paid or deducted until all other contract requirements for the pavement are satisfied. Pavement that is corrected or replaced for reasons other than smoothness, shall be retested as stated herein."

Hot-Mix Asphalt (HMA) Pavement (Full-Depth)

Revise the first paragraph of Article 407.03 of the Standard Specifications to read:

"407.03 Equipment. Equipment shall be according to Article 406.03."

Revise Article 407.09 of the Standard Specifications to read:

“407.09 Surface Tests. The finished surface of the pavement shall be tested for smoothness according to Article 406.11, except as follows:

The testing of the existing pavement prior to improvements shall not apply and the smoothness assessment for high-speed mainline pavement shall be determined according to the following table.

SMOOTHNESS ASSESSMENT SCHEDULE (High-Speed, Full-Depth HMA)	
Mainline Pavement MRI, in./mile (mm/km)	Assessment Per Sublot ^{1/}
≤ 45.0 (710)	+ (45 – MRI) × \$45.00 ^{2/}
> 45.0 (710) to 75.0 (1,190)	+ \$0.00
> 75.0 (1,190) to 100.0 (1,580)	– (MRI – 75) × \$20.00
> 100.0 (1,580)	– \$500.00

1/ MRI shall be in in./mile for calculation.

2/ The maximum incentive amount shall not exceed \$800.00.”

Portland Cement Concrete Pavement

Delete Article 420.03(i) of the Standard Specifications.

Revise Article 420.10 of the Standard Specifications to read:

“420.10 Surface Tests. The finished surface of the pavement shall be tested for smoothness according to Article 406.11, except as follows.

The testing of the existing pavement prior to improvements shall not apply. The Contractor shall measure the smoothness of the finished surface of the pavement after the pavement has attained a flexural strength of 250 psi (3,800 kPa) or a compressive strength of 1,600 psi (20,700 kPa).

Membrane curing damaged during testing shall be repaired as directed by the Engineer at no additional cost to the Department.

- (a) Corrective Work. No further texturing for skid resistance will be required for areas corrected by grinding. Protective coat shall be reapplied to areas ground according to Article 420.18 at no additional cost to the Department.

Jointed portland cement concrete pavement corrected by removal and replacement, shall be corrected in full panel sizes.

- (b) Smoothness Assessments. Smoothness assessment for high-speed mainline pavement shall be determined as follows.

SMOOTHNESS ASSESSMENT SCHEDULE (High-Speed, PCC)
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Mainline Pavement MRI, in./mile (mm/km) ^{3/}	Assessment Per Sublot ^{1/}
≤ 45.0 (710)	+ (45 – MRI) × \$60.00 ^{2/}
> 45.0 (710) to 75.0 (1,190)	+ \$0.00
> 75.0 (1,190) to 100.0 (1,580)	– (MRI – 75) × \$37.50
> 100.0 (1,580)	– \$750.00

1/ MRI shall be in in./mile for calculation.

2/ The maximum incentive amount shall not exceed \$1200.00.

3/ If pavement is constructed with traffic in the lane next to it, then an additional 10 in./mile will be added to the upper thresholds.”

Removal of Existing Pavement and Appurtenances

Revise the first paragraph of Article 440.04 of the Standard Specifications to read:

“440.04 HMA Surface Removal for Subsequent Resurfacing. The existing HMA surface shall be removed to the depth specified on the plans with a self-propelled milling machine. The removal depth may be varied slightly at the discretion of the Engineer to satisfy the smoothness requirements of the finished pavement. The temperature at which the work is performed, the nature and condition of the equipment, and the manner of performing the work shall be such that the milled surface is not torn, gouged, shoved or otherwise damaged by the milling operation. Sufficient cutting passes shall be made so that all irregularities or high spots are eliminated to the satisfaction of the Engineer. When tested with a 16 ft (5 m) straightedge, the milled surface shall have no surface variations in excess of 3/16 in. (5 mm).”

General Equipment

Revise Article 1101.04 of the Standard Specifications to read:

“1101.04 Pavement Surface Grinding Equipment. The pavement surface grinding device shall have a minimum effective head width of 3 ft (0.9 m).

- (a) Diamond Saw Blade Machine. The machine shall be self-propelled with multiple diamond saw blades.
- (b) Profile Milling Machine. The profile milling machine shall be a drum device with carbide or diamond teeth with spacing of 0.315 in. (8 mm) or less and maintain proper forward speed for surface texture according to the manufacturer’s specifications.”

SURVEYING SERVICES (BDE)

Effective: April 1, 2025

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

Delete Section 668 of the Standard Specifications.

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 4. In the event the Contractor subcontracts a portion of the contract work, it shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The Contractor shall also ensure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

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

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

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

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

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

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

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

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

existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

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

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

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

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

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

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

Effective: August 1, 2012

Revised: February 2, 2017

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

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

Specifically, participation of the Contractor or its subcontractor in the Program entitles the participant to reimbursement for graduates' hourly wages at \$15.00 per hour per utilized TPG trainee, subject to the terms of this Special Provision. Reimbursement payment will be made even

though the Contractor or subcontractor may also receive additional training program funds from other non-IDOT sources for other non-TPG trainees on the Contract, provided such other source does not specifically prohibit the Contractor or subcontractor from receiving reimbursement from another entity through another program, such as IDOT through the TPG program. With regard to any IDOT funded construction training program other than TPG, however, additional reimbursement for other IDOT programs will not be made beyond the TPG Program described in this Special Provision when the TPG Program is utilized.

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

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

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

Basis of Payment: This work will be paid for at the contract unit price of \$15.00 per hour for each utilized certified TPG Program trainee (TRAINEES TRAINING PROGRAM GRADUATE). The estimated total number of hours, unit price, and total price must be included in the schedule of prices for the Contract submitted by Contractor prior to beginning work. The initial number of TPG trainees for which the incentive is available for this contract is 4.

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 the TPG trainee(s) has successfully completed a Pre-Apprenticeship Training Program, proof that the TPG is in an Apprenticeship Training Program approved by the U.S. Department of Labor Bureau of Apprenticeship Training, and the start date for training in each of the applicable work classifications.

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

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

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

VEHICLE AND EQUIPMENT WARNING LIGHTS (BDE)

Effective: November 1, 2021

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.”

WEEKLY DBE TRUCKING REPORTS (BDE)

Effective: June 2, 2012

Revised: January 2, 2025

The following applies to all Disadvantaged Business Enterprise (DBE) trucks on the project, whether they are utilized for DBE goal credit or not.

The Contractor shall notify the Engineer at least three days prior to DBE trucking activity.

The Contractor shall submit a weekly report of DBE trucks hired by the Contractor or subcontractors (i.e. not owned by the Contractor or subcontractors) 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.

WOOD SIGN SUPPORT (BDE)

Effective: November 1, 2023

Add the following to Article 730.02 of the Standard Specifications:

“(c) Preservative Treatment 1007.12”

Revise the first paragraph of Article 730.03 of the Standard Specifications to read:

“ **730.03 General.** Wood sign supports shall be treated. When the 4 x 6 in. (100 x 150 mm) posts are used, they shall be modified to satisfy the breakaway requirements by drilling

1 1/2 in. (38 mm) diameter holes centered at 4 and 18 in. (100 and 450 mm) above the groundline and perpendicular to the centerline of the roadway.”

WORK ZONE TRAFFIC CONTROL DEVICES (BDE)

Effective: March 2, 2020

Revised: January 1, 2025

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 shall be MASH compliant.

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 shall be MASH compliant.

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

compliant. Category 3 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350, 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 sign supports, speed feedback displays, 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 compliant is available, an NCHRP 350 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.”

PROJECT LABOR AGREEMENT

Effective: May 18, 2007

Revised: August 1, 2019

Description. The Illinois Project Labor Agreements Act, 30 ILCS 571, states that the State of Illinois has a compelling interest in awarding public works contracts so as to ensure the highest standards of quality and efficiency at the lowest responsible cost. A project labor agreement (PLA) is a form of pre-hire collective bargaining agreement covering all terms and conditions of employment on a specific project that is intended to support this compelling interest. It has been determined by the Department that a PLA is appropriate for the project that is the subject of this contract. The PLA document, provided below, only applies to the construction site for this contract. It is the policy of the Department on this contract, and all construction projects, to allow all contractors and subcontractors to compete for contracts and subcontracts without regard to whether they are otherwise parties to collective bargaining agreements.

Execution of Letter of Assent. A copy of the PLA applicable to this project is included as part of this special provision. As a condition of the award of the contract, the successful bidder and each of its subcontractors shall execute a "Contractor Letter of Assent", in the form attached to the PLA as Exhibit A. The successful bidder shall submit a Subcontractor's Contractor Letter of Assent to the Department prior to the subcontractor's performance of work on the project. Upon request, copies of the applicable collective bargaining agreements will be provided by the appropriate signatory labor organization at the pre-job conference.

Quarterly Reporting. Section 37 of the Illinois Project Labor Agreements Act requires the Department to submit quarterly reports regarding the number of minorities and females employed under PLAs. To assist in this reporting effort, the Contractor shall provide a quarterly workforce participation report for all minority and female employees working under the PLA of this contract. The data shall be reported on Construction Form BC 820, Project Labor Agreement (PLA) Workforce Participation Quarterly Reporting Form available on the Department's website <https://idot.illinois.gov/content/dam/soi/en/web/idot/documents/idot-forms/bc/bc-820.pdf>.

The report shall be submitted no later than the 15th of the month following the end of each quarter (i.e., April 15 for the January – March reporting period). The form shall be emailed to DOT.PLA.Reporting@illinois.gov or faxed to (217) 524-4922.

Any costs associated with complying with this provision 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.

Illinois Department of Transportation

PROJECT LABOR AGREEMENT

This Project Labor Agreement ("PLA" or "Agreement") is entered into this _____ day of

_____, 2024, by and between the Illinois Department of Transportation ("IDOT" or "Department") in its proprietary capacity, and each relevant Illinois AFL-CIO Building Trades signatory hereto as determined by the Illinois AFL-CIO Statewide Project Labor Agreement Committee on behalf of each of its affiliated members (individually and collectively, the "Unions"). This PLA shall apply to Construction Work (as defined herein) to be performed by IDOT's Prime Contractor and each of its subcontractors of whatever tier ("Subcontractor" or "Subcontractors") on Contract No. (hereinafter, the "Project").

ARTICLE 1 - INTENT AND PURPOSES

- 1.1 This PLA is entered into in accordance with the Project Labor Agreement Act ("Act", 30 ILCS 571). It is mutually understood and agreed that the terms and conditions of this PLA are intended to promote the public interest in obtaining timely and economical completion of the Project by encouraging productive and efficient construction operations; by establishing a spirit of harmony and cooperation among the parties; and by providing for peaceful and prompt settlement of any and all labor grievances or jurisdictional disputes of any kind without strikes, lockouts, slowdowns, delays, or other disruptions to the prosecution of the work. The parties acknowledge the obligations of the Contractors and Subcontractors to comply with the provisions of the Act. The parties will work with the Contractors and Subcontractors within the parameters of other statutory and regulatory requirements to implement the Act's goals and objectives.
- 1.2 As a condition of the award of the contract for performance of work on the Project, IDOT's Prime Contractor and each of its Subcontractors shall execute a "Contractor Letter of Assent", in the form attached hereto as Exhibit A, prior to commencing Construction Work on the Project. The Contractor shall submit a Subcontractor's Contractor Letter of Assent to the Department prior to the Subcontractor's performance of Construction Work on the Project. Upon request copies of the applicable collective bargaining agreements will be provided by the appropriate signatory labor organization consistent with this Agreement and at the pre-job conference referenced in Article III, Section 3.1.

- 1.3 Each Union affiliate and separate local representing workers engaged in Construction Work on the Project in accordance with this PLA are bound to this agreement by the Illinois AFL-CIO Statewide Project Labor Agreement Committee which is the central committee established with full authority to negotiate and sign PLAs with the State on behalf of all respective crafts. Upon their signing the Contractor Letter of Assent, the Prime Contractor, each Subcontractor, and the individual Unions shall thereafter be deemed a party to this PLA. No party signatory to this PLA shall, contract or subcontract, nor permit any other person, firm, company, or entity to contract or subcontract for the performance of Construction Work for the Project to any person, firm, company, or entity that does not agree in writing to become bound for the term of this Project by the terms of this PLA prior to commencing such work and to the applicable area-wide collective bargaining agreement(s) with the Union(s) signatory hereto.
- 1.4 It is understood that the Prime Contractor(s) and each Subcontractor will be considered and accepted by the Unions as separate employers for the purposes of collective bargaining, and it is further agreed that the employees working under this PLA shall constitute a bargaining unit separate and distinct from all others. The parties hereto also agree that this PLA shall be applicable solely with respect to this Project, and shall have no bearing on the interpretation of any other collective bargaining agreement or as to the recognition of any bargaining unit other than for the specific purposes of this Project.
- 1.5 In the event of a variance or conflict, whether explicit or implicit, between the terms and conditions of this PLA and the provisions of any other applicable national, area, or local collective bargaining agreement, the terms and conditions of this PLA shall supersede and control. For any work performed under the NTL Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, the National Agreement of the International Union of Elevator Constructors, and for any instrument calibration work and loop checking performed under the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, the preceding sentence shall apply only with respect to Articles I, II, V, VI, and VII.

- 1.6 Subject to the provisions of paragraph 1.5 of this Article, it is the parties' intent to respect the provisions of any other collective bargaining agreements that may now or hereafter pertain, whether between the Prime Contractor and one or more of the Unions or between a Subcontractor and one or more of the Unions. Accordingly, except and to the extent of any contrary provision set forth in this PLA, the Prime Contractor and each of its Subcontractors agrees to be bound and abide by the terms of the following in order of precedence: (a) the applicable collective bargaining agreement between the Prime Contractor and one or more of the Unions made signatory hereto; (b) the applicable collective bargaining agreement between a Subcontractor and one or more of the Unions made signatory hereto; or (c) the current applicable area collective bargaining agreement for the relevant Union that is the agreement certified by the Illinois Department of Labor for purposes of establishing the Prevailing Wage applicable to the Project. The Union will provide copies of the applicable collective bargaining agreements pursuant to part (c) of the preceding sentence to the Prime Contractor. Assignments by the Contractors or Subcontractors amongst the trades shall be consistent with area practices; in the event of unresolved disagreements as to the propriety of such assignments, the provisions of Article VI shall apply.
- 1.7 Subject to the limitations of paragraphs 1.4 to 1.6 of this Article, the terms of each applicable collective bargaining agreement as determined in accordance with paragraph 1.6 are incorporated herein by reference, and the terms of this PLA shall be deemed incorporated into such other applicable collective bargaining agreements only for purposes of their application to the Project.
- 1.8 To the extent necessary to comply with the requirements of any fringe benefit fund to which the Prime Contractor or Subcontractor is required to contribute under the terms of an applicable collective bargaining agreement pursuant to the preceding paragraph, the Prime Contractor or Subcontractor shall execute all "Participation Agreements" as may be reasonably required by the Union to accomplish such purpose; provided, however, that such Participation Agreements shall, when applicable to the Prime Contractor or Subcontractor solely as a result of this PLA, be amended as reasonably necessary to reflect such fact. Upon written notice in the form of a lien of a Contractor's or Subcontractor's delinquency from any applicable fringe benefit fund, IDOT will withhold from the Contractor's periodic pay request an amount sufficient to extinguish any delinquency obligation of the Contractor or Subcontractor arising out of the Project.
- 1.9 In the event that the applicable collective bargaining agreement between a Prime Contractor and the Union or between the Subcontractor and the Union expires prior to the completion of this Project, the expired applicable contract's terms will be maintained until a new applicable collective bargaining agreement is ratified. The wages and fringe benefits included in any new applicable collective bargaining agreement will apply on and after the effective date of the newly negotiated collective bargaining agreement, except to the extent wage and fringe benefit retroactivity is specifically agreed upon by

the relevant bargaining parties.

ARTICLE II – APPLICABILITY, RECOGNITION, AND COMMITMENTS

- 2.1 The term Construction Work as used herein shall include all “construction, demolition, rehabilitation, renovation, or repair” work performed by a “laborer or mechanic” at the “site of the work” for the purpose of “building” the specific structures and improvements that constitute the Project. Terms appearing within quotation marks in the preceding sentence shall have the meaning ascribed to them pursuant to 29 CFR Part 5 and Illinois labor laws.
- 2.2 By executing the Letters of Assent, Prime Contractor and each of its Subcontractors recognizes the Unions signatory to this PLA as the sole and exclusive bargaining representatives for their craft employees employed on the jobsite for this Project. Unions who are signatory to this PLA will have recognition on the Project for their craft.
- 2.3 The Prime Contractor and each of its Subcontractors retains and shall be permitted to exercise full and exclusive authority and responsibility for the management of its operations, except as expressly limited by the terms of this PLA or by the terms and conditions of the applicable collective bargaining agreement.
- 2.4 Except to the extent contrary to an express provision of the relevant collective bargaining agreement, equipment or materials used in the Project may be pre-assembled or pre-fabricated, and there shall be no refusal by the Union to handle, transport, install, or connect such equipment or materials. Equipment or materials delivered to the job-site will be unloaded and handled promptly without regard to potential jurisdictional disputes; any such disputes shall be handled in accordance with the provisions of this PLA.
- 2.5 The parties are mutually committed to promoting a safe working environment for all personnel at the job-site. It shall be the responsibility of each employer to which this PLA applies to provide and maintain safe working conditions for its employees, and to comply with all applicable federal, state, and local health and safety laws and regulations.
- 2.6 The use or furnishing of alcohol or drugs and the conduct of any other illegal activity at the job-site is strictly prohibited. The parties shall take every practical measure consistent with the terms of applicable collective bargaining agreements to ensure that the job-site is free of alcohol and drugs.
- 2.7 All parties to this PLA agree that they will not discriminate against any employee based on race, creed, religion, color, national origin, union activity, age, gender or sexual orientation and shall comply with all applicable federal, state, and local laws.

- 2.8 In accordance with the Act and to promote diversity in employment, IDOT will establish, in cooperation with the other parties, the apprenticeship hours which are to be performed by minorities and females on the Project. IDOT shall consider the total hours to be performed by these underrepresented groups, as a percentage of the workforce, and create aspirational goals for each Project, based on the level of underutilization for the service area of the Project (together "Project Employment Objectives"). IDOT shall provide a quarterly report regarding the racial and gender composition of the workforce on the Project.

Persons currently lacking qualifications to enter apprenticeship programs will have the opportunity to obtain skills through basic training programs as have been established by the Department. The parties will endeavor to support such training programs to allow participants to obtain the requisite qualifications for the Project Employment Objectives.

The parties agree that all Contractors and Subcontractors working on the Project shall be encouraged to utilize the maximum number of apprentices as permitted under the terms of the applicable collective bargaining agreements to realize the Project Employment Objectives.

The Unions shall assist the Contractor and each Subcontractor in efforts to satisfy Project Employment Objectives. A Contractor or Subcontractor may request from a Union specific categories of workers necessary to satisfy Project Employment Objectives. The application of this section shall be consistent with all local Union collective bargaining agreements, and the hiring hall rules and regulations established for the hiring of personnel, as well as the apprenticeship standards set forth by each individual Union.

- 2.9 The parties hereto agree that engineering consultants and materials testing employees, to the extent subject to the terms of this PLA, shall be fully expected to objectively and responsibly perform their duties and obligations owed to the Department without regard to the potential union affiliation of such employees or of other employees on the Project.
- 2.10 This Agreement shall not apply to IDOT employees or employees of any other governmental entity.

ARTICLE III - ADMINISTRATION OF AGREEMENT

- 3.1 In order to assure that all parties have a clear understanding of the PLA, and to promote harmony, at the request of the Unions a post-award pre-job conference will be held among the Prime Contractor, all Subcontractors and Union representatives prior to the start of any Construction Work on the Project. No later than the conclusion of such pre-job conference, the parties shall, among other matters, provide to one another contact information for their respective representatives (including name, address, phone number, facsimile number, e-mail). Nothing herein shall be construed to limit the right of the Department to discuss or explain the purpose and intent of this PLA with prospective bidders or other interested parties prior to or following its award of the job.
- 3.2 Representatives of the Prime Contractor and the Unions shall meet as often as reasonably necessary following award until completion of the Project to assure the effective implementation of this PLA.
- 3.3 Any notice contemplated under Article VI and VII of this Agreement to a signatory labor organization shall be made in writing to the Local Union with copies to the local union's International Representative.

ARTICLE IV - HOURS OF WORK AND GENERAL CONDITIONS

- 4.1 The standard work day and work week for Construction Work on the Project shall be consistent with the respective collective bargaining agreements. In the event Project site or other job conditions dictate a change in the established starting time and/or a staggered lunch period for portions of the Project or for specific crafts, the Prime Contractor, relevant Subcontractors and business managers of the specific crafts involved shall confer and mutually agree to such changes as appropriate. If proposed work schedule changes cannot be mutually agreed upon between the parties, the hours fixed at the time of the pre-job meeting shall prevail.
- 4.2 Shift work may be established and directed by the Prime Contractor or relevant Subcontractor as reasonably necessary or appropriate to fulfill the terms of its contract with the Department. If used, shift hours, rates and conditions shall be as provided in the applicable collective bargaining agreement.
- 4.3 The parties agree that chronic and/or unexcused absenteeism is undesirable and must be controlled in accordance with procedures established by the applicable collective bargaining agreement. Any employee disciplined for absenteeism in accordance with such procedures shall be suspended from all work on the Project for not less than the maximum period permitted under the applicable collective bargaining agreement.

- 4.4 Except as may be otherwise expressly provided by the applicable collective bargaining agreement, employment begins and ends at the Project site; employees shall be at their place of work at the starting time; and employees shall remain at their place of work until quitting time.
- 4.5 Except as may be otherwise expressly provided by the applicable collective bargaining agreement, there shall be no limit on production by workmen, no restrictions on the full use of tools or equipment, and no restrictions on efficient use of manpower or techniques of construction other than as may be required by safety regulations.
- 4.6 The parties recognize that specialized or unusual equipment may be installed on the Project. In such cases, the Union recognizes the right of the Prime Contractor or Subcontractor to involve the equipment supplier or vendor's personnel in supervising the setting up of the equipment, making modifications and final alignment, and performing similar activities that may be reasonably necessary prior to and during the start-up procedure in order to protect factory warranties. The Prime Contractor or Subcontractor shall notify the Union representatives in advance of any work at the job-site by such vendor personnel in order to promote a harmonious relationship between the equipment vendor's personnel and other Project employees.
- 4.7 For the purpose of promoting full and effective implementation of this PLA, authorized Union representatives shall have access to the Project job-site during scheduled work hours. Such access shall be conditioned upon adherence to all reasonable visitor and security rules of general applicability that may be established for the Project site at the pre-job conference or from time to time thereafter.

ARTICLE V – GRIEVANCE PROCEDURES FOR DISPUTES ARISING UNDER A PARTICULAR COLLECTIVE BARGAINING AGREEMENT

- 5.1 In the event a dispute arises under a particular collective bargaining agreement specifically not including jurisdictional disputes referenced in Article VI below, said dispute shall be resolved by the Grievance/Arbitration procedure of the applicable collective bargaining agreement. The resulting determination from this process shall be final and binding on all parties bound to its process.
- 5.2 Employers covered under this Agreement shall have the right to discharge or discipline any employee who violates the provisions of this Agreement. Such discharge or discipline by a contractor or subcontractor shall be subject to Grievance/Arbitration procedure of the applicable collective bargaining agreement only as to the fact of such violation of this agreement. If such fact is established, the penalty imposed shall not be disturbed.

Work at the Project site shall continue without disruption or hindrance of any kind as a result of a Grievance/Arbitration procedure under this Article.

- 5.3 In the event there is a deadlock in the foregoing procedure, the parties agree that the matter shall be submitted to arbitration for the selection and decision of an Arbitrator governed under paragraph 6.8.

ARTICLE VI –DISPUTES: GENERAL PRINCIPLES

- 6.1 This Agreement is entered into to prevent strikes, lost time, lockouts and to facilitate the peaceful adjustment of jurisdictional disputes in the building and construction industry and to prevent waste and unnecessary avoidable delays and expense, and for the further purpose of at all times securing for the employer sufficient skilled workers.
- 6.2 A panel of Permanent Arbitrators are attached as addendum (A) to this agreement. By mutual agreement between IDOT and the Unions, the parties can open this section of the agreement as needed to make changes to the list of permanent arbitrators.

The arbitrator is not authorized to award back pay or any other damages for a miss assignment of work. Nor may any party bring an independent action for back pay or any other damages, based upon a decision of an arbitrator.

- 6.3 The PLA Jurisdictional Dispute Resolution Process (“Process”) sets forth the procedures below to resolve jurisdictional disputes between and among Contractors, Subcontractors, and Unions engaged in the building and construction industry. Further, the Process will be followed for any grievance or dispute arising out of the interpretation or application of this PLA by the parties except for the prohibition on attorneys contained in 6.11. All decisions made through the Process are final and binding upon all parties.

DISPUTE PROCESS

- 6.4 Administrative functions under the Process shall be performed through the offices of the President and/or Secretary-Treasurer of the Illinois State Federation of Labor, or their designated representative, called the Administrator. In no event shall any officer, employee, agent, attorney, or other representative of the Illinois Federation of Labor, AFL- CIO be subject to any subpoena to appear or testify at any jurisdictional dispute hearing.
- 6.5 There shall be no abandonment of work during any case participating in this Process or in violation of the arbitration decision. All parties to this Process release the Illinois State Federation of Labor (“Federation”) from any liability arising from its action or inaction and covenant not to sue the Federation, nor its officers, employees, agents or attorneys.

- 6.6 In the event of a dispute relating to trade or work jurisdiction, all parties, including the employers, Contractors or Subcontractors, agree that a final and binding resolution of the dispute shall be resolved as follows:
- (a) Representatives of the affected trades and the Contractor or Subcontractor shall meet on the job site within two (2) business days after receiving written notice in an effort to resolve the dispute. (In the event there is a dispute between local unions affiliated with the same International Union, the decision of the General President, or his/her designee, as the internal jurisdictional authority of that International Union, shall constitute a final and binding decision and determination as to the jurisdiction of work.)
 - (b) If no settlement is achieved subsequent to the preceding Paragraph, the matter shall be referred to the local area Building & Construction Trades Council, which shall meet with the affected trades within two (2) business days subsequent to receiving written notice. In the event the parties do not wish to avail themselves of the local Building & Construction Trades Council, the parties may elect to invoke the services of their respective International Representatives with no extension of the time limitations. An agreement reached at this Step shall be final and binding upon all parties.
 - (c) If no settlement agreement is reached during the proceedings contemplated by Paragraphs “a” or “b” above, the matter shall be immediately referred to the Illinois Jurisdictional Dispute Process for final and binding resolution of said dispute. Said referral submission shall be in writing and served upon the Illinois State Federation of Labor, or the Administrator, pursuant to paragraph 6.4 of this agreement. The Administrator shall, within three (3) days, provide for the selection of an available Arbitrator to hear said dispute within this time period. Upon good cause shown and determined by the Administrator, an additional three (3) day extension for said hearing shall be granted at the sole discretion of the Administrator. Only upon mutual agreement of all parties may the Administrator extend the hearing for a period in excess of the time frames contemplated under this Paragraph. Business days are defined as Monday through Friday, excluding contract holidays.
- 6.7 The primary concern of the Process shall be the adjustment of jurisdictional disputes arising out of the Project. A sufficient number of Arbitrators shall be selected from list of approved Arbitrators as referenced Sec. 6.2 and shall be assigned per Sec. 6.8. Decisions shall be only for the Project and shall become effective immediately upon issuance and complied with by all parties. The authority of the Arbitrator shall be restricted and limited specifically to the terms and provisions of Article VI and generally to this Agreement as a whole.

- 6.8 Arbitrator chosen shall be randomly selected based on the list of Arbitrators in Sec. 6.2 and geographical location of the jurisdictional dispute and upon his/her availability, and ability to conduct a Hearing within two (2) business days of said notice. The Arbitrator may issue a “bench” decision immediately following the Hearing or he/she may elect to only issue a written decision, said decision must be issued within two (2) business days subsequent to the completion of the Hearing. Copies of all notices, pleadings, supporting memoranda, decisions, etc. shall be provided to all disputing parties and the Illinois State Federation of Labor.

Any written decision shall be in accordance with this Process and shall be final and binding upon all parties to the dispute and may be a “short form” decision. Fees and costs of the arbitrator shall be divided evenly between the contesting parties except that any party wishing a full opinion and decision beyond the short form decision shall bear the reasonable fees and costs of such full opinion. The decision of the Arbitrator shall be final and binding upon the parties hereto, their members, and affiliates.

In cases of jurisdictional disputes or other disputes between a signatory labor organization and another labor organization, both of which is an affiliate or member of the same International Union, the matter or dispute shall be settled in the manner set forth by their International Constitution and/or as determined by the International Union’s General President whose decision shall be final and binding upon all parties. In no event shall there be an abandonment of work.

- 6.9 In rendering a decision, the Arbitrator shall determine:
- (a) First, whether a previous agreement of record or applicable agreement, including a disclaimer agreement, between National or International Unions to the dispute or agreements between local unions involved in the dispute, governs;
 - (b) Only if the Arbitrator finds that the dispute is not covered by an appropriate or applicable agreement of record or agreement between the crafts to the dispute, he shall then consider the established trade practice in the industry and prevailing practice in the locality. Where there is a previous decision of record governing the case, the Arbitrator shall give equal weight to such decision of record, unless the prevailing practice in the locality in the past ten years favors one craft. In that case, the Arbitrator shall base his decision on the prevailing practice in the locality. Except, that if the Arbitrator finds that a craft has improperly obtained the prevailing practice in the locality through raiding, the undercutting of wages or by the use of vertical agreements, the Arbitrator shall rely on the decision of record and established trade practice in the industry rather than the prevailing practice in the locality; and,

- (c) Only if none of the above criteria is found to exist, the Arbitrator shall then consider that because efficiency, cost or continuity and good management are essential to the well being of the industry, the interests of the consumer or the past practices of the employer shall not be ignored.
 - (d) The arbitrator is not authorized to award back pay or any other damages for a mis-assignment of work. Nor may any party bring an independent action for back pay or any other damages, based upon a decision of an arbitrator.
- 6.10 The Arbitrator shall set forth the basis for his/her decision and shall explain his/her findings regarding the applicability of the above criteria. If lower ranked criteria are relied upon, the Arbitrator shall explain why the higher-ranked criteria were not deemed applicable. The Arbitrator's decision shall only apply to the Project. Agreements of Record, for other PLA projects, are applicable only to those parties signatory to such agreements. Decisions of Record are those that were either attested to by the former Impartial Jurisdictional Disputes Board or adopted by the National Arbitration Panel.
- 6.11 All interested parties, as determined by the Arbitrator, shall be entitled to make presentations to the Arbitrator. Any interested labor organization affiliated to the PLA Committee and party present at the Hearing, whether making a presentation or not, by such presence shall be deemed to accept the jurisdiction of the Arbitrator and to agree to be bound by its decision. In addition to the representative of the local labor organization, a representative of the labor organization's International Union may appear on behalf of the parties. Each party is responsible for arranging for its witnesses. In the event an Arbitrator's subpoena is required, the party requiring said subpoena shall prepare the subpoena for the Arbitrator to execute. Service of the subpoena upon any witness shall be the responsibility of the issuing party.

Attorneys shall not be permitted to attend or participate in any portion of a Hearing.

The parties are encouraged to determine, prior to Hearing, documentary evidence which may be presented to the Arbitrator on a joint basis.

- 6.12 The Order of Presentation in all Hearings before an Arbitrator shall be
- I. Identification and Stipulation of the Parties
 - II. Unions(s) claiming the disputed work presents its case
 - III. Union(s) assigned the disputed work presents its case
 - IV. Employer assigning the disputed work presents its case
 - V. Evidence from other interested parties (i.e., general contractor, project manager, owner)
 - VI. Rebuttal by union(s) claiming the disputed work

VII. Additional submissions permitted and requested by
Arbitrator VIII. Closing arguments by the parties

- 6.13 All parties bound to the provisions of this Process hereby release the Illinois State Federation of Labor and IDOT, their respective officers, agents, employees or designated representatives, specifically including any Arbitrator participating in said Process, from any and all liability or claim, of whatsoever nature, and specifically incorporating the protections provided in the Illinois Arbitration Act, as amended from time to time.
- 6.14 The Process, as an arbitration panel, nor its Administrator, shall have any authority to undertake any action to enforce its decision(s). Rather, it shall be the responsibility of the prevailing party to seek appropriate enforcement of a decision, including findings, orders or awards of the Arbitrator or Administrator determining non-compliance with a prior award or decision.
- 6.15 If at any time there is a question as to the jurisdiction of the Illinois Jurisdictional Dispute Resolution Process, the primary responsibility for any determination of the arbitrability of a dispute and the jurisdiction of the Arbitrator shall be borne by the party requesting the Arbitrator to hear the underlying jurisdictional dispute. The affected party or parties may proceed before the Arbitrator even in the absence or one or more stipulated parties with the issue of jurisdiction as an additional item to be decided by the Arbitrator. The Administrator may participate in proceedings seeking a declaration or determination that the underlying dispute is subject to the jurisdiction and process of the Illinois Jurisdictional Dispute Resolution Process. In any such proceedings, the non-prevailing party and/or the party challenging the jurisdiction of the Illinois Jurisdictional Dispute Resolution Process shall bear all the costs, expenses and attorneys' fees incurred by the Illinois Jurisdictional Dispute Resolution Process and/or its Administrator in establishing its jurisdiction.

ARTICLE VII - WORK STOPPAGES AND LOCKOUTS

- 7.1 During the term of this PLA, no Union or any of its members, officers, stewards, employees, agents or representatives shall instigate, support, sanction, maintain, or participate in any strike, picketing, walkout, work stoppage, slow down or other activity that interferes with the routine and timely prosecution of work at the Project site or at any other contractor's or supplier's facility that is necessary to performance of work at the Project site. Hand billing at the Project site during the designated lunch period and before commencement or following conclusion of the established standard workday shall not, in itself, be deemed an activity that interferes with the routine and timely prosecution of work on the Project.

7.2 Should any activity prohibited by paragraph 7.1 of this Article occur, the Union shall undertake all steps reasonably necessary to promptly end such prohibited activities.

7.2.A No Union complying with its obligations under this Article shall be liable for acts of employees for which it has no responsibility or for the unauthorized acts of employees it represents. Any employee who participates or encourages any activity prohibited by paragraph 7.1 shall be immediately suspended from all work on the Project for a period equal to the greater of (a) 60 days; or (b) the maximum disciplinary period allowed under the applicable collective bargaining agreement for engaging in comparable unauthorized or prohibited activity.

7.2.B Neither the PLA Committee nor its affiliates shall be liable for acts of employees for which it has no responsibility. The principal officer or officers of the PLA Committee will immediately instruct, order and use the best efforts of his office to cause the affiliated union or unions to cease any violations of this Article. The PLA Committee in its compliance with this obligation shall not be liable for acts of its affiliates. The principal officer or officers of any involved affiliate will immediately instruct, order or use the best effort of his office to cause the employees the union represents to cease any violations of this Article. A union complying with this obligation shall not be liable for unauthorized acts of employees it represents. The failure of the Contractor to exercise its rights in any instance shall not be deemed a waiver of its rights in any other instance.

During the term of this PLA, the Prime Contractor and its Subcontractors shall not engage in any lockout at the Project site of employees covered by this Agreement.

7.3 Upon notification of violations of this Article, the principal officer or officers of the local area Building and Construction Trades Council, and the Illinois AFL-CIO Statewide Project Labor Agreement Committee as appropriate, will immediately instruct, order and use their best efforts to cause the affiliated union or unions to cease any violations of this Article. A Trades Council and the Committee otherwise in compliance with the obligations under this paragraph shall not be liable for unauthorized acts of its affiliates.

7.4 In the event that activities in violation of this Article are not immediately halted through the efforts of the parties, any aggrieved party may invoke the special arbitration provisions set forth in paragraph 7.5 of this Article.

- 7.5 Upon written notice to the other involved parties by the most expeditious means available, any aggrieved party may institute the following special arbitration procedure when a breach of this Article is alleged:
- 7.5.A The party invoking this procedure shall notify the individual designated as the Permanent Arbitrator pursuant to paragraph 6.8 of the nature of the alleged violation; such notice shall be by the most expeditious means possible. The initiating party may also furnish such additional factual information as may be reasonably necessary for the Permanent Arbitrator to understand the relevant circumstances. Copies of any written materials provided to the arbitrator shall also be contemporaneously provided by the most expeditious means possible to the party alleged to be in violation and to all other involved parties.
- 7.5.B Upon receipt of said notice the Permanent Arbitrator shall set and hold a hearing within twenty-four (24) hours if it is contended the violation is ongoing, but not before twenty-four (24) hours after the written notice to all parties involved as required above.
- 7.5.C The Permanent Arbitrator shall notify the parties by facsimile or any other effective written means, of the place and time chosen by the Permanent Arbitrator for this hearing. Said hearing shall be completed in one session. A failure of any party or parties to attend said hearing shall not delay the hearing of evidence or issuance of an Award by the Permanent Arbitrator.
- 7.5.D The sole issue at the hearing shall be whether a violation of this Article has, in fact, occurred. An Award shall be issued in writing within three (3) hours after the close of the hearing, and may be issued without a written opinion. If any party desires a written opinion, one shall be issued within fifteen (15) days, but its issuance shall not delay compliance with, or enforcement of, the Award. The Permanent Arbitrator may order cessation of the violation of this Article, and such Award shall be served on all parties by hand or registered mail upon issuance.
- 7.5.E Such Award may be enforced by any court of competent jurisdiction upon the filing of the Award and such other relevant documents as may be required. Facsimile or other hardcopy written notice of the filing of such enforcement proceedings shall be given to the other relevant parties. In a proceeding to obtain a temporary order enforcing the Permanent Arbitrator's Award as issued under this Article, all parties waive the right to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any party's right to participate in a hearing for a final order of enforcement. The Court's order or orders enforcing the Permanent Arbitrator's Award shall be served on all parties by hand or by delivery to their last known address or by registered mail.

- 7.6 Individuals found to have violated the provisions of this Article are subject to immediate termination. In addition, IDOT reserves the right to terminate this PLA as to any party found to have violated the provisions of this Article.
- 7.7 Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure or which interfere with compliance therewith are hereby waived by parties to whom they accrue.
- 7.8 The fees and expenses of the Permanent Arbitrator shall be borne by the party or parties found in violation, or in the event no violation is found, such fees and expenses shall be borne by the moving party.

ARTICLE VIII – TERMS OF AGREEMENT

- 8.1 If any Article or provision of this Agreement shall be declared invalid, inoperative or unenforceable by operation of law or by any of the above mentioned tribunals of competent jurisdiction, the remainder of this Agreement or the application of such Article or provision to persons or circumstances other than those as to which it has been held invalid, inoperative or unenforceable shall not be affected thereby.
- 8.2 This Agreement shall be in full force as of and from the date of the Notice of Award until the Project contract is closed.
- 8.3 This PLA may not be changed or modified except by the subsequent written agreement of the parties. All parties represent that they have the full legal authority to enter into this PLA. This PLA may be executed by the parties in one or more counterparts.
- 8.4 Any liability arising out of this PLA shall be several and not joint. IDOT shall not be liable to any person or other party for any violation of this PLA by any other party, and no Contractor or Union shall be liable for any violation of this PLA by any other Contractor or Union.
- 8.5 The failure or refusal of a party to exercise its rights hereunder in one or more instances shall not be deemed a waiver of any such rights in respect of a separate instance of the same or similar nature.

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Addendum A

IDOT Slate of Permanent Arbitrators

1. Bruce Feldacker
2. Thomas F. Gibbons
3. Edward J. Harrick
4. Brent L. Motchan
5. Robert Perkovich
6. Byron Yaffee
7. Glenn A. Zipp

Exhibit A - Contractor Letter of Assent

(Date)

To All Parties:

In accordance with the terms and conditions of the contract for Construction Work on [Contract No.], this Letter of Assent hereby confirms that the undersigned Prime Contractor or Subcontractor agrees to be bound by the terms and conditions of the Project Labor Agreement established and entered into by the Illinois Department of Transportation in connection with said Project.

It is the understanding and intent of the undersigned party that this Project Labor Agreement shall pertain only to the identified Project. In the event it is necessary for the undersigned party to become signatory to a collective bargaining agreement to which it is not otherwise a party in order that it may lawfully make certain required contributions to applicable fringe benefit funds, the undersigned party hereby expressly conditions its acceptance of and limits its participation in such collective bargaining agreement to its work on the Project.

(Authorized Company Officer)

(Company)

STORMWATER POLLUTION PREVENTION PLAN



Illinois Department
of Transportation

Storm Water Pollution Prevention Plan

Route	Marked Route	Section Number
FAP 331	IL 13	(1-4)R-5,B-1,B-2,B-3,B-4
Project Number	County	Contract Number
BR-NHPP-3BX2(535)	Williamson	78373

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.

Permittee Signature & Date

Lora S. Rensing 2/3/25

SWPPP Notes

Preparing BDE 2342 (Storm Water Pollution Prevention Plan)

Guidance on preparing each section of BDE 2342 (Storm Water Pollution Prevention Plan) is found in Chapter 41 of the IDOT Bureau of Design and Environment (BDE) Manual, please consult this chapter during SWPPP preparation. Please note that the Illinois Environmental Protection Agency (IEPA) has 30 days to review the Notice of Intent (NOI) prior to project approval and any deficiencies can result in construction delays.

The Notice of Intent contains the following documents:

- BDE 2342 (Storm Water Pollution Prevention Plan)
- BDE 2342 A (Contractor Certification Statement)
- Erosion and Sediment Control Plan (See Section 63-4.09 of the BDE Manual)

Non-applicable information

If any section of the SWPPP is not applicable put "N/A" in box rather than leaving blank.

National Pollutant Discharge Elimination System (NPDES) Compliance

Description of Work: This work shall consist of those efforts necessary for compliance with the requirements of the Clean Water Act, Section 402 (NPDES), and the Illinois Environment Protection Act. This provision also provides the background information needed to comply with ILR10 and ILR40 permits for this project.

NPDES COMPLIANCE REQUIREMENTS

Part I: Site Description

1. Describe the project location; include latitude and longitude, section, town, and range.

This project is located on IL 13 in Williamson County from 0.16 miles east of Spillway Road to Division St. 37° 44'42.6"N 89°07'33.8"W. Section 17, T9S, R1E

2. Describe the nature of the construction activity or demolition work.

This project includes the construction of an additional EB and WB lane, a multi-use path along the EB lanes on the south side of IL 13, the replacement of 4 structures over Crab Orchard Lake, intersection reconstruction at IL 13 / Cambria Rd, drainage improvements, resurfacing, and signal improvements. Improvements include PCC pavement on granular sub-base, HMA shoulders, concrete curb and gutter, concrete medians, sidewalk, traffic signals, inlets, manholes, storm sewer, culverts, rock fill, earthwork, resurfacing, and pavement marking

3. Describe the intended sequence of major activities which disturb soils for major portions of the site (e.g. clearing, grubbing, excavation, grading, on-site or off-site stockpiling of soils, on-site or off-site storage of materials).

Stage 1 work consists of the construction of crossovers in the IL 13 median and removal and replacement of

4. The total area of the construction site is estimated to be 75 acres.

5. The total area of the site estimated to be disturbed by excavation, grading or other activities is 32 acres.

6. Determine an estimate of the runoff coefficient of the site after construction activities are completed.

0.49

7. Provide the existing data describing the quality of the soil of any discharge from the site.

N/A

8. Erosion and Sediment Control Plan (Graphic Plan) is included in the contract. ☒ Yes ☐ No

9. List all soils found within project boundaries; include map until name, slope information, and erosivity.

13B - Bluford silt loam, 2 to 5 percent slopes
518B - Rend silt loam, 2 to 5 percent slopes
518B2 - Rend silt loam, 2 to 5 percent slopes, eroded
518C3 - Rendy silty clay loam, 5 to 10 percent slopes, severely eroded
639A - Wynoose silt loam, bench, 0 to 2 percent slopes
640A - Bluford silt loam, bench, 0 to 2 percent slopes
640B - Bluford silt loam, bench, 2 to 5 percent slopes
640B2 - Bluford silt loam, bench, 2 to 5 percent slopes, eroded
3382A - Belknap silt loam, 0 to 2 percent slopes, frequently flooded

10. List of all MS4 permittees in the area of this project

Illinois Department of Transportation

Note: For sites discharging to an MS4, a separate map identifying the location of the construction site and the location where the MS4 discharges to surface water must be included.

Part II: Waters of the US

1. List the nearest named receiving water(s) and ultimate receiving waters.

Runoff will drain into Illinois Dept. of Transportation open ditches and storm sewer. The ultimate receiving water is Crab Orchard Lake.

2. Are wetlands present in the project area? ☐ Yes ☒ No

If yes, describe the areal extent of the wetland acreage at the site.

N/A

3. Natural buffers:

For any storm water discharges from construction activities within 50 feet of a Waters of the United States, except for activities for water-dependent structures authorized by a Section 404 permit, the following shall apply:

(i) A 50-foot undisturbed natural buffer between the construction activity and the Waters of the United States has been provided

☐ Yes ☒ No; and/or

(ii) Additional erosion and sediment controls within that area has been provided

☒ Yes ☐ No; and Describe: A turbidity curtain will be utilized while placing the rock fill in Crab Orchard Lake.

Part III. Water Quality

1. Water Quality Standards

As determined by the Illinois Pollution Control Board, Illinois waters have defined numeric limits of pollutants under the umbrella term "Water Quality Standards." In the following table are commonly used chemicals/practices used on a construction site. These chemicals if spilled into a waterway, could potentially contribute to a violation of a Water Quality Standard. If other chemicals that could contribute a violation of a Water Quality Standard, add as needed.

☒ Fertilizer (check as appropriate)

☒ Nitrogen

☒ Phosphorus, and/or

☒ Potassium

☒ Herbicide

☒ Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids)

☒ Waste water for concrete washout station

☒ Coal tar Pitch Emulsion

☒ Other (Specify) Portable Restrooms

☐ Other (Specify) _____

Table 1: Common chemicals/potential pollutants used during construction

If no boxes are checked in Table 1 above, check the following box:

☐ There are no chemicals on site that will exceed a Water Quality Standards if spilled.

If any boxes are checked in Table 1 above, check the following box:

There are chemicals on site that if spilled could potentially cause an exceedance of a Water Quality Standard. The Department shall implement Pollution Prevention/Good Housekeeping Practices as described in the Department's ILR40 Discharge for Small

☒ Municipal Separate Storm Sewer Systems (MS4) reiterated below and Part VIII. Unexpected Regulated Substances/Chemical Spill Procedures:

Pollution Prevention:

The Department will design, and the contractor shall, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants from construction activities. At a minimum, such measures must be designed, installed, implemented and maintained to:

- (a) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.
- (b) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, chemical storage tanks, deicing material storage facilities and temporary stockpiles, detergents, sanitary waste, and other materials present on the site exposed to precipitation and to storm water.
- (c) Minimize the discharge of pollutants from spills, leaks and vehicle and equipment maintenance and repair activities and implement chemical spill and leak prevention and response procedures;
- (d) Minimize the exposure of fuel, oil, hydraulic fluids, other petroleum products, and other chemicals by storing in covered areas or containment areas. Any chemical container with a storage of 55 gallons or more must be stored a minimum of 50 feet from receiving waters, constructed or natural site drainage features, and storm drain inlets. If infeasible due to site constraints, store containers as far away as the site permits and document in your SWPPP the specific reasons why the 50-foot setback is infeasible and how the containers will be stored.
- (e) The contractor is to provide regular inspection of their construction activities and Best Management Practices (BMPs). Based on inspection findings, the contractor shall determine if repair, replacement, or maintenance measures are necessary in order to ensure the structural integrity, proper function, and treatment effectiveness of structural storm water BMPs. Necessary maintenance shall be completed as soon as conditions allow to prevent or reduce the discharge of pollutants to storm water or as ordered by the Engineer. The Engineer shall conduct inspections required in Section XI Inspections, and report to the contractor deficiencies noted. These Department conducted inspections do not relieve the contractor from their responsibility to inspect their operations and perform timely maintenance; and
- (f) In addition, all IDOT projects are screened for Regulated Substances as described in Section 27-3 of the BDE Manual and implemented via Section 669: Removal and Disposal of Regulated substances in the Standard Specifications for Road and Bridge Construction.

Approved alterations to the Department's provided SWPPP, including those necessary to protect Contractor Borrow, Use and Waste areas, shall be designed, installed, implemented and maintained by the Contractor in accordance with IDOT Standard Specifications Section 280.

2. 303(d) Impaired Waterways

Does the project area have any 303(d) impaired waterways with the following impairments?

- suspended solids
- turbidity, and or
- siltation

☐ Yes ☒ No

If yes, list the name(s) of the listed water body and the impairment(s)

303(d) waterbody	Impairments(s)

In addition, It is paramount that the project does not increase the level of the impairment(s) described above. Discuss which BMPs will be implemented to reduce the risk of impairment increase

N/A

3. Total Maximum Daily Load (TMDL)

Does the project include any receiving waters with a TMDL for sediment, total suspended solids, turbidity or siltation? ☐ Yes ☒ No

If yes, List TMDL waterbodies below and describe associated TMDL

TMDL waterbody	TMDL
----------------	------

TMDL waterbody	TMDL

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

Part IV. Temporary Erosion and Sediment Controls

Stabilization efforts must be initiated within 1 working day of cessation of construction activity and completed within 14 days. Areas must be stabilized if they will not be disturbed for at least 14 calendar days. Exceptions to this time frame include:

- (i) Where the initiation of stabilization measures is precluded by snow cover, stabilization measures must be initiated as soon as practicable,
- (ii) On areas where construction activities have temporarily ceased and will resume after 14 days, a temporary stabilization method can be used (temporary stabilization techniques must be described), and
- (iii) Stabilization is not required for exit points at linear utility construction site that are used only episodically and for very short durations over the life of the project, provided other exit point controls are implemented to minimize sediment track-out.

Additionally, a record must be kept with the SWPPP throughout construction of the dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated.

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.

Note: For practices below, consult relevant design criteria in Chapter 41 of the BDE Manual and maintenance criteria in Erosion and Sediment Control Field Guide for Construction.

1. Erosion Control:

The following are erosion control practices which may be used on a project (place a check by each practice that will be utilized on the project, add additional practices as needed):

- | | |
|---|--|
| <input checked="" type="checkbox"/> Mulch | <input checked="" type="checkbox"/> Preservation of existing vegetation |
| <input type="checkbox"/> Erosion Control Blanket | <input checked="" type="checkbox"/> Temporary Turf Cover Mixture (Class 7) |
| <input type="checkbox"/> Turf Reinforcement Mat | <input checked="" type="checkbox"/> Permanent seeding (Class 1-6) |
| <input type="checkbox"/> Sodding | <input checked="" type="checkbox"/> Other (Specify) _____ |
| <input checked="" type="checkbox"/> Geotextile fabric | <input type="checkbox"/> Other (Specify) _____ |
| | <input type="checkbox"/> Other (Specify) _____ |

2. Sediment Control:

The following sediment control devices will be implemented on this project:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Ditch Checks | <input checked="" type="checkbox"/> Perimeter Erosion Barrier |
| <input checked="" type="checkbox"/> Inlet and Pipe protection | <input type="checkbox"/> Rolled Excelsior |
| <input type="checkbox"/> Hay or Straw bales | <input type="checkbox"/> Silt Filter Fence |

- ☐ Above grade inlet filters (fitted)
☐ Above grade inlet filters (non-fitted)
☐ Inlet filters

- ☐ Urethane foam/geotextiles
☒ Other (Specify) Turbidity Curtain
☐ Other (Specify)
☐ Other (Specify)

3. Structural Practices:

Provide below is a description of structural practices that will be implemented:

- | | |
|--|--|
| <input type="checkbox"/> Aggregate Ditch | <input type="checkbox"/> Stabilized Construction Exits |
| <input type="checkbox"/> Articulated Block Revetment Mat | <input type="checkbox"/> Stabilized Trench Flow |
| <input type="checkbox"/> Barrier (Permanent) | <input type="checkbox"/> Sediment Basin |
| <input type="checkbox"/> Concrete Revetment Mats | <input type="checkbox"/> Retaining Walls |
| <input type="checkbox"/> Dewatering Filtering | <input checked="" type="checkbox"/> Riprap |
| <input type="checkbox"/> Gabions | <input type="checkbox"/> Storm Drain Inlet Protection |
| <input type="checkbox"/> In-Stream or Wetland Work | <input type="checkbox"/> Slope Walls |
| <input type="checkbox"/> Level Spreaders | <input type="checkbox"/> Sediment Trap |
| <input type="checkbox"/> Paved Ditch | <input type="checkbox"/> Other (Specify) |
| <input type="checkbox"/> Permanent Check Dams | <input type="checkbox"/> Other (Specify) |
| <input type="checkbox"/> Precast Block Revetment Mat | <input type="checkbox"/> Other (Specify) |
| <input checked="" type="checkbox"/> Rock Outlet Protection | <input type="checkbox"/> Other (Specify) |

4. Polymer Flocculants

Design guidance for polymer flocculants is available in Chapter 41 of the BDE Manual. In addition, Polymer Flocculants may only be used by district Special Provision.

If polymer flocculants are used for this project, the following must be adhered to and described below:

- Identify the use of all polymer flocculants at the site.
- Dosage of treatment chemicals shall be identified along with any information from any Material Safety Data Sheet.
- Describe the location of all storage areas for chemicals.
- Include any information from the manufacturer's specifications.
- Treatment chemicals must be stored in areas where they will not be exposed to precipitation.
- The SWPPP must describe procedures for use of treatment chemicals and staff responsible for use/application of treatment chemicals must be trained on the established procedures.

N/A

Part V. Other Conditions

1. Dewatering

Will dewatering be required for this project? ☒ Yes ☐ No

If yes, the following applies:

- Dewatering discharges shall be routed through a sediment control (e.g., sediment trap or basin, pumped water filter bag) designed to minimize discharges with visual turbidity;
- The discharge shall not include visible floating solids or foam;
- The discharge must not cause the formation of a visible sheen on the water surface, or visible oily deposits on the bottom or shoreline of the receiving water. An oil-water separator or suitable filtration device shall be used to treat oil, grease, or other similar products if dewatering water is found to or expected to contain these materials;
- To the extent feasible, use well-vegetated (e.g., grassy or wooded), upland areas of the site to infiltrate dewatering water before discharge;
- You are prohibited from using receiving waters as part of the treatment area;
- To minimize dewatering-related erosion and related sediment discharges, use stable, erosion-resistant surfaces (e.g., well-vegetated grassy areas, clean filler stone, geotextile underlayment) to discharge from dewatering controls. Do not place dewatering controls, such as pumped water filter bags, on steep slopes (15% or greater in grade);
- Backwash water (water used to backwash/clean any filters used as part of storm water treatment) must be properly treated or hauled off-site for disposal;
- Dewatering treatment devices shall be properly maintained; and
- See Part XI (Inspections) for inspection requirement.

Part VI. Permanent (i.e., Post-Construction) Storm Water Management Controls

Provided below is a description of measures that may be installed during the construction process to control volume and therefore the amount pollutants in storm water runoff that can occur after construction operations have been completed.

Practices may include but are not limited to the following:

- Aggregate ditch checks;
- bioswales,
- detention pond(s),
- infiltration trench;
- retention pond(s),
- open vegetated swales and natural depressions,
- treatment train (sequential system which combine several practices).
- Velocity dissipation devices (See Structural Practices above)

Describe these practices below

The storm water management controls for the project are primarily planned to be open vegetated areas. Steeper embankment slopes along the lake will be armored with rip rap.

Part VII. Additional Practices Incorporated From Local Ordinance(s)

In some instances, an additional practice from a local ordinance may be included in the project. If so, describe below (Note: the Department is not subject to local ordinances)
See Erosion Control Plans for additional practices.

Part VIII. Unexpected Regulated Substances/Chemical Spill Procedures

When Unexpected Regulated Substances or chemical spills occur, Article 107.19 of the Standard Specifications for Road and Bridge Construction shall apply. In addition, it is the contractor's responsibility to notify the Engineer in the event of a chemical spill into a ditch or waterway, the Engineer will then notify appropriate IEPA and IEMA personnel for the appropriate cleanup procedures.

Part IX. Contractor Required Submittals

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

1. The Contractor shall provide a construction schedule containing an adequate level of detail to show major activities with implementation of pollution prevention BMPs, including the following items:

- Approximate duration of the project, including each stage of the project
- Rainy season, dry season, and winter shutdown dates
- Temporary stabilization measures to be employed by contract phases
- Mobilization time-frame
- Mass clearing and grubbing/roadside clearing dates
- Deployment of Erosion Control Practices
- Deployment of Sediment Control Practices (including stabilized construction entrances and exits to be used and how they will be maintained)
- 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. Specifically, any chemical stored in a 55 gallon drum provided by the contractor.
- 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.
- 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.

Additional measures indicated in the plan

N/A

Part X. Maintenance

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. However, 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. Any damage or undermining shall be repaired immediately.

Below, describe procedures to maintain in good and effective operating conditions

The Contractor will be responsible for installing, making inspections, completing relevant compliance forms and maintaining erosion control systems as directed by the Engineer.

During construction, areas outside the construction limits as outlined previously herein shall be protected. The Contractor shall not use this area for staging except as described on the plans and directed by the Engineer, parking of vehicles or construction equipment, storage of materials, or other construction related activities.

1. Within the construction limits, areas that may be susceptible to erosion as determined by the Engineer shall remain undisturbed until full-scale construction is underway to prevent unnecessary soil erosion.
2. Earth stockpiles shall be temporarily seeded if they are to remain unused for more than fourteen days.
3. As construction proceeds, the Contractor shall institute the following as directed by the Engineer:
Place temporary erosion control facilities at locations shown on the plans. Construct swales or ditches and provide temporary erosion control systems.
4. Excavated areas and embankment shall be permanently seeded/sodded immediately after final grading. If not, they shall be temporarily seeded if no construction activity in the area is planned for 7 days.
5. Construction equipment shall be stored and fueled only at designated locations. All necessary measures shall be taken to contain any fuel or other pollutant in accordance with EPA water quality regulations. Leaking equipment or supplies shall be immediately repaired or removed from site.
6. The Contractor shall inspect the project daily during construction activities. Inspection shall also be done weekly after rains of 1/2" or greater or equivalent snowfall and during the winter shutdown period. Additionally, the project shall be inspected by the Contractor on a bi-weekly basis to determine that erosion control efforts are in place and effective and if other erosion control is necessary.
7. Sediment collected during construction in the various temporary erosion control systems shall be disposed of on the site on a regular basis as directed by the Engineer. The cost of this maintenance shall be included in the unit bid price for various temporary erosion control pay items.

8. The temporary erosion control systems shall be removed as directed by the Engineer after use is no longer needed or no longer functioning. The cost of this removal shall be included in the unit bid price for various temporary erosion control pay items.

Part XI. Inspections

Qualified personnel shall inspect disturbed areas of the construction site that have not been finally stabilized, structural control measures, and locations where vehicles enter or exit the site at least once every seven calendar days and within 24 hours of the end of a storm or by the end of the following business or workday that is 0.50 inches or greater or equivalent snowmelt (except as allowed for Frozen Conditions).

In addition, all areas where storm water typically flows within the site should be inspected periodically to check for evidence of pollutants entering the drainage system, as well as all locations where stabilization measures have been implemented to ensure they are operating correctly.

Inspections shall be documented on the form BC 2259 (Storm Water Pollution Prevention Plan Erosion Control Inspection Report).

The Erosion and Sediment Control Field Guide for Construction Inspection shall be consulted as needed.

Dewatering

For site(s) discharging dewatering water, an inspection during the discharge shall be done once per day on which the discharge occurs and record the following in a report within 24 hours of completing the inspection:

- The inspection date;
- Names and titles of personnel performing the inspection;
- Approximate times that the dewatering discharge began and ended on the day of inspection;
- Estimates of the rate (in gallons per day) of discharge on the day of inspection;
- Whether or not any of the following indications of pollutant discharge were observed at the point of discharge: a sediment plume, suspended solids, unusual color, presence of odor, decreased clarity, or presence of foam; and/or a visible sheen on the water surface or visible oily deposits on the bottom or shoreline of the receiving water.

Frozen Conditions

Inspections may be reduced to once per month when all construction activities have ceased due to frozen conditions. Weekly inspections will recommence when construction activities resume, either temporarily or continuously, or if there is 0.5" or greater rain event, or a discharge due to snowmelt occurs.

Flooding or unsafe conditions

Areas that are inaccessible during required inspections due to flooding or other unsafe conditions must be inspected within 72 hours of becoming accessible.

Part XII. Incidence of Noncompliance (ION)

The Department shall notify the appropriate Agency Field Operations Section office by email as described on the IEPA ION form, within 24 hours of any incidence of noncompliance for any violation of the storm water pollution prevention plan observed during any inspection conducted, or for violations of any condition of this permit.

The Department shall complete and submit within 5 days an "Incidence of Noncompliance" (ION) report for any violation of the storm water pollution prevention plan observed during any inspection conducted, or for violations of any condition of this permit. Submission shall be on forms provided by the IEPA and 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.

Corrective actions must be undertaken immediately to address the identified non-compliance issue(s).

Illinois Environmental Protection Agency
Division of Water Pollution Control Compliance Assurance Section
1021 North Grand Avenue East
Post Office Box 19276 Springfield, Illinois 62794-9276

Part XIII. Corrective Actions

Corrective actions must be taken when:

- A storm water control needs repair or replacement;
- A storm water control necessary to comply with the requirements of this permit was never installed, or was installed incorrectly;
- Discharges are causing an exceedance of applicable water quality standards; or
- A prohibited discharge has occurred.

Corrective Actions must be completed as soon as possible and documented within 7 days in an Inspection Report or report of noncompliance. If it is infeasible to complete the installation or repair within 7 calendar days, it must be documented in the records why it is infeasible to complete the installation or repair within the 7 day time-frame and document the schedule for installing the storm water control(s) and making it operational as soon as feasible after the 7-day time-frame.. In the event that maintenance is required for the same storm water control at the same location three or more times, the control must be repaired in a manner that prevents continued failure to the extent feasible, and it must be documented the condition and how it was repaired in the records. Alternatively, it must be documented why the specific re-occurrence of this same issue must continue to be addressed as a routine maintenance fix.

Part XIV. Retention of Records

The Department must retain copies of the SWPPP and all reports and notices required by this permit, records of all data used to complete the NOI to be covered by this permit, and the Agency Notice of Permit Coverage letter for at least three years from the date that the permit coverage expires or is terminated. the permittee must retain a copy of the SWPPP and any revisions to the SWPPP required by this permit at the construction site from the date of project initiation to the date of final stabilization. Any manuals or other documents referenced in the SWPPP must also be retained at the construction site.

Part XV. 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 (See Article 105.03 Conformity with Contract)

Part XVI. Keeping the SWPPP ("plan") Current

IDOT shall amend the plan whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to Waters of the United States and which has not otherwise been addressed in the plan or if the plan proves to be ineffective in eliminating or significantly minimizing sediment and/or pollutants identified under paragraph Part II. Water Quality or in otherwise achieving the general objectives of controlling pollutants in storm water discharges associated with construction site activity.

In addition, the plan shall be amended to identify any new contractor and/or subcontractor that will implement a measure of the plan. Amendments to the plan may be reviewed by the IEPA the same manner as the SWPPP and Erosion and Sediment Control Plan (ESCP) submitted as part of the Notice of Intent (NOI). The SWPPP and site map must be modified within 7 days for any changes to construction plans, storm water controls or other activities at the site that are no longer accurately reflected in the SWPPP.

In addition, the NOI shall be modified using the CDX system for any substantial modifications to the project such as:

- address changes
- new contractors
- area coverage
- additional discharges to Waters of the United States, or
- other substantial modifications (e.g. addition of dewatering activities).

The notice of intent shall be modified within 30 days of the modification to the project.

Part XVII: Notifications

In addition to the NOI submitted to IEPA, all MS4 permittees identified in Part I. Site Description shall receive a copy of the NOI.

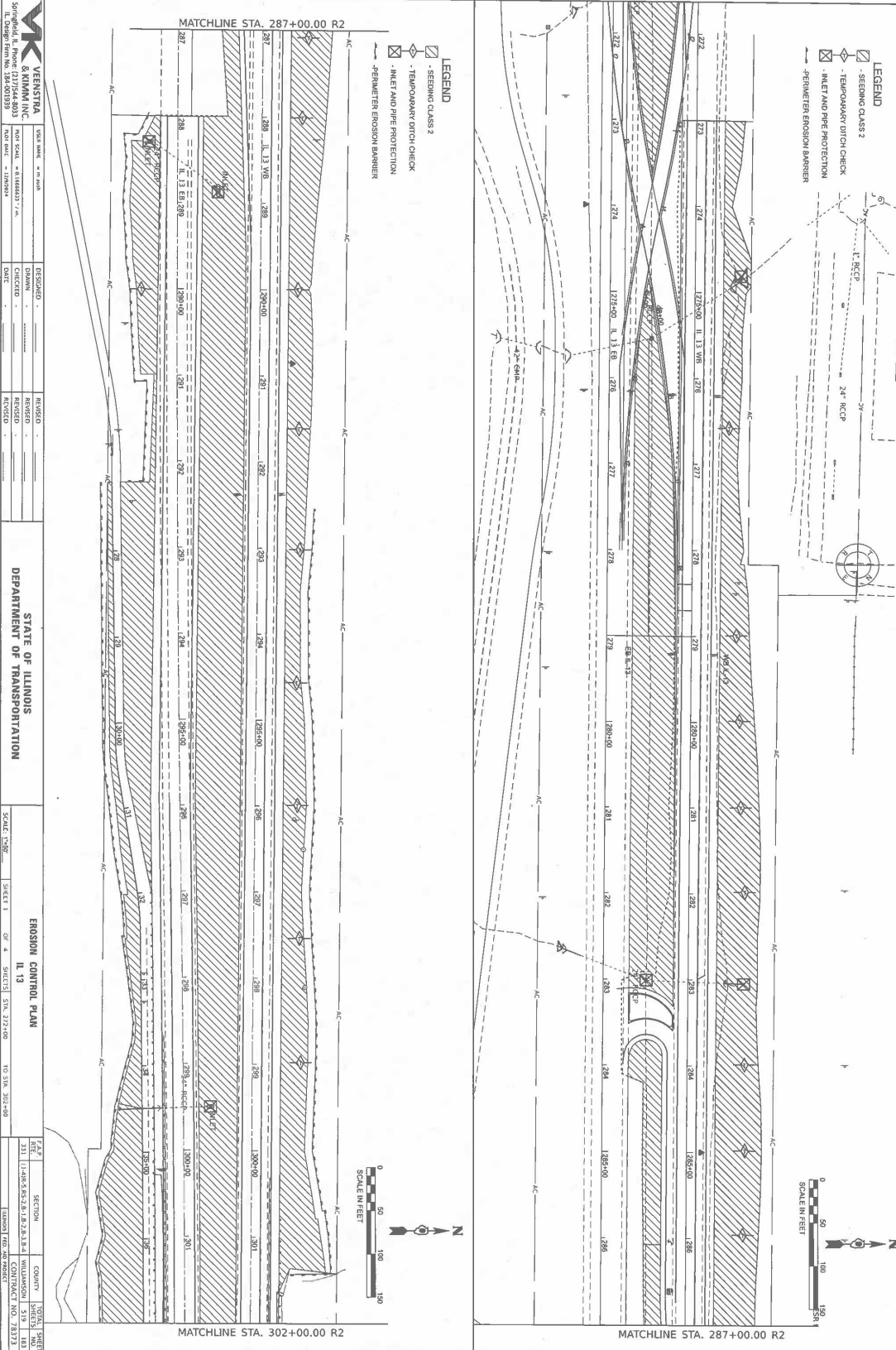
Part XVIII. Notice of Termination

Where a site has completed final stabilization and all storm water discharges from construction activities that are authorized by this permit are eliminated, the permittee must submit a completed Notice of Termination (NOT) that is signed in accordance with ILR10 permit.

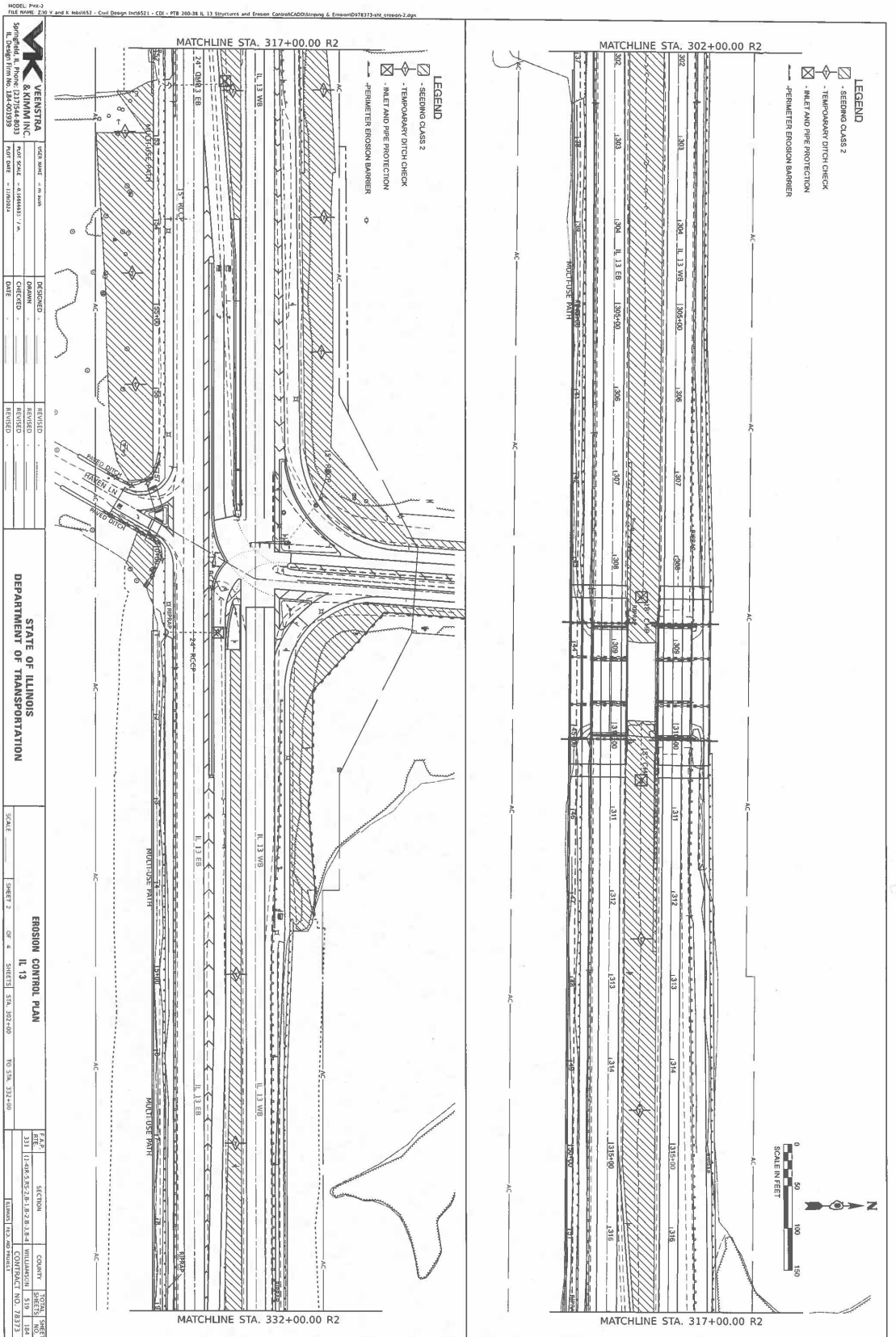
Method of Measurement: NPDES Compliance shall not be measured for payment separately. Measurement for payment for Temporary Erosion and Sediment Control shall be in accordance with Section 280 or as otherwise provided in the contract. Permanent BMPs necessary to comply with this provision shall be measured for payment in accordance with their respective provisions in the contract.

Basis of Payment: NPDES Compliance shall not be paid for separately. Payment for Temporary Erosion and Sediment Control shall be in accordance with Section 280 or as otherwise provided in the contract. Permanent BMPs necessary to comply with this provision shall be paid for in accordance with their respective payment provisions in the contract.

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FAP ROUTE (IL 13)
PROJECT BR-NHPP-3BX2(535)
SECTION (1-4)R-5,RS-2,B-1,B-2,B-3,B-4
WILLIAMSON COUNTY
CONTRACT NO. 78373



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FAP ROUTE (IL 13)
PROJECT BR-NHPP-3BX2(535)
SECTION (1-4)R-5,RS-2,B-1,B-2,B-3,B-4
WILLIAMSON COUNTY
CONTRACT NO. 78373



Contractor Certification Statement

Print Form

Reset Form



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
FAP 331	IL 13	(1-4)R-5,B-1,B-2,B-3,B-4
Project Number	County	Contract Number
	Williamson	98373

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			

404 PERMIT



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397
JB PRITZKER, GOVERNOR JAMES JENNINGS, ACTING DIRECTOR

OCT 04 2024

U.S. Army Corps of Engineers
St. Louis District, Regulatory Branch
1222 Spruce Street
St. Louis, MO 63103-2833

Subject: Clean Water Act Section 401 Water Quality Certification
RE: IL 13 Add Lane over Crab Orchard Lake, Williamson County
Illinois EPA Log No.: C-0109-24

Sir or Madam:

The Illinois Environmental Protection Agency (Agency) received a request for water quality certification subject to Section 401 of the federal Clean Water Act from Illinois Department of Transportation (Proponent) on Thursday, July 11, 2024, concerning the subject project. This request was submitted pursuant to a Department of the Army, Corps of Engineers permit request subject to the provisions of Section 404 of the Clean Water Act (33 U.S.C. 1344). This project will result in 0.78 acre of surface impact to forested wetlands and total of 5.92 acres of permanent surface impact to crab orchard lake to address safety concerns along the IL 13 corridor, improve the efficiency and capacity of IL 13, provide safe and efficient access to adjacent businesses and recreation areas, and to accommodate cyclists. Wetland mitigation credits will be purchased from little muddy addendum site 1 wetland mitigation bank and impacts to crab orchard lake will be mitigated at sugar creek wetland mitigation bank. This activity is described in the application material titled:

"Joint Permit submitted 042424.pdf", "Plan & Profile wetland impact sheets.pdf", "Project Location.pdf", "Project Topo.pdf", "IL 13 over Crab-78373-Rockfill Detail.pdf", "Federal CE approval.pdf", "Directions to the Site.docx", "Antidegradation Assessment for 401 Wa...n for.docx", "17931J wetland impacts.xlsx", and "2023.Wetland Delineation IL 13 over Crab.pdf" all provided electronically on June 10, 2024

Based on our review of the application material and finalization of this Agency's public participation process, it is the judgment of this office that the proposed project may be completed without causing water pollution as defined in the Illinois Environmental Protection Act and will comply with applicable provisions of Sections 301, 302, 303, 306 and 307 of the Clean Water Act, provided the project is carefully planned, supervised and is performed in compliance with conditions specified in this water quality certification.

This Agency hereby issues certification under Section 401 of the Clean Water Act (PL 95-217), subject to the conditions identified below. This certification becomes effective when the Department of the Army, Corps of Engineers includes the following conditions no. 1 through no. 8 as conditions of the requested permit pursuant to Section 404 of PL-95-217. These conditions are directed at the effect on water quality of the construction procedures involved in the above described project and are not an approval of any discharge resulting from the completed facility, nor an approval of the design of the facility. These conditions do not supplant any permit responsibilities of the applicant toward the Agency.

Any modifications to the proposed activity that is not described in the application material or covered by conditions below and 1) would not meet all the conditions of this certification or 2) may cause a new or an additional pollutant loading to waters of the State of Illinois are not approved.

Water Quality Condition No. 1. General.

The Proponent shall provide adequate planning and supervision for construction methods, processes, and cleanup procedures necessary to prevent water pollution and control erosion. The discharge and associated activity shall not cause:

- a. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C, Water Pollution Rules and Regulations;
- b. water pollution defined and prohibited by the Illinois Environmental Protection Act;

2125 S. First Street, Champaign, IL 61820 (217) 278-5800
115 S. LaSalle Street, Suite 2203, Chicago, IL 60603
1101 Eastport Plaza Dr., Suite 100, Collinsville, IL 62234 (618) 346-5120
9511 Harrison Street, Des Plaines, IL 60016 (847) 294-4000

595 S. State Street, Elgin, IL 60123 (847) 608-3131
2309 W. Main Street, Suite 116, Marion, IL 62959 (618) 993-7200
412 SW Washington Street, Suite D, Peoria, IL 61602 (309) 671-3022
4302 N. Main Street, Rockford, IL 61103 (815) 987-7760

PLEASE PRINT ON RECYCLED PAPER

Water Quality Certification

IEPA Log no.: C-0109-24

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- c. interference with water use practices near public recreation areas or water supply intakes; or
- d. violation of applicable provisions of the Illinois Environmental Protection Act.

Water Quality Condition No. 2. Existing Uses Protection Plan.

The wetland mitigation plan to compensate for the permanent loss of 0.498 acre of wetlands consisting of purchase of 0.747 acres of wetland mitigation credits from the Little Muddy Addendum site 1 Wetland Mitigation Bank in Perry County and 5.92 acres of lake surface consisting of a purchase of stream mitigation credit at 1:1 ratio at Sugar Camp Creek Wetland Mitigation Bank in Sangamon County shall be implemented. Modifications to the wetland mitigation plan must be submitted to the Agency for approval. The Proponent shall submit to the address below, written proof that the wetland credits have been purchased within thirty (30) days of said purchase.

Illinois Environmental Protection Agency, Bureau of Water
Division of Water Pollution Control, Permit Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

Water Quality Condition No. 3. Erosion and Sedimentation Control Measures.

The Proponent shall implement all necessary sedimentation and erosion control measures consistent with the current edition of the "Illinois Urban Manual" found at <https://illinoisurbanmanual.org/>. Interim measures to prevent erosion during construction shall be taken and may include the installation of sedimentation basins, silt fencing and temporary mulching. All construction within the waterway shall be conducted during zero or low flow conditions. All areas affected by construction shall be seeded and stabilized as soon after construction as possible.

Water Quality Condition No. 4. Construction within Waterway.

All construction within the waterway shall be conducted during zero or low flow conditions or otherwise provide appropriate bypass measures (i.e. flumes, culverts, etc.) to minimize sedimentation and maintain normal stream flow during construction. Construction activities shall be conducted in a manner to minimize resuspension of materials in the water column. Techniques such as careful equipment use, construction during favorable weather conditions that minimize turbulence and transport of suspended contaminants and other methods such as turbidity curtains should be used as necessary to minimize re-suspension of sediment material. Turbidity curtains shall be used in accordance with the current version of the "Illinois Urban Manual" <https://illinoisurbanmanual.org/> Practice Standard for Floating Silt Curtain (no. 917).

Water Quality Condition No. 5. Spill Response Plan.

The Proponent shall ensure that a spill avoidance and response plan has been developed and implemented for management of accidental releases of petroleum products to the aquatic environment during construction and for emergency notification of applicable downstream water supply operators and the Illinois EPA. Absorbent pads, containment booms and skimmers shall be available to facilitate the cleanup of petroleum spills. If floating hydrocarbon (oil and gas) products are observed, the proponent or their designee will be responsible for directing that work be halted so that appropriate corrective measures are taken in accordance with the plan prior to resuming work. For the purposes of this certification, "petroleum" means crude oil, refined petroleum, intermediates, fractions or constituents of petroleum, oil sheens, lubricants, and any other form of oil or petroleum.

Water Quality Condition No. 6. Hydraulic Machinery.

All hydraulic machinery utilized for the permitted activity and used in or immediately adjacent to waters of the State shall utilize biodegradable or bio-based hydraulic fluids to minimize pollution in the case of broken or leaking hydraulic equipment. More information about environmentally acceptable alternatives are available at:
https://www3.epa.gov/npdes/pubs/vgp_environmentally_acceptable_lubricants.pdf

Water Quality Condition No. 7. Discharged Material Quality.

Any spoil material excavated, dredged or otherwise produced must not be returned to the water body but must be deposited in a self-contained area in compliance with all state statutes. Except as specifically allowed by other conditions of this final determination, any backfilling must be done with uncontaminated material that is predominantly sand or larger size material, with no more than 20% passing a #230 U. S. sieve and placed in a manner to prevent violation of applicable water quality standards.

Water Quality Certification
IEPA Log no.: C-0109-24
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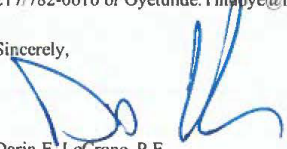
Water Quality Condition No. 8. NPDES Stormwater Construction Permit.

The Proponent shall be responsible for obtaining an NPDES Storm Water Permit required by the federal Clean Water Act prior to initiating construction if the construction activity associated with the project will result in the disturbance of 1 (one) or more acres, total land area. An NPDES Storm Water Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form and application at <https://www2.illinois.gov/epa/topics/forms/water-permits/storm-water/Pages/construction.aspx>.

This Section 401 water quality certification does not obviate the permittee's responsibility to obtain other required federal, state, or local authorizations, nor does it grant immunity from any enforcement action found necessary by this Agency to meet its responsibilities in prevention, abatement, and control of water pollution.

If you have any questions about this final determination, please contact Oyetunde (Stephen) Tinuoye of my staff at either 217/782-0610 or Oyetunde.Tinuoye@illinois.gov.

Sincerely,



Darin E. LeCrone, P.E.
Manager, Permit Section
Division of Water Pollution Control
Illinois Environmental Protection Agency

CC: Applicant
USEPA
Consultant
IDNR
FOS
BOW_File



FAP ROUTE (IL 13)
PROJECT BR-NHPP-3BX2(535)
SECTION (1-4)R-5,RS-2,B-1,B-2,B-3,B-4
WILLIAMSON COUNTY
CONTRACT NO. 78373



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, ST. LOUIS DISTRICT
1222 SPRUCE STREET
ST. LOUIS, MISSOURI 63103

October 10, 2024

Regulatory Division
File Number: MVS-2024-251

Mr. Kirk Brown
Illinois Department of Transportation
2801 W Murphysboro Road
Carbondale, Illinois 62901

Dear Mr. Brown:

We have reviewed the permit application regarding the improvements to Illinois Route 13 over Crab Orchard Lake. The work within aquatic resources will consist of the addition of a third lane both Eastbound (EB) and Westbound (WB); the removal and replacement of structures 100-0018 and 100-0020 (EB bridges), and 100-0067 and 100-0066 (WB bridges) over Crab Orchard Lake; intersection improvements at Cambria Rd. including converting the intersection to a continuous green intersection with signals installed for three proposed WB thru lanes, proposed dual left turns, and Southbound (SB) left turning movements, construction of a median U-turn west of Cambria Road. for left turn access into the Haven, and reconstruction of the SB to WB free flow right turn lane to policy length; resurfacing of the existing lanes of IL 13 from Spillway Rd. to Division St. in Carterville; and the addition of a multi-use path on the South side of the corridor to extend the length of the project and connect with current sections of the Crab Orchard Greenway. See Table 1 below for a summary of impacts to aquatic resources onsite. The project is generally located in Section 17, Township 9 South, Range 1 East in Williamson County, Illinois. Approximate geographic coordinates for the project are 37.74505, -89.12665.

Table 1. Impact Summary

Water Feature	Impact (Acre)	Mitigation (Credits)
Site 2	0.261-acre	0.391
Site 3	0.045-acre	0.068
Site 8	0.192-acre	0.288
Crab Orchard Lake	5.92-acre	5.92
Total Impacts: 6.418 acres		Total Credits: 6.667

The Corps of Engineers has determined that this activity is authorized under Section

Regulatory Division (File No. MVS-2024-251)

404 of the Clean Water Act by an existing Department of the Army nationwide permit for *Approved Categorical Exclusions* (23), attached. This verification is valid until March 14, 2026, unless the District Engineer modifies, suspends, or revokes the nationwide permit authorizations in accordance with 33 CFR 330.5(d). If you commence, or are under contract to commence, this activity before the nationwide permits expire, you will have 12 months after the date the nationwide permits expire or are modified, suspended, or revoked, to complete the activity under the present terms and conditions of these nationwide permits. Enclosed is a copy of the Nationwide Permit and conditions and management practices with which you must comply. **Furthermore, the District Engineer has conditioned this verification to include the following Special Conditions:**

1. Please be aware that the endangered Indiana Bat (*Myotis sodalis*), Tricolored Bat (*Perimyotis subflavus*), and the Northern Long-eared Bat (*Myotis septentrionalis*) may be present within your project area. To "not adversely affect" these listed species, you must not cut or clear trees during the bat's active season, April 1-September 30. If implementation of this condition is not possible, please contact the Corps of Engineers, Regulatory Division, for further consultation with United States Fish and Wildlife Service.
2. Please be aware that the endangered Indiana Bat (*Myotis sodalis*), and Northern Long-eared Bat (*Myotis septentrionalis*) may be present within your project area. To "not adversely affect" these listed species, a bridge assessment for bats will be completed prior to the removal of the structure. Expanding foam should be applied in the joints below the deck to deter future use by bats. If implementation of this condition is not possible, please contact the Corps of Engineers, Regulatory Division, for further consultation with United States Fish and Wildlife Service.
3. The Permittee shall compensate for the loss of 0.498-acres of wetland by purchasing 0.747 wetland credits from the approved Little Muddy Addendum Site 1 Mitigation Bank. The Permittee shall compensate for the impacts to 5.92-acres of Crab Orchard Lake by purchasing 5.92 wetland credits from Little Muddy Addendum Site 1. Documentation of obtaining the required mitigation from the above option must be provided to our office prior to the impact to the waters of the United States. Once the credits have been purchased and the required documentation for the purchase has been provided to our office, the permit will be considered valid.

In accordance with General Condition number 30 of the Nationwide Permit, a compliance certification (Attachment A of this package) must be completed within 30 days of project completion, or the permit issuance may be revoked and considered null and void.

The Illinois Environmental Protection Agency Division of Water Pollution Control (IEPA/WPC) issued an Individual 401 Water Quality Certification for this project on October 4, 2024, Illinois EPA Log No.: C-0109-24. These conditions are part of the

Regulatory Division (File No. MVS-2024-251)

Corps permit. If you have any questions regarding the water quality certification conditions, you may contact Darren Gove, with IEPA, at 217-782-3362.

This determination is applicable only to the permit program administered by the Corps of Engineers. It does not eliminate the need to obtain other federal, state or local approvals before beginning work. This permit verification does not convey property rights, nor authorize any injury to property or invasion of other rights. You are reminded that the permit is based on submitted plans. Variations from these plans shall constitute a violation of Federal law and may result in the revocation of the permit. If this nationwide permit is modified, reissued, or revoked during this period, the provisions described at 33 CFR 330.6(b) will apply.

If you have any questions, please contact Henry Heyer at Henry.R.Heyer@usace.army.mil or (314) 331-8251. Please refer to file number **MVS-2024-251**. The St. Louis District Regulatory Division is committed to providing quality and timely service to our customers. In an effort to improve customer service, please take a moment to go to our Customer Service Survey found on our website at <https://regulatory.ops.usace.army.mil/customer-service-survey/>.

Sincerely,
ZOBRIST.TYSON.J.1248
277897
Tyson Zobrist
Illinois Branch Chief
Regulatory Division

Digitally signed by
ZOBRIST.TYSON.J.1
248277897
Date: 2024.10.10
10:32:23 -05'00'

Enclosures

Copy Furnished (electronically):
Milner, IDNR-OWR
LeCrone, IEPA

Regulatory Division (File No. MVS-2024-251)

ATTACHMENT A

COMPLETED WORK CERTIFICATION

Date of Issuance: October 10, 2024

File Number: MVS-2024-251

Name of Permittee: Illinois Department of Transportation; c/o Mr. Kirk Brown

Name of Project: Illinois Route 13 Land Addition over Crab Orchard Lake

Project Location: Section 17, Township 9 South, Range 1 East

River Basin/County/State: Big Muddy/Williamson/Illinois

Project Manager: H. Heyer

Upon completion of this activity authorized by this permit and any mitigation required by the permit, sign this certification, and return it to the following address or via email to MVS-Regulatory@usace.army.mil:

**U.S. Army Corps of Engineers
Attn: Regulatory Division
1222 Spruce Street
St. Louis, Missouri 63103-2833**

(Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.)

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Non-segregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

ATTACHMENTS

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

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work

performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

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

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

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

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

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

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

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

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

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

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

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

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

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

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

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

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

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

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

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide

sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants /

Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment 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. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act ([29 CFR part 3](#))), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act ([40 U.S.C. 3141\(2\)\(B\)](#)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH-1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in [29 CFR part 1](#), a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

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

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

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

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

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

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

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

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

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

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

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

under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

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

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

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

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

2. Withholding (29 CFR 5.5)

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

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

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

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

3. Records and certified payrolls (29 CFR 5.5)

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

(2) Information required. Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) Additional records relating to fringe benefits. Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

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

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

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

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

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

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

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

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

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

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

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

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

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

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

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

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

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

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

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

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

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

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

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

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

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

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

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

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

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

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

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

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

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

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

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

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

3. Withholding for unpaid wages and liquidated damages

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

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

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

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

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

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

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

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

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

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

VI. SUBLETTING OR ASSIGNING THE CONTRACT

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

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

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

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and

health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

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

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

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

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

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

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

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

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3. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily

excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

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

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

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

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

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

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

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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.

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

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

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.