

6

Letting August 5, 2022

Notice to Bidders, Specifications and Proposal



**Contract No. 61H87
COOK County
Section 17-00034-03-BT
Route DES PLAINES RIVER TRAIL
Project E0EF-542 ()
District 1 Construction Funds**

| | |
|-------------|---|
| Prepared by | |
| Checked by | F |

(Printed by authority of the State of Illinois)



- 1. TIME AND PLACE OF OPENING BIDS.** Electronic bids are to be submitted to the electronic bidding system (iCX-Integrated Contractors Exchange). All bids must be submitted to the iCX system prior to 12:00 p.m. August 5, 2022 at which time the bids will be publicly opened from the iCX SecureVault.
- 2. DESCRIPTION OF WORK.** The proposed improvement is identified and advertised for bids in the Invitation for Bids as:

**Contract No. 61H87
COOK County
Section 17-00034-03-BT
Project E0EF-542 ()
Route DES PLAINES RIVER TRAIL
District 1 Construction Funds**

Construction of an aggregate and HMA shared-use path to include a boardwalk structure, pedestrian truss structure and traffic signal modernization. Project is Segment 3 of the Des Plaines River Trail from south of Lawrence Avenue to the Bryn Mawr Bike Bridge over the Des Plaines River in Chicago.

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

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

By Order of the
Illinois Department of Transportation

Omer Osman,
Secretary

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2022

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

No ERRATA this year.

SUPPLEMENTAL SPECIFICATIONS

Std. Spec. Sec.

Page No.

No Supplemental Specifications this year.

RECURRING SPECIAL PROVISIONS

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

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Des Plaines River Trail Segment 3
Forest Preserve District of Cook County
Contract No. 61H87
Section No. 17-00034-03-BT
Cook County

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BDE SPECIAL PROVISIONS

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

| <u>File Name</u> | <u>Pg.</u> | | <u>Special Provision Title</u> | <u>Effective</u> | <u>Revised</u> |
|------------------|------------|---|---|------------------|----------------|
| 80099 | 141 | X | Accessible Pedestrian Signals (APS) | April 1, 2003 | Jan. 1, 2022 |
| 80274 | 143 | X | Aggregate Subgrade Improvement | April 1, 2012 | April 1, 2022 |
| 80192 | | | Automated Flagger Assistance Device | Jan. 1, 2008 | |
| 80173 | | | Bituminous Materials Cost Adjustments | Nov. 2, 2006 | Aug. 1, 2017 |
| 80246 | | | Bituminous Surface Treatment with Fog Seal | Jan. 1, 2020 | Jan. 1, 2022 |
| 80436 | 146 | X | Blended Finely Divided Minerals | April 1, 2021 | |
| 80241 | | | Bridge Demolition Debris | July 1, 2009 | |
| * 50531 | | | Building Removal | Sept. 1, 1990 | Aug. 1, 2022 |
| * 50261 | | | Building Removal with Asbestos Abatement | Sept. 1, 1990 | Aug. 1, 2022 |
| 80384 | 147 | X | Compensable Delay Costs | June 2, 2017 | April 1, 2019 |
| 80198 | | | Completion Date (via calendar days) | April 1, 2008 | |
| 80199 | | | Completion Date (via calendar days) Plus Working Days | April 1, 2008 | |
| 80293 | | | Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet | April 1, 2012 | July 1, 2016 |
| 80311 | | | Concrete End Sections for Pipe Culverts | Jan. 1, 2013 | April 1, 2016 |
| 80261 | 151 | X | Construction Air Quality – Diesel Retrofit | June 1, 2010 | Nov. 1, 2014 |
| 80434 | | | Corrugated Plastic Pipe (Culvert and Storm Sewer) | Jan. 1, 2021 | |
| 80029 | 154 | X | Disadvantaged Business Enterprise Participation | Sept. 1, 2000 | Mar. 2, 2019 |
| 80229 | | | Fuel Cost Adjustment | April 1, 2009 | Aug. 1, 2017 |
| 80433 | | | Green Preformed Thermoplastic Pavement Markings | Jan. 1, 2021 | Jan. 1, 2022 |
| 80422 | | | High Tension Cable Median Barrier | Jan. 1, 2020 | Jan. 1, 2022 |
| 80443 | | | High Tension Cable Median Barrier Removal | April 1, 2022 | |
| * 80442 | | | Hot-Mix Asphalt | Jan. 1, 2022 | Aug. 1, 2022 |
| 80444 | | | Hot-Mix Asphalt – Patching | April 1, 2022 | |
| 80438 | | | Illinois Works Apprenticeship Initiative – State Funded Contracts | June 2, 2021 | Sept. 2, 2021 |
| 80411 | | | Luminaires, LED | April 1, 2019 | Jan. 1, 2022 |
| 80045 | | | Material Transfer Device | June 15, 1999 | Jan. 1, 2022 |
| 80418 | | | Mechanically Stabilized Earth Retaining Walls | Nov. 1, 2019 | Nov. 1, 2020 |
| 80430 | 164 | X | Portland Cement Concrete – Haul Time | July 1, 2020 | |
| 34261 | | | Railroad Protective Liability Insurance | Dec. 1, 1986 | Jan. 1, 2022 |
| 80395 | | | Sloped Metal End Section for Pipe Culverts | Jan. 1, 2018 | |
| 80340 | | | Speed Display Trailer | April 2, 2014 | Jan. 1, 2022 |
| 80127 | 165 | X | Steel Cost Adjustment | April 2, 2014 | Jan. 1, 2022 |
| 80397 | 168 | X | Subcontractor and DBE Payment Reporting | April 2, 2018 | |
| 80391 | 169 | X | Subcontractor Mobilization Payments | Nov. 2, 2017 | April 1, 2019 |
| 80437 | | | Submission of Payroll Records | April 1, 2021 | |
| 80435 | | | Surface Testing of Pavements – IRI | Jan. 1, 2021 | Jan. 1, 2022 |
| 80410 | | | Traffic Spotters | Jan. 1, 2019 | |
| 20338 | 170 | X | Training Special Provisions | Oct. 15, 1975 | Sept. 2, 2021 |
| 80318 | | | Traversable Pipe Grate for Concrete End Sections | Jan. 1, 2013 | Jan. 1, 2018 |
| 80429 | | | Ultra-Thin Bonded Wearing Course | April 1, 2020 | Jan. 1, 2022 |
| 80440 | | | Waterproofing Membrane System | Nov. 1, 2021 | |
| 80302 | 173 | X | Weekly DBE Trucking Reports | June 2, 2012 | Nov. 1, 2021 |
| 80427 | 174 | X | Work Zone Traffic Control Devices | Mar. 2, 2020 | |
| 80071 | 176 | X | Working Days | Jan. 1, 2002 | |

GUIDE BRIDGE SPECIAL PROVISION INDEX/CHECK SHEET

Effective as of the: August 5, 2022 Letting

| Pg # | √ | File Name | Title | Effective | Revised |
|------|---|-----------|--|----------------|----------------|
| | | GBSP 4 | Polymer Modified Portland Cement Mortar | June 7, 1994 | April 1, 2016 |
| 177 | X | GBSP 13 | High-Load Multi-Rotational Bearings | Oct 13, 1988 | April 30, 2021 |
| | | GBSP 14 | Jack and Remove Existing Bearings | April 20, 1994 | April 13, 2018 |
| | | GBSP 15 | Three Sided Precast Concrete Structure | July 12, 1994 | Dec 21, 2016 |
| | | GBSP 16 | Jacking Existing Superstructure | Jan 11, 1993 | April 13, 2018 |
| | | GBSP 18 | Modular Expansion Joint | May 19, 1994 | Oct 23, 2020 |
| | | GBSP 21 | Cleaning and Painting Contact Surface Areas of Existing Steel Structures | June 30, 2003 | Oct 23, 2020 |
| | | *GBSP 25 | Cleaning and Painting Existing Steel Structures | Oct 2, 2001 | April 15, 2022 |
| | | GBSP 26 | Containment and Disposal of Lead Paint Cleaning Residues | Oct 2, 2001 | Apr 22, 2016 |
| | | GBSP 28 | Deck Slab Repair | May 15, 1995 | April 13, 2018 |
| | | GBSP 29 | Bridge Deck Microsilica Concrete Overlay | May 15, 1995 | April 30, 2021 |
| | | GBSP 30 | Bridge Deck Latex Concrete Overlay | May 15, 1995 | April 30, 2021 |
| | | GBSP 31 | Bridge Deck High-Reactivity Metakaolin (HRM) Conc Overlay | Jan 21, 2000 | April 30, 2021 |
| 183 | X | GBSP 33 | Pedestrian Truss Superstructure | Jan 13, 1998 | Oct 23, 2020 |
| | | GBSP 34 | Concrete Wearing Surface | June 23, 1994 | Oct 4, 2016 |
| | | GBSP 45 | Bridge Deck Thin Polymer Overlay | May 7, 1997 | Feb 6, 2013 |
| | | GBSP 53 | Structural Repair of Concrete | Mar 15, 2006 | Aug 9, 2019 |
| 186 | X | GBSP 55 | Erection of Curved Steel Structures | June 1, 2007 | |
| | | *GBSP 59 | Diamond Grinding and Surface Testing Bridge Sections | Dec 6, 2004 | April 15, 2022 |
| | | GBSP 60 | Containment and Disposal of Non-Lead Paint Cleaning Residues | Nov 25, 2004 | Apr 22, 2016 |
| | | *GBSP 61 | Slipform Parapet | June 1, 2007 | April 15, 2022 |
| | | GBSP 67 | Structural Assessment Reports for Contractor's Means and Methods | Mar 6, 2009 | Oct 5, 2015 |
| | | GBSP 71 | Aggregate Column Ground Improvement | Jan 15, 2009 | Oct 15, 2011 |
| | | GBSP 72 | Bridge Deck Fly Ash or GGBF Slag Concrete Overlay | Jan 18, 2011 | April 30, 2021 |
| | | GBSP 78 | Bridge Deck Construction | Oct 22, 2013 | Dec 21, 2016 |
| | | GBSP 79 | Bridge Deck Grooving (Longitudinal) | Dec 29, 2014 | Mar 29, 2017 |
| | | GBSP 81 | Membrane Waterproofing for Buried Structures | Oct 4, 2016 | March 1, 2019 |
| | | GBSP 82 | Metallizing of Structural Steel | Oct 4, 2016 | Oct 20, 2017 |
| 187 | X | GBSP 83 | Hot Dip Galvanizing for Structural Steel | Oct 4, 2016 | Oct 20, 2017 |
| | | GBSP 85 | Micropiles | Apr 19, 1996 | Oct 23, 2020 |
| | | GBSP 86 | Drilled Shafts | Oct 5, 2015 | Oct 4, 2016 |
| | | GBSP 87 | Lightweight Cellular Concrete Fill | Nov 11, 2011 | Apr 1, 2016 |
| | | GBSP 88 | Corrugated Structural Plate Structures | Apr 22, 2016 | April 13, 2018 |
| | | GBSP 89 | Preformed Pavement Joint Seal | Oct 4, 2016 | Oct 23, 2020 |
| | | GBSP 90 | Three Sided Precast Concrete Structure (Special) | Dec 21, 2016 | April 13, 2018 |
| | | GBSP 91 | Crosshole Sonic Logging Testing of Drilled Shafts | Apr 20, 2016 | Aug 9, 2019 |
| | | GBSP 92 | Thermal Integrity Profile Testing of Drilled Shafts | Apr 20, 2016 | |
| 191 | X | GBSP 93 | Preformed Bridge Joint Seal | Dec 21, 2016 | Oct 23, 2020 |
| | | GBSP 94 | Warranty for Cleaning and Painting Steel Structures | Mar 3, 2000 | Nov 24, 2004 |
| | | GBSP 96 | Erection of Bridge Girders Over or Adjacent to Railroads | Aug 9, 2019 | |
| | | *GBSP 97 | Folded/Formed PVC Pipeliner | April 15, 2022 | |
| | | *GBSP 98 | Cured-in-Place Pipe Liner | April 15, 2022 | |
| | | *GBSP 99 | Spray-Applied Pipe Liner | April 15, 2022 | |

An * indicates a new or revised special provision.

STATE OF ILLINOIS

SPECIAL PROVISIONS

The following Special Provisions supplement the specifications listed in the table below which apply to and govern the proposed improvement designated as Section 17-00034-03-BT, Contract Number 61H87 and in case of conflict with any part or parts of said specifications, the said Special Provisions shall take precedence and govern.

| SPECIFICATION | ADOPTED/DATED |
|--|-------------------------------------|
| Standard Specifications for Road and Bridge Construction | January 1, 2022 |
| Manual on Uniform Traffic Control Devices for Streets and Highways | 2009 Edition with Revisions 1 and 2 |
| Illinois Manual on Uniform Traffic Control Devices for Streets and Highways" (ILMUTCD) | Current Edition |
| Supplemental Specifications and Recurring Special Provisions (indicated on the Check Sheet included herein) | January 1, 2022 |
| Manual of Test Procedure of Materials | Current |
| Standard Specifications for Water & Sewer Main Construction in Illinois | 8 th Edition, 2020 |

LOCATION OF IMPROVEMENT

Segment 3 of the Des Plaines River Trail is located in the City of Chicago, Cook County. The improvement on the Des Plaines River Trail begins just south of Lawrence Avenue. The improvement ends just south of the Bryn Mawr bicycle bridge over the Des Plaines River. Total gross and net length is 9,025.32 feet (1.71 miles).

DESCRIPTION OF IMPROVEMENT

The work consists of the construction of an aggregate shared-use path, HMA shared-use path, precast concrete boardwalk, pedestrian bridge construction, Portland cement concrete sidewalk, earth excavation, Portland cement concrete curb and gutter, seeding, sodding, topsoil, landscaping, and traffic signal enhancements, as well as all incidental and collateral work necessary to complete the project as shown on the plans and as described herein.

AVAILABLE REPORTS

No project specific reports were prepared.

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

- Record structural plans
- Preliminary Site Investigation - IDOT (PSI)
- Preliminary Environmental Site Assessment - IDOT (PESA)
- Preliminary Site Investigation (PSI) – Local
- Preliminary Environmental Site Assessment (PESA) – Local
- Soils/Geotechnical Report
- Boring Logs
- Pavement Cores
- Location Drainage Study (LDS)
- Hydraulic Report
- Noise Analysis
- Other: Local PIP Evaluation Report/LPC 663 Testing
FPDCC Tree Protection and Preservation Manual
FPDCC Tree Mitigation Plan

Those seeking these reports should request access from:

Mark B. Thomas, PE
Christopher B. Burke Engineering, Ltd.
9575 W. Higgins Road, Suite 600
Rosemont, IL 60018
(847) 823-0500
mthomas@cbbel.com

CITY OF CHICAGO PERMITS AND LICENSES

Coordination with City of Chicago Departments will be necessary for permits and licenses and as stated below.

OBTAINING PERMITS AND ASSOCIATED FEES

A. Contractor Obtains Permits

The Contractor must obtain all permits wherever the Work under this Contract requires them, including from the City of Chicago or other public authorities. You must furnish triplicate copies of the permits to the City of Chicago before the Work covered by them is started. NO WORK IS ALLOWED TO PROCEED BEFORE SUCH PERMITS ARE OBTAINED.

B. Contractor Pays Permit Fees

The special use of, or removal, alteration or replacement of certain City-owned facilities and appurtenances such as traffic signals signs, lighting, parking meters, trees, sewers, hydrants, bridges and viaducts which are required for the Contractor to perform the Work are subject to all applicable Municipal Ordinances. It is the Contractor's responsibility to obtain all the necessary permits and pay the associated fees. Cost associated with these permits are include in the cost of the work being performed. The Contractor must furnish copies of the permits to the City of Chicago before the Work covered is started. Information with regard to the above may be obtained by contacting the appropriate City of Chicago Departments.

COORDINATION WITH OTHER CITY OF CHICAGO DEPARTMENTS

A. Water System Work and Usage (if necessary)

If water from a City hydrant is necessary for the execution of the Work, you must obtain a hydrant permit from the City's Department of Water Management. You must obtain a permit from that department also for any construction, repair or adjustment of any water main, branch or service connection. Requests for permits must be made at the Department of Water Management, City Hall, 121 North LaSalle Street, Room 906, Chicago, Illinois 60602; 312/744-7060.

B. Sewer System Work (if necessary)

If you will be constructing, repairing, adjusting or cleaning any subsurface structure designed to collect or transport storm and/or sanitary waste water, either in private property or in the public way you, through a licensed drainlayer, must obtain a permit issued under this Section X.B. (A licensed drainlayer is person possessing a current sewer and drain license issued by the Department of Water Management.) Requests for permits must be made at the Department of Water Management (Sewers and Drains), 333 S. State Street, Room 410, Chicago, IL 60604-3971; 312/747-8117.

Project plans must be submitted to the Department of Water Management (Sewers and Drains) sufficiently in advance for examination and review. Plans meeting the department's requirements must be submitted with the application for permit at least four days before the issuance of permit. When applying for a permit, you must submit three sets of plans that show all new underground sewer Work inside and around the project with a clear site or

location plan together with the estimate of quantities for sewer sizes and sewer structures to be installed.

A copy of the permit must be on the Work site before the start of construction. Failure to obtain a permit before the start of construction will result in a penalty and could result in the revocation of the drainlayer's license.

You must arrange for sewer inspections at least 48 hours before the start of Work. Inspections may be requested by calling (312)744-7501 for Plumbing Inspections and (312) 747-7892 for Mason Inspections.

C. Office of Underground Utility Coordination

The project must be submitted by the Contractor to the Office of Underground Coordination (OUC) and Deep Excavation to acquire a permit. Project plans must be submitted to the Office of Underground Coordination sufficiently in advance for examination and review. It is the Contractor's responsibility to obtain the necessary permits from OUC and pay the associated fees.

D. Trees (if necessary)

In accordance with § 10-32-060 et seq. of the Municipal Code, you must obtain a permit from the Bureau of Forestry when removing planting, trimming, spraying, or in anyway affecting the general health or structure of trees in the public way. There is no fee for this permit. The permit must be obtained from the Bureau of Forestry Permits Division; 3200 S. Kedzie, Chicago, Illinois 60623; (312/747-2098), fax (312) 747-2178.

The Bureau of Forestry requires 48 hours' notice before starting Work for all activities with the exception of tree planting, which requires two weeks' prior notice. To obtain tree planting permits, two copies of the site plan must be presented to the Bureau for its review and approval. A Bureau representative must also assist in the selection of those trees to be planted in the public way. Tree planting standards and specifications are outlined in the Bureau of Forestry's "Manual of Tree Planting Standards," which is available upon request from the Bureau of Forestry.

UNAUTHORIZED TREE REMOVAL OR DAMAGE

The Contractor shall only remove trees approved by the representative from the Forest Preserve District of Cook County (FPDCC).

Should the Contractor remove any tree without the prior approval of FPDCC, the Contractor shall be liable to the FPDCC as defined in the FPDCC Tree Mitigation Plan, not as a penalty but as liquidated and ascertained damages. Such damages may be deducted by the Department from any monies due the Contractor and paid to the Forest Preserve District of Cook County. These damages shall apply during the contract time and during any extensions of the contract time.

Should the contractor partially damage a tree that does not need to be replaced, the Contractor shall be liable to the FPDCC as defined in the FPDCC Tree Protection Preservation Manual, not as a penalty but as liquidated and ascertained damages. Such damages may be deducted by the Department from any monies due the Contractor and paid to the Forest Preserve District of Cook County. These damages shall apply during the contract time and during any extensions of the contract time.

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL

Removal of any asphalt pavement or patches encountered during excavation on the existing trail (except for that portion of the existing trail within the archeological area between Station 319+87 and 334+00) shall not be paid for separately but included in the item for Removal and Disposal of Unsuitable Material.

SUBBASE GRANULAR MATERIAL, TYPE B 6”

Description. This work shall consist of constructing a subbase granular material.

Materials. Material shall satisfy the requirements of Section 1004 of the Standard Specifications. Gradation number CA 1 shall be used.

Finishing and Maintenance of Subbase Granular Material. The subbase granular material shall be finished to the lines, grades, and cross sections shown on the plans, or as directed by the Engineer. The subbase aggregate material shall be maintained in a smooth and compacted condition.

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

Basis of Payment. This work will be paid for at the contract unit price per square yard for SUBBASE GRANULAR MATERIAL, TYPE B 6”.

Add the following to Section 1004 of the Standard Specifications:

1004.07 Coarse Aggregate for Subbase Granular Material, Type B 6”. The aggregate shall be according to Article 1004.01 and the following.

- (a) Description. The coarse aggregate shall be crushed concrete.
- (b) Quality. The coarse aggregate shall consist of sound durable particles reasonably free of deleterious materials. Non-mechanically blended RAP may be allowed up to a maximum of 5.0 percent.

PAVEMENT REMOVAL

Description. This work consists of removing scattered locations of asphalt on the surface of the existing trail within the archeological area between Station 319+87 and 334+00 according to Section 440 of the Standard Specifications except as hereby modified.

Asphalt pavement shall be removed with a machine capable of only skimming the asphalt pavement or patch. Excavation of any adjacent or underlying aggregate is not allowed. The resulting excavation shall be filled with material satisfactory to the Engineer and placed at no additional cost.

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

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

PIPE UNDERDRAINS (SPECIAL)

Description. This work consists of constructing pipe underdrains.

General. The installation requirements shall be according to Section 601 of the Standard Specifications.

Materials. Only perforated PVC pipe will be allowed.

Basis of Payment: This work will be paid for at the contract unit price per foot for PIPE UNDERDRAINS (SPECIAL), of the diameter shown in the plans.

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

Des Plaines River Trail – Segment 3

- Station 300+00 to Station 308+00 from 10 feet left to 10 feet right. This material meets the criteria of Article 669.05(a)(5) and shall be managed in accordance to Article 669.05. Potential contaminants of concern sampling parameters: Selenium.
- Station 328+00 to Station 340+00 from 10 feet left to 10 feet right. This material meets the criteria of Article 669.05(a)(5) and shall be managed in accordance to Article 669.05. Potential contaminants of concern sampling parameters: Selenium.

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

None.

Additional information on the above sites is available from the Cook County Forest Preserve District.

CHANGEABLE MESSAGE SIGN

The Contractor shall provide portable message signs in accordance with Articles 701.15(j) and 1106.02(i) of the Standard Specifications. The message signs shall be used as directed by the Engineer. It is anticipated that the message boards will be displayed for one week before the Lawrence Avenue closure begins at locations as directed by the Engineer:

Basis of Payment. Changeable message signs will be paid for at the contract unit price per calendar day.

REMOVE EXISTING GATE

Description. This work consists of removing existing cable gates. The gates and any accompanying locks shall be returned to the Cook County Forest Preserve District. The Contractor shall contact the Forest Preserve District to determine where the gate and locks shall be delivered to. Any associated hardware used to connect the gates to existing posts shall be removed and disposed of by the Contractor.

Method of Measurement. This work will be measured for payment per each of REMOVE EXISTING GATE.

Basis of Payment. This work will be paid for at the contract unit price per each for REMOVE EXISTING GATE, which price shall constitute payment in full for removing and delivering of the gate and disposing of the gate hardware and for all labor, materials, equipment and incidentals required to complete the work as specified herein.

HIGH VISIBILITY TEMPORARY FENCING

Description. This work consists of furnishing, installing, maintaining, and removing from the site high visibility temporary fences erected for protection of the wetlands identified in the plans. This work will be performed in accordance with the applicable portions of Section 201 of the Standard Specifications except as modified herein and as directed by the Engineer.

Materials. High visibility temporary fence shall be orange plastic poly type snow fence installed on steel posts. Wood lath fence or other types that do not provide a highly visible barrier will not be approved.

Construction Requirements. The Contractor shall erect high visibility temporary fence at the locations shown on the plans or as directed by the Engineer. The Contractor is prohibited from entering the wetland site bounded by high visibility temporary fence. High visibility temporary fence shall be properly maintained and shall be removed by the Contractor at the time of final restoration, unless removal is directed by Engineer. All temporary fence materials shall be legally disposed of at a location off-site.

Method of Measurement. This work will be measured for payment in feet of HIGH VISIBILITY TEMPORARY FENCING installed in accordance with these requirements. Measurement will be made along the top of fence in a straight line from one post to the next.

Basis of Payment. This work will be paid for at the contract unit price per foot for HIGH VISIBILITY TEMPORARY FENCING, which price shall constitute payment in full for furnishing, placing, repairing, removing and disposing of the temporary fence and for all labor, materials, equipment and incidentals required to complete the work as specified herein.

GROUND STABILIZATION GEOSYNTHETIC

Description. This work shall consist of removing existing damaged turf block paving and providing and installing new turf block paving as indicated on the Plans and as specified herein to repair existing turf block paving that was damaged during construction operations. This work includes supplying and placing interlocking turf block paving units as indicated on the Plans and as directed by the Engineer. Topsoil and seeding work will then be performed over the installed turf block in conformance with Article 250 of the Standard Specifications.

General. The Contractor shall submit manufacturer's product data, installation instructions, and two full size turf block samples for review. Reviewed and accepted samples will be returned to the Contractor and may be used in the work.

Turf block paving units shall be interlocking molded, lightweight, high strength, reinforced plastic paving blocks that permit natural turf to grow through unit voids. The paving units shall be as recommended by the manufacturer for support of AASHTO H20 vehicular traffic and shall meet or exceed manufacturer's field loading test requirements, without unit breakage or permanent deflection.

Damaged existing turf block paving units shall be removed along existing grid lines and shall be of large enough area to ensure stability. Sawing of the blocks will be performed as necessary to separate existing undamaged units from those that will require replacement. Turf block paving units shall be installed in accordance with the manufacturer's recommended installation details. Units shall be placed in a running bond pattern perpendicular to vehicular movement. Paving units shall be cut with motor driven saw equipment designed to cut plastic material with clean, sharp unchipped edges. Cut units as required to provide the pattern shown and to fit adjoining work neatly. Full units without cutting shall be used wherever possible. Where cutting is required, the largest size unit possible shall be used. The use of small pieces of pavers or large joint spaces shall be avoided. Gaps at the edge of the paved surface shall be filled with standard edge pieces or with paver units cut to fit. Only cut units with straight even cut surfaces shall be used. Installed turf block paver units shall be rolled with a standard lawn roller to their final level. After final rolling the surface shall be true to grade and shall not vary by more than 1/4 inch when tested with a 10-foot straight-edge at any location on the surface. Voids surrounding the installed turf blocks shall be completely filled with topsoil and shall be sown with grass seed in conformance with the applicable sections of Article 250 of the Standard Specifications.

Method of Measure and Payment. This work will be measured and paid for at the contract unit price per square yard for GROUND STABILIZATION GEOSYNTHETIC which shall be payment in full for all materials, equipment, tools, labor, and accessories necessary to complete this item of work.

WASHOUT BASIN

Description. This item shall consist of constructing and maintaining a washout basin for concrete trucks and other construction vehicles.

Requirements. The work shall include general maintenance and removal of all construction debris.

Basis of Payment. This item will be paid for at the contract unit price per lump sum for WASHOUT BASIN.

REMOVE GATE POSTS

Description. This work consists of removing and disposing of existing gate posts and other wood posts as shown on the plans and in conflict with the proposed improvement. Any hardware or other attachments to the post not paid for separately shall be removed along with the post.

Construction Requirements. The Contractor shall remove the posts in their entirety. The resulting holes shall be backfilled with aggregate to within six inches of the existing grade. The remaining six inches shall be filled with topsoil up to the existing grade.

Method of Measurement. This work will be measured for payment per each of REMOVE GATE POSTS.

Basis of Payment. This work will be paid for at the contract unit price per each for REMOVE GATE POSTS, which price shall constitute payment in full for removing and disposing of the posts and for all labor, materials, equipment and incidentals required to complete the work as specified herein.

STORM SEWER, DUCTILE IRON

Description. This work consists of constructing ductile iron storm sewer.

General. The installation requirements shall be according to the latest edition of the Standard Specifications for Water and Sewer Main Construction in Illinois, and the applicable portions of Section 550 of the Standard Specifications.

Materials. The ductile iron pipe shall meet the requirements of ANSI A 21.51 (AWWA C151). The class or thickness design shall be according to ANSI A 21.50 (AWWA C150). The ductile iron pipe shall be seal coated and/or cement lined according to ANSI A 21.4 (AWWA C104). The ductile iron pipe shall have mechanical or rubber (slip seal or push on) joints.

Basis of Payment: This work will be paid for at the contract unit price per foot for STORM SEWERS, DUCTILE IRON, of the diameter shown in the plans.

TOPSOIL FURNISH AND PLACE, SPECIAL

Description. This work shall consist of furnishing and placing engineered topsoil. The engineered topsoil shall consist of 40% sand, 30% topsoil and 30% compost. The topsoil and compost component of the soil shall be in accordance with Section 1081.05 of the Standard Specifications. The sand component shall be clean sand complying with Section 1003 of the Standard Specifications meeting FA-1 gradation. The sand, compost and topsoil must be thoroughly blended prior to placement.

General. This work shall be completed in accordance with Section 211 of the Standard Specifications.

Basis of Payment. This work shall be paid for at the contract unit price per cubic yard for TOPSOIL FURNISH AND PLACE, SPECIAL.

EROSION CONTROL BLANKETS (SPECIAL)

Description. This Special Provision revises Section 251 of the Standard Specifications for Road and Bridge

Construction to eliminate the use of Excelsior Blanket for Erosion Control Blanket. This work shall consist of furnishing, transporting, and placing 100 % biodegradable erosion control blanket over seeded areas as detailed on the plans, according to Section 251 except as modified herein.

Delete Article 1081.10(a) Excelsior Blanket.

Delete the first paragraph of Article 1081.10 (b) Knitted Straw Mat and substitute the following:
Knitted Straw Mat. Knitted straw mat shall be a machine-produced mat of 100% clean, weed free agricultural straw. The blanket shall be of consistent thickness with the straw evenly distributed over the entire area of the blanket. The blanket shall be covered on top and bottom sides with a 100% biodegradable woven natural organic fiber netting. No plastic netting will be allowed. The top netting shall consist of machine directional strands formed from two intertwined yarns with cross directional strands interwoven through the twisted machine stands to form an approximate 0.50 x 1.0 (1.27 x 2.54 cm) mesh. The blanket shall be sewn together on 1.50 inch (3.81 cm) centers with degradable thread. The blanket shall be manufactured with a colored thread stitched along both outer edges (approximately 2-5 inches (5-12.5cm) from the edge) as an overlap guide for adjacent mats.

Short-term photodegradable erosion control blanket will not be allowed.

Delete Article 1081.10(d) Wire Staples.

Basis of Payment. This item shall be paid for at the contract unit price per square yard for EROSION CONTROL BLANKET (SPECIAL).

TRAFFIC CONTROL AND PROTECTION (SPECIAL)

Traffic control shall be as specified in these detailed specifications for traffic control and protection, as shown and described in the plans, per applicable IDOT standards and details, per the MUTCD, and as directed by the Engineer.

When traffic is to be directed over a detour route, the Contractor shall furnish, erect, maintain and remove all applicable traffic control devices along the detour route in accordance with the plans. The cost of this work shall be included in the cost of TRAFFIC CONTROL AND PROTECTION (SPECIAL).

Maintenance of Traffic. If the Contractor requests, single block road closure **may** be allowed by the Engineer during normal working hours provided that it is accomplished in the manner approved by the Engineer, including all required signing and detours. The timing of the Lawrence Avenue closure must be coordinated with IDOT. The Contractor shall plan his work so that all driveways and fire hydrants are accessible at the end of the working day. Traffic control shall be in accordance with the applicable sections of the SSRB, the applicable guidelines contained in the MUTCD, any Special Provisions, any details and Highway Standards contained herein.

At the Pre-Construction Meeting, the Contractor shall furnish the name, and a 24-hour phone number of the individual in his direct employ, who is responsible for the installation and maintenance of the traffic control for the project. In accordance with Art 108.01, if a Subcontractor is to provide this aspect of the work, consent of the Engineer is required. This shall not relieve the Contractor of the foregoing requirement for an individual in his direct employ to superintend the implementation and maintenance of the traffic control.

The Contractor shall furnish, install, maintain, relocate, and remove all traffic cones, signs, barricades, warning lights and other devices that are to be used for the purpose of controlling traffic. The Contractor shall furnish certified flaggers upon request of the Engineer or when required for safe operations. The Contractor is responsible to ensure that all barricades, warning signs, lights and other devices installed for traffic control are in place and operating 24 hours Each calendar day this Contract is in effect. As a minimum, all areas of work shall be protected each night by Type II barricades at maximum 50-foot centers equipped with working flashing lights. Type III barricades shall be placed at all project limits.

Method of Measurement. Measurement will be pro-rated. The Engineer shall evaluate the amount of current contract pay items completed and approved for payment and divide them by the total current approved contract amount. This percentage of the contract LUMP SUM price for Traffic Control and Protection shall be eligible for payment.

Basis of Payment. This work will be paid for at the contract Lump Sum price for TRAFFIC CONTROL AND PROTECTION (SPECIAL) which shall include all work as herein specified.

The Contractor shall stage construction of the path through the Forest Preserve as defined in the EROSION CONTROL STAGING DETAIL sheet in the plans. Perimeter erosion barrier will be installed per plan and vehicles, equipment, or materials shall not be allowed outside of the work zone defined by the perimeter erosion barrier. The Contractor shall inform all crews daily of this requirement.

In Stage 3, the perimeter erosion barrier can be removed after temporary seeding and temporary erosion control blanket has been installed.

Final topsoil will be placed in Stage 4 using the aggregate base course placed in Stage 2 as a working platform. The final aggregate surface will be constructed after the final topsoil has been placed. Vehicles, equipment, or materials shall not be allowed beyond the final limits of construction. Should the Contractor violate this requirement as determined by the Forest Preserve District of Cook County (FPDCC) with evidence of vehicles, equipment, or materials having been outside of the final construction limits, the Contractor shall be liable to the FPDCC as defined in the FPDCC Tree Protection and Preservation Manual, Section II: Construction, Remedies, not as a penalty but as liquidated and ascertained damages. Such damages may be deducted by the Department from any monies due the Contractor and paid to the Forest Preserve District of Cook County. These damages shall apply during the contract time and during any extensions of the contract time.

The FPDCC has tentatively identified areas that could be used by the Contractor as turnaround locations. These areas have been marked in the plans. Turnaround areas must be approved by the FPDCC representative before any disturbance beyond the proposed perimeter erosion barrier can commence. If the Contractor desires to utilize these areas, the ground beyond the limits of the proposed perimeter erosion barrier will be protected by geotextile fabric covered by 4" of mulch and a timber mat cabled together as shown in the Temporary Wetland Crossing detail in the plans. The turnaround area will be surrounded by perimeter erosion barrier, and high visibility temporary fence. Once work is completed, all items identified here will be removed and the area will be seeded. This work will not be paid for separately but will be included in the cost of the adjacent path pay items.

HANDHOLE TO BE ADJUSTED

This item shall consist of adjusting and bringing to grade a handhole at a location shown on the plans or as directed by the Engineer. The work shall consist of removing the handhole frame and cover and the walls of the handhole to a depth of eight (8) inches below the finished grade.

Upon completion of the above work, four (4) holes, four (4) inches in depth and one half (1/2) inch in diameter, shall be drilled into the remaining concrete; one hole centered on each of the four handhole walls. Four (4) #3 steel dowels, eight (8) inches in length, shall be furnished and shall be installed in the drilled holes with a masonry epoxy.

All concrete debris shall be disposed of outside the right-of-way.

The area adjacent to each side of the handhole shall be excavated to allow forming. All steel hooks, handhole frame, cover, and concrete shall be provided to construct a rebuilt handhole according to applicable portions of Section 814 of the Standard Specification and as modified in 814.01TS HANDHOLES Special Provision. The existing frame and cover shall be replaced if it was damaged during removal or as determined by the Engineer.

Basis of Payment. This work shall be paid for at the contract unit price each for HANDHOLE TO BE ADJUSTED, which price shall be payment in full for all labor, materials, and equipment necessary to complete the work described above and as indicated on the drawings.

AGGREGATE SURFACE COURSE, TYPE B 3" (SPECIAL)

General: This work shall consist of all materials, tools, equipment, and labor necessary to provide a trail surface, suitable for multiple uses. This work shall consist of surfacing new trails or refurbishing the surfaces of existing trails that may be damaged during the course of construction, by furnishing, placing, shaping, and compacting limestone screenings, conforming to the applicable Articles of Section 402 of the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction. Exceptions are that the additions of moisture at the point of production of the aggregate surface may be required to obtain maximum density of the aggregate surface. This shall be at the direction of the Owner's Project Representative. The Limestone Trail Screenings shall be compacted as required by the Owner's Project Representative. No extra payment shall be due the Contractor for complying with the aforementioned requirements.

Materials: The crushed limestone screenings shall conform to IDOT gradation FA-21 and meet requirements of section 1003 of the Standard Specifications.

Construction Requirements: Before the aggregate surface is placed on the trail, any ruts, caked earth, or other undesirable surface matter will be removed with the blade of a motor grader. Before the aggregate surface is deposited on the prepared trail, it shall contain sufficient moisture to provide satisfactory compaction. The aggregate surface shall be placed with a spreading and finishing machine meeting the requirements of Section 1102.03. The aggregate surface shall be compacted with a roller to the specified thickness, to the satisfaction of the Owner's Project Representative. If the moisture content of the material is not such as to permit satisfactory compaction, water shall be added in such a quantity so that satisfactory compaction can be obtained. If any subgrade material is worked into the surface aggregate during the finishing operation, all granular material within the affected areas shall be removed and replaced with new aggregate. The limestone screenings shall be placed to the depth and design grade shown on the Plans and sloped at a cross slope meeting ADA requirements and providing positive drainage.

Method of Measurement and Payment: This work shall be measured for payment in square yards and paid for at the contract unit price per square yard for AGGREGATE SURFACE COURSE, TYPE B 3" (SPECIAL), for material satisfactorily installed and accepted, which price shall include trail preparation and furnishing, placing, shaping and compacting the aggregate surface. Water required to be added for compaction will not be measured for payment but shall be considered included in the cost of the item of work being constructed. In the case that additional repair is needed for the trail base, AGGREGATE BASE COURSE, TYPE B shall be paid for separately.

TREE ROOT PRESERVATION

Description. This work shall consist of performing supersonic air excavation, examination and selective pruning of root structure, furnishing and placing CA-7, furnishing and placing root aeration matting, and furnishing and placing turf nails. The Contractor shall coordinate the work with the Engineer and the Cook County Forest Preserve.

Work shall be performed by a qualified contractor who has three (3) years of experience performing supersonic air excavation and installing root aeration matting.

All Engineered Barrier work must be done under the direction of a certified arborist with three (3) years of experience with tree root protection projects.

Materials. CA-7 A sample with an indicated source must be supplied to the Engineer for approval prior to its installation. This material shall conform to the standards established in Article 1004.01 of the Standard Specifications, except that the word “limestone” shall be deleted from the first sentence of the (4) Crushed Stone paragraph of Article 1004.01. The use of limestone based coarse aggregates will not be allowed.

Root Aeration Matting (Geocomposite 70-2)

Shall meet the following American Society for Testing and Materials (ASTM) referenced standards;

| PROPERTY | TEST METHODS | UNITS | VALUE | QUALIFIER | TEST FREQUENCY |
|----------------------------|--------------|-------------------|---------------|-----------|----------------|
| Resin | | | | | |
| •Density | ASTM D 1505 | g/cm ³ | 0.94 | MAV | lot |
| •Melt Flow Index | ASTM D 1238 | g/10min | 1.0 | MAX | lot |
| Geonet Core | | | | | |
| •Thickness | ASTM D 5199 | mil | 200 | ±10% | 50,000 sf |
| •Carbon Black | ASTM D 4218 | % | 2-3 | range | 50,000 sf |
| •Tensile Strength - MD | ASTM D 4595 | Lb/ft (kN/m) | 40 | ±10% | 50,000 sf |
| Geotextile | | | | | |
| •U.V. Resistance (500 hrs) | ASTM D 4335 | % | 70 | | Per formula |
| •Serviceability Class | AASHTO M-288 | | Class 2 | | |
| •Grab Tensile | ASTM D 4632 | lbs (N) | 160 (712) | MARV | 100,000 sf |
| •Grab Elongation | ASTM D 4632 | % | 50 | MARV | 100,000 sf |
| •Tear Strength | ASTM D 4533 | lbs (N) | 60 (267) | MARV | 100,000 sf |
| •Puncture Resistance | ASTM D 4833 | lbs (N) | 90 (400) | MARV | 100,000 sf |
| •AOS | ASTM D 4751 | US Sieve (mm) | 70 (0.212) | Max ARV | 500,000 sf |
| •Permittivity | ASTM D 4491 | Sec | 1.1 | MARV | 500,000 sf |
| Geocomposite | | | | | |
| •Peel Adhesion - MD | ASTM D7005 | lb/in (g/in) | 1 | MAV | 100,000 sf |

Hydraulic Behavior of Geocomposite

| | | | | | |
|---------------|-------------|---------------------|------------|-----|------------|
| Gradient Load | ASTM D 4716 | m ² /sec | 10,000 psf | MAV | 200,000 sf |
| 0.1 | | | 2*10 | | |

Execution.

Supersonic Air Tool (SSAT) Excavation: Shall be performed under the supervision of a certified arborist. The arborist shall inspect the exposed roots and determine and direct which roots should be pruned.

Roots must not be exposed for longer than 6 hours. Contractor is responsible for preventing roots from desiccating.

Placing CA-7 below Root Aeration Mat: Hand place CA-7 between exposed roots. Fill in all voids and hand tamp.

Installation of Geocomposite (Root Aeration Matting): Install root aeration matting as indicated on the details. Extend root aeration matting beyond edges of paved areas and aggregate shoulders to allow for venting.

1. Material Placement

- A. The geocomposite roll should be installed in the direction of the slope and in the intended direction of path unless otherwise specified by the ENGINEER.
- B. In the presence of wind, the geocomposite shall be weighted down with sandbags or the equivalent. Such sandbags shall be used during placement and remain until replaced with cover material.
- C. When applying fill material, no equipment can drive directly across the geocomposite.
- D. The specified fill material shall be placed and spread utilizing vehicles with a low ground pressure.
- E. The cover material shall be placed in the geocomposite in a manner that prevents damage to the geocomposite. Placement of the cover material shall proceed immediately following the placement and inspection of the geocomposite.

1. Seams and Placement

- A. Each component of the geocomposite will be secured or seamed to the like
- B. component at overlaps.
- C. Geonet Components
 - i. Adjacent edges of the geonet along the length of the geocomposite roll shall be placed with the edges of each geonet butted against each other.
 - ii. The overlaps shall be joined by tying the geonet structure with cable ties.
 - iii. These ties shall be spaced every 5 feet along the roll length.
 - iv. Adjoining geocomposite rolls (end to end) across the roll width should be shingled down in the direction of the slope, with the geonet portion of the top overlapping the geonet portion of the bottom geocomposite a minimum of 12 inches across the roll width.
 - v. The geonet core portion should be tied every 6 inches or as specified by the ENGINEER.
 - vi. Anchor the geocomposite in place using 12-inch turf nails with 1-1/2" washers placed on 3' centers, staggered.

1. Repair

- A. Prior to covering the deployed geocomposite, each roll shall be inspected for damage resulting from construction.

- B. Any rips, tears, or damaged areas on the deployed geocomposite shall be removed and patched. The patch shall be secured to the original geonet by tying every 6 inches with the approved tying devices. If the area to be repaired is more than 50 percent of the width of the panel, the damaged area shall be cut out and the two portions of the geonet shall be cut out and the two portions of the geonet shall be joined.

Clearing Area and Disposal of Surplus Material. Upon completion of the work, all areas shall be cleared of equipment, debris, and excess material. Surplus or waste material resulting from construction operations shall be disposed of according to Article 202.03 of the Standard Specifications.

Measurement and Payment. This work shall be paid for at the contract price per square yard for TREE ROOT PRESERVATION.

TREE ROOT PRUNING (SPECIAL)

This work shall consist of pruning the tree roots in accordance with Section 201 of the Standard Specifications, with the following modifications:

Description. If construction is to occur within the tree protection zone as defined by the FPDCC Tree Protection and Preservation Manual (TPMM), root pruning will be required. All pruning shall be performed by a professional arborist.

Schedule. When possible, root pruning shall occur in the dormant season. Pruning of Oaks in the growing season is prohibited. Any pruning during the growing season shall require the cut surfaces to be painted with latex paint to prevent the spread of disease. Trees that are indicated for root pruning shall be irrigated prior to, during, and after root pruning.

Inspection. The site shall be inspected for visible aboveground hazards prior to beginning any root management procedure. The location of utilities and other obstructions both below and above ground shall be considered prior to root management operations. Utilities and other obstructions include but are not limited to: gas; electric; communications; sewer; drainage; and, irrigation. Conditions identified that would affect the operation, or are outside of, the scope of work should be reported to the project engineer.

Practices. Root pruning using an approved mechanical root pruning saw or air excavator with a handsaw or chainsaw shall be performed prior to digging where noted on the plans or directed by the Engineer. Whenever roots of plant material to remain are exposed during construction, the damaged root ends are to be removed by cutting them off cleanly with a handsaw, reciprocating saw or chainsaw. Pruning shall be done in the presence of the Engineer.

Roots should be cut with equipment that minimizes cracking the wood and tearing the bark. Root pruning tools shall be selected to meet the objective while minimizing damage to the plant. Wounds to the tree should not be covered, except to manage desiccation or pests. Cuts should result in a smooth surface whenever possible. When treating injured roots, only loose or damaged tissue should be removed.

Heavy equipment should be located outside the root cut line or remain on existing pavement or on a soil-protecting surface.

Temporary staging areas for excavated soil should be located at a safe distance on the side of the trench furthest from the trunk.

Process. Within the tree protection zone remove any sod, coarse woody debris or fresh mulch away from the root collar area. Select tools to avoid root and trunk damage. Repeat until trunk and flare are clear, out to the root collar, where buttress roots divide. Use smaller hand tools, vacuum, or compressed water or air, to complete the excavation for the area that is to be root pruned.

For root cuts on only one side of a tree, the root cut distance shall be no less three times the diameter at breast height.

Roots should be exposed using minimally damaging excavation method prior to pruning. The final cut should result in a flat surface with adjacent bark firmly attached.

Exposed fine roots (2mm or less) that due to the construction activities will remain exposed for periods longer than 24 hours shall be covered with burlap and repeatedly sprayed with water until the landscape restoration occurs.

When the construction process permits and within 24 hours that root pruning operation occurs backfill the root pruning trench with material excavated from the trench or loose screened topsoil and top with 3-4" shredded hardwood bark mulch.

Pruning shall be done in the presence of the Engineer and in such a manner as to preserve the natural growth habit of each plant.

Fertilizing and watering after root pruning shall be as follows.

- (1) Fertilizer Nutrients. Fertilizer nutrients shall be applied within 48 hours after root damage occurs. A three (3) month slow-release fertilizer with a 1:1:1 ratio shall be applied at the rate of 5 lb (2 kg) of nutrients per 1000 sq ft (90 sq m).

Application shall be accomplished by placing dry fertilizer in holes in the soil. The holes shall be 8 to 12 in. (200 to 300 mm) deep and spaced 2 ft (600 mm) apart in an area beginning 30 in. (750 mm) from the base of the plant. Holes shall be punched with a punch bar, dug with a spade, drilled with an auger, or any other method approved by the Engineer. Approximately 0.02 lb (10 g) of fertilizer nutrients shall be placed in each hole [250 holes/1000 sq ft (250 holes/90 sq m)].

If the Engineer determines that the hole method of fertilizer placement is not practical or desirable, an approved method of uniform surface application will be allowed.

- (2) Supplemental Watering. If there has been less than 0.5" of total rainfall within the two weeks prior to root pruning, supplemental water shall be applied within 48 hours of any root damage. The water shall be applied at the rate of 2 gal/sq yd (9 L/sq m) of surface area within the root zone of plant material having sustained damage to the root zone. Subsequent weekly waterings shall be applied if deemed necessary by the Engineer.

The area within the tree protection zone shall be covered with a 2" layer of shredded hardwood bark mulch. This material will remain in place until landscape restoration occurs.

Measurement and Payment. This work will be paid for at the contract unit price per lineal foot for TREE ROOT PRUNING (SPECIAL) which price shall be payment in full for all labor, material, and equipment necessary for the supply, and installation of the planting soil and all incidental work and materials herein specified.

STABILIZED CONSTRUCTION ENTRANCE

Description. This work consists of the construction and maintenance of an aggregate stabilized construction entrance for accessing the construction zone. The entrances shall be placed at locations as shown on the plans or as directed by the Engineer.

Construction Requirements. Stabilized construction entrances shall consist of 12 inches of CA-1 Aggregate placed over filter fabric. The filter fabric shall be included with this pay item. The aggregate shall be crushed stone or crushed gravel.

All surface water flowing or diverted toward the construction entrance shall be piped across the entrance. Pipe used for this will not be paid for, but shall be included in the work. The stabilized construction entrance will have positive drainage away from the roadway.

Maintenance shall consist of placing additional aggregate of the same type and gradation as the base aggregate. Additional aggregate will not be paid for, but shall be included in the work.

After the stabilized construction entrances have served their purpose, the suitable aggregate shall be removed, and, at the direction and approval of the Engineer, utilized for embankment construction or otherwise disposed of as specified in Article 202.03 of the Standard Specifications.

Method of Measurement. Stabilized construction entrances will be measured for payment in place and the area computed in square yards.

Basis of Payment. This work will be paid for at the contract unit price per square yard for STABILIZED CONSTRUCTION ENTRANCE.

FENCE REMOVAL

Description. This item consists of the removal and disposal of existing fence at the locations show on the plans in accordance with the applicable articles of Section 664 of the Standard Specifications. Fence removal shall include the removal of posts and foundations in their entirety. All removed materials shall be disposed of by the Contractor outside the limits of the improvement. Holes or excavations resulting from the removal operation shall be backfilled with suitable material and compacted to the satisfaction of the Engineer.

Construction Requirements. At locations where fence fabric or rails shall remain, the Contractor shall cut the fabric or rails and connect it to new posts or existing posts to remain. In cutting the fence and re-connecting the fabric or rails to a new post, the Contractor shall ensure that no cut ends of the fence will be exposed. Wire ties shall be used, if necessary, to tie the fence to remain to the post that remains or the new post. No fence material shall extend beyond the posts which would create a hazard for path users. Connections between the existing fence, existing posts and new fence shall be made with the appropriate connections as approved by the Engineer.

Method of Measurement. Fence removal shall be measured between new or existing posts that remain in place and shall be measured per foot.

Basis of Payment. This work will be paid for at the contract unit price per foot for FENCE REMOVAL.

RUSTIC RAIL FENCE

Description. Rustic Rail Fence shall consist of two parallel timber rails supported on wooden posts installed where shown on the plans or as directed by the Engineer.

Materials. All materials used in the work shall conform to the requirements for the class of material named. The Engineer reserves the right of approval of the manufacturer and type of wood post and rail fence through shop drawing submittals in accordance with 105.04 of the Standard Specifications.

Specific reference is made to the following:

Lumber and Timber-----Section 507
Wood Preservatives-----Subsection 1007
Miscellaneous Metals-----Subsection 1006

Sawed Posts shall be from one of the following species:

Pacific Coast Douglas Fir
Western Larch
Eastern Hemlock
Red (Norway) Pine
White Pine
Jack Pine
Southern Yellow Pine
Oak
Ponderosa Pine

The fence shall conform to the dimensions shown on the plans. Posts shall be installed into the ground by direct burial. The fence shall consist of two rails, each 10' long, connected to the posts by means of galvanized deck screws. The dimensions are subject to the tolerances as approved by the Engineer. The posts need not be surfaced. All posts shall have a minimum stress grade rating of 1200f_b.

Rails furnished for timber split rail fence shall be sawed rails and shall be from one of the following species:

Pacific Coast Douglas Fir
Southern Yellow Pine
Western Larch
Red (Norway) Pine
White Pine
Oak

Sawed rails shall be furnished treated unless otherwise required on the plans. Sawed rails shall be furnished unsurfaced on all four sides.

Preservative treatment shall be in accordance with Article 1007.12 for fence posts and wood guardrail lumber.

All screws, bolts, nuts, and miscellaneous hardware furnished for the work shall be in accordance with the design and dimensions shown on the plans. Bolts shall be threaded sufficiently to permit secure fastening and shall be supplied with the necessary washers.

Unless otherwise specified, all bolts, nuts, washers, gutter spikes, and other hardware shall be furnished galvanized.

Construction Requirements. All work shall be constructed in accordance with the approved shop drawing details. Holes for posts shall be dug at the required location and depth, and the bottom of the holes shall be compacted to provide a stable foundation. A tolerance of plus or minus three inches will be permitted in depth of post holes provided the length of the post is adequate to obtain the required elevation of the finished top. The posts shall be set plumb and with the front faces in a straight line or to conform to such curves as shown on the plans or as directed by the Engineer. The bridge end of the fence shall be placed at each end of the bridge to provide a transition between the fence and the bridge. The first section of fence shall then taper back to a minimum 2' clear offset from the edge of the path. The placed posts shall be backfilled with approved material placed in layers and compacted in such a manner as to avoid disturbing the position or alignment of the post.

After the post has been set, the finished elevation of the top and bottom rails shall be determined and the post cut off and trimmed as shown on the plans. The cut surfaces of treated posts shall be treated with two brush applications of the same type of preservative used in the original treatment. Holes shall be bored in the set posts to support the rails at the required elevation and grade. The rails shall be bolted to the posts, or fastened with gutter spikes, with round headed bolts, with the head at the rail face. The threaded ends of all bolts shall be burred. Where the bolt extends one inch or more through the nut, it shall be cut off at ½ inch from the nut before burring.

Method of Measurement. Rustic rail fence shall be measured between new posts and shall be measured per foot.

Basis of Payment. This work shall be paid for at the contract unit price per foot for RUSTIC RAIL FENCE.

TIMBER RETAINING WALL

Description. Timber retaining wall shall consist of railroad ties that are to be placed on existing sloped ground to hold back riprap where shown on the plans or as directed by the Engineer.

Construction Requirements. The top of the wall shall be located a minimum distance of 3 feet from the edge of the proposed trail. No excavation is permitted at the location of the wall. The railroad ties are to be placed on the existing grade. Aggregate can be placed as needed to be able to achieve a level surface on the bottom railroad ties. The ties will need to be cut as needed so that no void greater than 2 inches is present between the tie and the existing ground. However, the minimum length of any railroad tie shall be 3 feet. Subsequent railroad ties shall be placed on top of the previously laid ties and shall extend beyond the tie as needed so that no void greater than 2 inches is present under the tie. Each tie shall be offset from the tie below by 1 inch. Steel nails shall be placed 4 inches into the tie below the current tie being placed. Nails shall be placed at 2 feet on center with a minimum of 2 nails in each tie. Subsequent ties shall continue to be placed until the top tie is approximately 4 to 6 inches below the top of the proposed trail. Once all ties have been placed, 1 inch diameter steel rods shall be placed at 2 feet on center across the full length of the wall. The steel rods shall be driven a minimum of 5 feet into the existing ground with the top of the rod being flush with the top of the wall.

Once the wall has been completed, riprap shall be carefully placed behind the wall to avoid any damage to the wall.

All nails and rods shall be furnished galvanized.

Method of Measurement. Timber retaining wall shall be measured in square feet and shall be measured based on the area of railroad ties on the outside of the wall.

Basis of Payment. This work shall be paid for at the contract unit price per square foot for TIMBER RETAINING WALL.

DRILLED SHAFTS

Revise Section 516 of the Standard Specifications to read:

“SECTION 516. DRILLED SHAFTS

516.01 Description. This work shall consist of constructing drilled shaft foundations.

516.02 Materials. Materials shall be according to the following.

| Item | Article/Section |
|---|-----------------|
| (a) Portland Cement Concrete (Note 1) | 1020 |
| (b) Reinforcement Bars..... | 1006.10 |
| (c) Grout (Note 2) | 1024.01 |
| (d) Permanent Steel Casing | 1006.05(d) |
| (e) Slurry (Note 3) | |

Note 1. When the soil contains sulfate contaminates, ASTM C 1580 testing will be performed to assess the severity of sulfate exposure to the concrete. If the sulfate contaminate is >0.10 to < 0.20 percent by mass, a Type II (MH) cement shall be used. If the sulfate contaminate is >0.20 to < 2.0 percent by mass, a Type V cement shall be used. If the sulfate contaminate is ≥ 2.0 percent by mass, refer to ACI 201.2R for guidance.

Note 2. The sand-cement grout mix shall be according to Section 1020 and shall be two to five parts sand and one part Type I or II cement. The maximum water cement ratio shall be sufficient to provide a flowable mixture with a typical slump of 10 in. (250 mm).

Note 3. Slurry shall be bentonite, emulsified polymer, or dry polymer, and shall be approved by the Engineer.

516.03 Equipment. Equipment shall be according to the following.

| Item | Article/Section |
|---|-----------------|
| (a) Concrete Equipment | 1020.03 |
| (b) Drilling Equipment (Note 1) | |
| (c) Hand Vibrator | 1103.17(a) |
| (d) Underwater Concrete Placement Equipment | 1103.18 |

Note 1. The drilling equipment shall have adequate capacity, including power, torque and down thrust, to create a shaft excavation of the maximum diameter specified to a depth of 20 percent beyond the depths shown on the plans.

516.04 Submittals. The following information shall be submitted on form BBS 133.

(a) Qualifications. At the time of the preconstruction conference, the Contractor shall provide the following documentation.

(1) References. A list containing at least three projects completed within the three years prior to this project's bid date which the Contractor performing this work has installed drilled shafts of similar diameter, length, and site conditions to those shown in the

- plans. The list of projects shall contain names and phone numbers of owner's representatives who can verify the Contractor's participation on those projects.
- (2) Experience. Name and experience record of the drilled shaft supervisor, responsible for all facets of the shaft installation, and the drill operator(s) who will be assigned to this project. The supervisor and operator(s) shall each have a minimum of three years experience in the construction of drilled shafts.
- (b) For design submittals required see Boardwalk Structure Special Provision.
- (c) Installation Procedure. A detailed installation procedure shall be submitted to the Engineer for acceptance at least 28 days prior to drilled shaft construction and shall address each of the following items unless otherwise directed by the Engineer in writing.
- (1) Equipment List. List of proposed equipment to be used including cranes, drill rigs, augers, boring tools, casing, vibratory hammers, core barrels, bailing buckets, final cleaning equipment, slurry equipment, tremies, or concrete pumps, etc.
- (2) General Sequence. Details of the overall construction operation sequence, equipment access, and the sequence of individual shaft construction within each substructure bent or footing group. The submittal shall address the Contractor's proposed time delay and/or the minimum concrete strength necessary before initiating a shaft excavation adjacent to a recently installed drilled shaft.
- (3) Shaft Excavation. A site specific step by step description of how the Contractor anticipates the shaft excavation to be advanced based on their evaluation of the subsurface data and conditions expected to be encountered. This sequence shall note the method of casing advancement, anticipated casing lengths, tip elevations and diameters, the excavation tools used and drilled diameters created. The Contractor shall indicate whether wet or dry drilling conditions are expected and if groundwater will be sealed from the excavation.
- (4) Slurry. When the use of slurry is proposed, details on the types of additives to be used and their manufacturers shall be provided. In addition, details covering the measurement and control of the hardness of the mixing water, agitation, circulation, de-sanding, sampling, testing, and chemical properties of the slurry shall be submitted.
- (5) Shaft Cleaning. Method(s) and sequence proposed for the shaft cleaning operation.
- (6) Reinforcement Cage and Permanent Casing. Details of reinforcement placement including rolling spacers to be used and method to maintain proper elevation and location of the reinforcement cage within the shaft excavation during concrete placement. The method(s) of adjusting the reinforcement cage length and permanent casing if rock is encountered at an elevation other than as shown on the plans. As an option, the Contractor may perform soil borings and rock cores at the drilled shaft locations to determine the required reinforcement cage and permanent casing lengths.

- (7) Concrete Placement. Details of concrete placement including proposed operational procedures for free fall, tremie or pumping methods. The sequence and method of casing removal shall also be stated along with the top of pour elevation, and method of forming through water above streambed.
- (8) Mix Design. The proposed concrete mix design(s).
- (9) Disposal Plan. Containment and disposal plan for slurry and displaced water. Containment and disposal plan for contaminated concrete pushed out of the top of the shaft by uncontaminated concrete during concrete placement.
- (10) Access and Site Protection Plan. Details of access to the drilled shafts and safety measures proposed. This shall include a list of casing, scaffolding, work platforms, temporary walkways, railings, and other items needed to provide safe access to the drilled shafts. Provisions to protect open excavations during non-working hours shall be included.

The Engineer will evaluate the drilled shaft installation procedure and notify the Contractor of acceptance, need for additional information, or concerns with the installation's effect on the existing or proposed structure(s).

CONSTRUCTION REQUIREMENTS

516.05 General. Excavation for drilled shaft(s) shall not proceed until written authorization is received from the Engineer. The Contractor shall be responsible for verification of the dimensions and alignment of each shaft excavation as directed by the Engineer.

Unless otherwise approved in the Contractor's installation procedure, no shaft excavation, casing installation, or casing removal with a vibratory hammer shall be made within four shaft diameters center to center of a shaft with concrete that has a compressive strength less than 1500 psi (10,300 kPa). The site-specific soil strengths and installation methods selected will determine the actual required minimum spacing, if any, to address vibration and blow out concerns.

Lost tools shall not remain in the shaft excavation without the approval of the Engineer.

Blasting shall not be used as a method of shaft excavation.

516.06 Shaft Excavation Protection Methods. The construction of drilled shafts may involve the use of one or more of the following methods to support the excavation during the various phases of shaft excavation, cleaning, and concrete placement dependent on the site conditions encountered. Surface water shall not flow uncontrolled into the shaft excavation, however water may be placed into the shaft excavation in order to meet head pressure requirements according to Articles 516.06(c) and 516.13.

The following are general descriptions indicating the conditions when these methods may be used.

- (a) Dry Method. The dry construction method shall only be used at sites where the groundwater and soil conditions are suitable to permit the drilling and dewatering of the

excavation without causing subsidence of adjacent ground, boiling of the base soils, squeezing, or caving of the shaft side walls. The dry method shall consist of drilling the shaft excavation, removing accumulated water, cleaning the shaft base, and placing the reinforcement cage and concrete in a predominately dry excavation.

- (b) Slurry Method. The slurry construction method may be used at sites where dewatering the excavation would cause collapse of the shaft sidewalls or when the volume and head of water flowing into the shaft is likely to contaminate the concrete during placement resulting in a shaft defect. This method uses slurry, or in rare cases water, to maintain stability of the shaft sidewall while advancing the shaft excavation. After the shaft excavation is completed, the slurry level in the shaft shall be kept at an elevation to maintain stability of the shaft sidewall, maintain stability of the shaft base, and prevent additional groundwater from entering the shaft. The shaft base shall be cleaned, the reinforcement cage shall be set, and the concrete shall be discharged at the bottom of the shaft excavation, displacing the slurry upwards.
- (c) Temporary Casing Method. Temporary casing shall be used when either the dry or slurry methods provide inadequate support to prevent sidewall caving or excessive deformation of the shaft excavation. Temporary casing may be used with slurry or be used to reduce the flow of water into the excavation to allow dewatering and concrete placement in a dry shaft excavation. Temporary casing shall not be allowed to remain permanently without the approval of the Engineer.

During removal of the temporary casing, the level of concrete in the casing shall be maintained at a level such that the head pressure inside the casing is a minimum of 1.25 times the head pressure outside the casing, but in no case is less than 5 ft (1.5 m) above the bottom of the casing. Casing removal shall be at a slow, uniform rate with the pull in line with the shaft axis. Excessive rotation of the casing shall be avoided to limit deformation of the reinforcement cage. In addition, the slump requirements during casing removal shall be according to Article 516.12.

When called for on the plans, the Contractor shall install a permanent casing as specified. Permanent casing may be used as a shaft excavation support method or may be installed after shaft excavation is completed using one of the above methods. After construction, if voids are present between the permanent casing and the drilled excavation, the voids shall be filled with grout. Permanent casing shall not remain in place beyond the limits shown on the plans without the specific approval of the Engineer.

When the shaft extends above the streambed through a body of water and permanent casing is not shown, the portion above the streambed shall be formed with removable casings, column forms, or other forming systems as approved by the Engineer. The forming system shall not scar or spall the finished concrete or leave in place any forms or casing within the removable form limits as shown on the plans unless approved as part of the installation procedure. The forming system shall not be removed until the concrete has attained a minimum compressive strength of 2500 psi (17,200 kPa) and cured for a minimum of 72 hours. For shafts extending through water, the concrete shall be protected from water action after placement for a minimum of seven days.

516.07 Slurry. When slurry is used, the Contractor shall provide a technical representative of the slurry additive manufacturer at the site prior to introduction of the slurry into the first shaft

where slurry will be used, and during drilling and completion of a minimum of one shaft to adjust the slurry mix to the specific site conditions. During construction, the level of the slurry shall be maintained a minimum of 5 feet (1.5 m) above the height required to prevent caving of the shaft excavation. In the event of a sudden or significant loss of slurry in the shaft excavation, the construction of that foundation shall be stopped and the shaft excavation backfilled or supported by temporary casing, until a method to stop slurry loss, or an alternate construction procedure, has been approved by the Engineer.

- (a) General Properties. The material used to make the slurry shall not be detrimental to the concrete or surrounding ground. Mineral slurries shall have both a mineral grain size that remains in suspension and sufficient viscosity and gel characteristics to transport excavated material to a suitable screening system. Polymer slurries shall have sufficient viscosity and gel characteristics to transport excavated material to suitable screening systems or settling tanks. The percentage and specific gravity of the material used to make the slurry shall be sufficient to maintain the stability of the excavation and to allow proper concrete placement.

If approved by the Engineer, the Contractor may use water and excavated soils as drilling slurry. In this case, the range of acceptable values for density, viscosity and pH, as shown in the following table for bentonite slurry shall be met.

When water is used as the slurry to construct rock sockets in limestone, dolomite, sandstone or other formations that are not erodible, the requirements for slurry testing shall not apply if the entire fluid column is replaced with fresh water after drilling. To do so, fresh water shall be introduced at the top of the shaft excavation and existing water used during drilling shall be pumped out of the shaft excavation from the bottom of the shaft excavation until the entire volume of fluid has been replaced.

- (b) Preparation. Prior to introduction into the shaft excavation, the manufactured slurry admixture shall be pre-mixed thoroughly with clean, fresh water and for adequate time in accordance with the slurry admixture manufacturer's recommendations. Slurry tanks of adequate capacity shall be used for slurry mixing, circulation, storage and treatment. No excavated slurry pits will be allowed in lieu of slurry tanks without approval from the Engineer. Adequate desanding equipment shall be provided to control slurry properties during the drilled shaft excavation in accordance with the values provided in Table 1.
- (c) Quality Control. Quality control tests shall be performed on the slurry to determine density, viscosity, sand content and pH of freshly mixed slurry, recycled slurry and slurry in the shaft excavation. Tests of slurry samples from within two feet of the bottom and at mid-height of the shaft excavation shall be conducted in each shaft excavation during the excavation process to measure the consistency of the slurry. A minimum of four sets of tests shall be conducted during the first eight hours of slurry use on the project. When a series of four test results do not change more than 1% from the initial test, the testing frequency may be decreased to one set every four hours of slurry use. Reports of all tests, signed by an authorized representative of the Contractor, shall be furnished to the Engineer upon completion of each drilled shaft. The physical properties of the slurry shall be as shown in Table 1.

The slurry shall be sampled and tested less than 1 hour before concrete placement. Any heavily contaminated slurry that has accumulated at the bottom of the shaft shall be

removed. The contractor shall perform final shaft bottom cleaning after suspended solids have settled from the slurry. Concrete shall not be placed if the slurry does not have the required physical properties.

| Table 1 – SLURRY PROPERTIES | | | | |
|---|--|------------------------|------------------------|-------------|
| | Bentonite | Emulsified Polymer | Dry Polymer | Test Method |
| Density, lb/cu ft (kg/cu m) (at introduction) | 65.2 ± 1.6 ¹ (1043.5 ± 25.6) | 63 (1009.0) max. | 63 (1009.0) max. | ASTM D 4380 |
| Density, lb/cu ft (kg/cu m) (prior to concrete placement) | 67.0 ± 3.5 ¹ (1073.0 ± 56.0) | 63 (1009.0) max. | 63 (1009.0) max. | ASTM D 4380 |
| Viscosity ² , sec/qt (sec/L) | 46 ± 14 (48 ± 14) | 38 ± 5 (40 ± 5) | 65 ± 15 (69 ± 16) | ASTM D 6910 |
| pH | 9.0 ± 1.0 | 9.5 ± 1.5 | 9.0 ± 2.0 | ASTM D 4972 |
| Sand Content, percent by volume (at introduction) | 4 max. | 1 max. | 1 max. | ASTM D 4381 |
| Sand Content, percent by volume (prior to concrete placement) | 10 max. | 1 max. | 1 max. | ASTM D 4381 |
| Contact Time ³ , hours | 4 max. | 72 max. | 72 max. | |

Note 1. When the slurry consists of only water and excavated soils, the density shall not exceed 70 lb/cu ft (1121 kg/cu m).

Note 2. Higher viscosities may be required in loose or gravelly sand deposits.

Note 3. Contact time is the time without agitation and sidewall cleaning.

516.08 Obstructions. An obstruction is an unknown isolated object that causes the shaft excavation method to experience a significant decrease in the actual production rate and requires the Contractor to core, break up, push aside, or use other means to mitigate the obstruction. Subsurface conditions such as boulders, cobbles, or logs and buried infrastructure such as footings, piling, or abandoned utilities, when shown on the plans, shall not constitute an obstruction. When an obstruction is encountered, the Contractor shall notify the Engineer immediately and upon concurrence of the Engineer, the Contractor shall mitigate the obstruction with an approved method.

516.09 Top of Rock. The top of rock will be considered as the point where rock, defined as bedded deposits and conglomerate deposits exhibiting the physical characteristics and difficulty of rock removal as determined by the Engineer, is encountered which cannot be drilled with augers and/or underreaming tools configured to be effective in the soils indicated in the contract documents.

516.10 Design Modifications. If the top of rock elevation differs from that shown on the plans by more than 10 percent of the length of the drilled shaft above the rock, the Engineer shall be

contacted to determine if any drilled shaft design changes may be required. In addition, if the type of soil or rock encountered is not similar to that shown in the subsurface exploration data, the Contractor may be required to extend the drilled shaft length(s) beyond those specified in the plans. In either case, the Engineer will determine if revisions are necessary and the extent of the modifications required.

516.11 Excavation Cleaning and Inspection. Materials removed or generated from the shaft excavations shall be disposed of according to Article 202.03.

After excavation, each shaft shall be cleaned. For a drilled shaft terminating in soil, the depth of sediment or debris shall be a maximum of 1 1/2 in. (38 mm). For a drilled shaft terminating in rock, the depth of sediment or debris shall be a maximum of 1/2 in. (13 mm).

A shaft excavation shall be overreamed when, in the opinion of the Engineer, the sidewall has softened, swelled, or has a buildup of slurry cake. Overreaming may also be required to correct a shaft excavation which has been drilled out of tolerance. Overreaming may be accomplished with a grooving tool, overreaming bucket, or other approved equipment. Overreaming thickness shall be a minimum of 1/2 in. (13 mm) and a maximum of 3 in. (75 mm).

516.12 Reinforcement. This work shall be according to Section 508 and the following.

The shaft excavation shall be cleaned and inspected prior to placing the reinforcement cage. The reinforcement cage shall be completely assembled prior to drilling and be ready for adjustment in length as required by the conditions encountered. The reinforcement cage shall be lifted using multiple point sling straps or other approved methods to avoid reinforcement cage distortion or stress. Cross frame stiffeners may be required for lifting or to keep the reinforcement cage in proper position during lifting and concrete placement.

The Contractor shall attach rolling spacers to keep the reinforcement cage centered within the shaft excavation during concrete placement and to ensure that at no point will the finished shaft have less than the minimum concrete cover(s) shown on the plans. The rolling spacers or other approved non-corrosive spacing devices shall be installed within 2 ft (0.6 m) of both the top and bottom of the drilled shaft and at intervals not exceeding 10 ft (3 m) throughout the length of the shaft to ensure proper reinforcement cage alignment and clearance for the entire shaft. The number of rolling spacers at each level shall be one for each 1.0 ft (300 mm) of shaft diameter, with a minimum of four rolling spacers at each level. For shafts with different shaft diameters throughout the length of the excavation, different sized rolling spacers shall be provided to ensure the reinforcement cage is properly positioned throughout the entire length of the shaft.

When a specific concrete cover between the base of the drilled shaft and the reinforcement cage is shown on the plans, the bottom of the reinforcement cage shall be supported so that the proper concrete cover is maintained.

If the conditions differ such that the length of the shaft is increased, additional longitudinal bars shall be either mechanically spliced or lap spliced to the lower end of the reinforcement cage and confined with either hoop ties or spirals. The Contractor shall have additional reinforcement available or fabricate the reinforcement cages with additional length as necessary to make the required adjustments in a timely manner as dictated by the encountered conditions. The additional reinforcement may be non-epoxy coated.

516.13 Concrete Placement. Concrete work shall be performed according to the following.

Throughout concrete placement the head pressure inside the drilled shaft shall be at least 1.1 times the head pressure outside the drilled shaft.

Concrete placement shall begin within 1 hour of shaft cleaning and inspection. The pour shall be made in a continuous manner from the bottom to the top elevation of the shaft as shown on the contract plan or as approved in the Contractor's installation procedure. Concrete placement shall continue after the shaft excavation is full and until 18 in. (450 mm) of good quality, uncontaminated concrete is expelled at the top of shaft. Vibration of the concrete will not be allowed when the concrete is displacing slurry or water. In dry excavations, the concrete in the top 10 ft (3 m) of the shaft shall be vibrated.

When using temporary casing or placing concrete under water or slurry, a minimum of seven days prior to concrete placement, a 4 cu yd (3 cu m) trial batch of the concrete mixture shall be performed to evaluate slump retention. Temporary casing shall be withdrawn before the slump of the concrete drops below 6 in. (150 mm). For concrete placed using the slurry method of construction, the slump of all concrete placed shall be a minimum of 6 in. (150 mm) at the end of concrete placement.

Devices used to place concrete shall have no aluminum parts in contact with concrete.

When the top of the shaft is at the finished elevation and no further concrete placement above the finished elevation is specified, the top of the shaft shall be level and finished according to Article 503.15(a).

Concrete shall be placed by free fall, tremie, or concrete pump subject to the following conditions.

- (a) Free Fall Placement. Concrete shall only be placed by free fall when the rate of water infiltration into the shaft excavation is less than 12 in. (300 mm) per hour and the depth of water in the shaft excavation is less than 3 in. (75 mm) at the time of concrete placement.

Concrete placed by free fall shall fall directly to the base without contacting the reinforcement cage, cross frame stiffeners, or shaft sidewall. Drop chutes may be used to direct concrete to the base during free fall placement.

Drop chutes used to direct placement of free fall concrete shall consist of a smooth tube. Concrete may be placed through either a hopper at the top of the tube or side openings as the drop chute is retrieved during concrete placement. The drop chute shall be supported so that free fall does not exceed 60 ft (18.3 m) for conventional concrete or 30 ft (9.1 m) for self-consolidating concrete. If placement cannot be satisfactorily accomplished by free fall in the opinion of the Engineer, either a tremie or pump shall be used to accomplish the pour.

- (b) Tremie and Concrete Pump Placement. Concrete placement shall be according to Article 503.08, except the discharge end of the steel pipe shall remain embedded in the concrete a minimum of 10 ft (3.0 m) throughout concrete placement when displacing slurry or water.

516.14 Construction Tolerances. The following construction tolerances shall apply to all drilled shafts.

- (a) Center of Shaft. The center of the drilled shaft shall be within 3 in. (75 mm) of the plan station and offset at the top of the shaft.
- (b) Center of Reinforcement Cage. The center of the reinforcement cage shall be within 1 1/2 in. (40 mm) of plan station and offset at the top of the shaft.
- (c) Vertical Plumbness of Shaft. The out of vertical plumbness of the shaft shall not exceed 1.5 percent.
- (d) Vertical Plumbness of Reinforcement Cage. The out of vertical plumbness of the shaft reinforcement cage shall not exceed 0.83 percent.
- (e) Top of Shaft. The top of the shaft shall be no more than 1 in. (25 mm) above and no more than 3 in. (75 mm) below the plan elevation.
- (f) Top of Reinforcement Cage. The top of the reinforcement cage shall be no more than 1 in. (25 mm) above and no more than 3 in. (75 mm) below the plan elevation.
- (g) Bottom of shaft. Excavation equipment and methods used to complete the shaft excavation shall have a nearly planar bottom. The cutting edges of excavation equipment used to create the bottom of shafts in rock shall be normal to the vertical axis of the shaft within a tolerance of 6.25 percent.

516.15 Method of Measurement. This work will not be measured for payment.

516.16 Basis of Payment. This work consists of the construction of the Drilled Shaft foundations for the boardwalk structure. All materials, equipment, labor, casing, excavations, installation, and any work necessary for and incidental to the construction of the drilled shafts shall be considered as included in the contract unit price per SQUARE FOOT for BOARDWALK STRUCTURE.

Obstruction mitigation will be paid for according to Article 109.04.”

BOARDWALK STRUCTURE

Description: This work shall consist of the design and installation of a precast concrete boardwalk structure. Also included in this work shall be the design, fabrication and construction of railings and a drilled shaft supported foundation system for the proposed boardwalk, as well as the bearings, anchors, railings and connection hardware, transition plate covers, and any other miscellaneous items as indicated in the plans and this specification.

These specifications are for a precast concrete boardwalk and shall be regarded as minimum standards for this project. The precast concrete boardwalk system shall be exclusively designed and supplied by:

PermaTrak North America LLC
Ph: 980-229-3036
Ph: 877-332-7862
Fax: 704-541-3675
www.permatrak.com
Contact: Mr. Jason Philbin
Choose an item.

Minimum Standards: The selected boardwalk shall have the following minimum characteristics:

- A. The precast system shall be designed as a modular flexible system allowing a prescribed settlement at pier locations. Joints shall be designed for such movement to occur without damage to the structural integrity of the system.
- B. Boardwalk system (beams, treads, and curbs if applicable) must be reinforced precast concrete. A material change, including cast-in-place concrete, is not considered an equal to the design shown on the bid documents.
- C. Walking surface (treads) shall be made of reinforced precast concrete and supported by reinforced precast concrete beams. Where applicable, edges of treads will receive precast concrete curbs.
- D. Walking surface (finish) of top surface of treads shall have a formliner finish with one of PermaTrak's standard textures (PermaGrip, PermaPlank, PermaSlate, Sandblast, Slate or Weathered Plank). Texture must be integral with the concrete and shall not be an applied post pour wearing surface.
- E. Precast concrete treads shall be structural load bearing elements and shall interlock with one another via a "tongue and groove" connection.
- F. All precast shall consist of integrally colored concrete in a color selected by the owner from one of PermaTrak's "standard colors".
- G. DESIGN LOADS: Boardwalk structure shall be designed for the following live loads:
 - 1. Pedestrian live load of 90 psf.
 - 2. 5000 lb. Maintenance Vehicle with two axles spaced 96 inches apart and equally distributed.

3. H10 Design Truck – 20,000 lbs. (Applicable for boardwalk clearance exceeding 10 ft.)
- H. Treads shall maintain a “boardwalk appearance”, specifically meaning each tread shall have a width: length ratio ranging from a minimum of 3:1 to a maximum of 14:1. Width is defined as the tread dimension perpendicular to the normal direction of travel. Length is defined as the tread dimension measured in the direction of travel.
- I. Tread width shall be as noted on the contract drawings. Alignment should follow the horizontal and vertical alignment shown on the contract plans.
- J. Connectors for curbs (if applicable) to treads shall not be visible to boardwalk users while viewed from the top of the walkway.
- K. All tread-to-beam connectors shall be non-corrosive and hidden from view. Metallic tread-to-beam connectors are not acceptable for this project.
- L. Boardwalk supplier shall provide a field representative on site for a minimum of 2 days. Field representative shall be knowledgeable in the installation of precast concrete boardwalks.
- M. Drilled shaft foundations shall meet the requirements of Section 516 of the IDOT Standard Specifications for Road and Bridge Construction and any other Special Provisions included.
- N. All cast in place concrete for the boardwalk system outside of the drilled shafts, including the above grade concrete shafts and grade beam supports at the ends of the boardwalk, shall meet the requirements of Section 503 of the IDOT Standard Specifications for Road and Bridge Construction.
- O. All precast concrete shall meet the requirements of Section 504 and Section 1042 of the IDOT Standard Specifications for Road and Bridge Construction.

Quality Assurance: The Contractor performing the installation of the foundations shall have installed drilled shafts of size and length similar to those shown on the plans for a minimum of three (3) years prior to the bid date for this project. The Contractor shall submit a list containing at least three (3) projects completed in the last three (3) years on which the Contractor has installed drilled shafts of a size and length similar to those shown on the plans. The list of projects shall contain names and phone numbers of owner’s representatives who can verify the Contractor’s participation on those projects.

- A. Acceptability Criteria for Treads and Curbs (if applicable): The finished visible (in the final installed position) surface shall have no obvious imperfections other than minimal color or texture variations from the approved samples or evidence of repairs when viewed in good typical daylight illumination with the unaided naked eye at a 20 ft. viewing distance. Appearance of the surface shall not be evaluated when light is illuminating the surface from an extreme angle as it tends to accentuate the minor surface irregularities. The following is a list of finish defects that shall be properly repaired, if obvious when viewed at a 20 ft. distance. Patching (by a trained skilled concrete repair person) is an acceptable repair method.

1. Ragged or irregular surfaces.
2. Excessive air voids (commonly called bug holes) larger than ¼ in. evident on the top surface of the tread or curbs (if applicable).
3. Adjacent flat and return surfaces with greater texture and/or color differences than the approved samples or mockups.
4. Casting and/or aggregate segregation lines evident from different concrete placement lifts and consolidation.
5. Visible mold joints or irregular surfaces.
6. Rust stains on exposed surfaces.
7. Units with excessive variation in texture and/or color from the approved samples, within the unit or compared with adjacent units.
8. Blocking stains evident on exposed surfaces.
9. Areas of backup concrete bleeding through the facing concrete.
10. Foreign material embedded in the surface.
11. Visible repairs at a 20 ft. viewing distance.
12. Reinforcement shadow lines.

- B. Installer Qualifications: Firm with 3 years' experience in installation of systems similar in complexity to those required for this Project.

Installation of the precast concrete boardwalk system, foundation and railings shall be performed in accordance with the approved plans and specifications, approved shop drawings, and manufacturer's installation instructions. PermaTrak shall provide a field representative to review installation instructions with the Contractor and Engineer and to certify that the installation has been performed according to the approved drawings and manufacturer's instructions.

Design: The boardwalk, foundations and railings shall conform to the following specifications:

- A. For applications requiring minimum disturbance due to existing utilities to be avoided during construction, PermaTrak requires the Contractor to provide accurate horizontal and vertical locations of any utilities found in the proposed boardwalk and/or foundation locations. The cost of utility location shall be included in the BOARDWALK STRUCTURE.
- B. The designer of the boardwalk, foundation and railing system shall be a qualified Structural Engineer licensed in the State of Illinois having a minimum of 20 years of experience in the design of concrete structures, foundation and railing systems.
- C. The foundation design shown on the boardwalk drawings is based recommendations found in the geotechnical report entitled "Geotechnical Report, Des Plaines River Trail Improvements Segment 3, Bryn Mawr Avenue to Lawrence Avenue, Chicago, Illinois" prepared by Interra dated 7/9/2021, and should be used for estimating purposes only. Final design of boardwalk structure foundations in accordance with this special provision is the responsibility of the Contractor.
- D. DESIGN CRITERIA: The design of the boardwalk and railing system shall comply with the following guidelines:
 1. AASHTO LRFD Guide Specifications for The Design of Pedestrian Bridges, 2nd Edition with 2015 Interim Revisions.

2. The Latest Version of AASHTO LRFD Bridge Design Specifications for Highway Bridges.
3. IDOT Standard Specifications for Road and Bridge Construction, Adopted April 1, 2016.
4. American Concrete Institute (ACI 318-14) Building Code Requirements for Structural Concrete and Commentary.
5. In addition to the dead loads of the system, the boardwalk structure and foundations shall be designed for the live loads defined in the Minimum Standards Section Item G, and for all other applicable loads in accordance with the referenced AASHTO design codes.
6. Railings shall be designed and constructed to meet all configuration and loading requirements for pedestrian and bicycle railings in the AASHTO Bridge Design Specifications for Highway Bridges, and for guards in the Chicago Building Code (CBC) 2019 and International Building Code (IBC) 2018. When provisions of these codes differ, the more stringent code requirement shall be met. Railing structural loading requirements:
 - a. Railing main longitudinal elements, assemblies and attachments shall resist a uniform live load of 50 pounds per linear foot applied transversely and vertically acting simultaneously along the longitudinal element. In addition, each main longitudinal element shall resist a concentrated live load of 200 pounds acting simultaneously with the above uniform loads at any point and in any direction at the top of the longitudinal element.
 - b. Rail posts, assemblies and attachments shall be designed for a concentrated design live load applied transversely at the center of gravity of the top longitudinal element of 200 pounds plus 50 pounds per linear foot multiplied by the post spacing. All rail assemblies, connections and anchorage shall be designed for these loads to be transferred through the supports to the structure.
 - c. Infill area of railings shall resist a minimum horizontal concentrated load of 200 pounds applied to a 1 foot by 1 foot area at any point in the system. The area for application of loading includes openings and space between rail elements. The cable rail elements and their attachments, supports, etc. shall also be designed and spaced to not allow the passage of a 4-inch diameter sphere through the railing.

Submittals: The Contractor shall submit to the Engineer a design package, which shall include, but is not limited to, the following:

- A. **PRELIMINARY SUBMITTALS:** Prior to the start of fabrication or construction, the Contractor shall submit to the Engineer a design package, which shall include but not limited to the following:
 1. **DETAILED PLANS:**
 - a. **REGISTRATION / SEAL:** Signed and sealed by a licensed Structural Engineer in the State of Illinois.
 - b. **PLAN VIEW:** Full plan view of the boardwalk, foundation and railing system drawn to scale. The plan view must reflect the proposed horizontal alignment as shown on the design plans.

- c. ELEVATION VIEW: Full elevation view of the boardwalk, railings and foundation system drawn to scale which reflects the actual vertical alignment. Elevation views shall indicate the elevation at the top and bottom of the boardwalk and foundation system components, horizontal and vertical break points, and location of the finished grade.
- d. DETAILS: Details of all boardwalk, foundation and railing system components and their connections such as the length, size and where changes occur; connections; etc.
- e. CODE REFERENCE: Design parameters used along with AASHTO/IBC/CBC code references.

2. DESIGN COMPUTATIONS: Design computations for all structural elements shall:

- a. Be signed and sealed by a licensed Structural Engineer in the State of Illinois.
- b. Clearly refer to the applicable AASHTO/CBC/IBC provisions.
- c. Include documentation of computer programs including all design parameters.
- d. Clearly show that all reinforced precast treads and beams, rail elements and foundations meet AASHTO requirements for the loading per this special provision.
- e. Include sketches of reinforcement in treads, beams and foundations, shear and moment diagrams, and all equations used shall be referenced to applicable code.

3. CONSTRUCTION SPECIFICATIONS:

- a. Construction methods for precast concrete elements are specific to PermaTrak. Submittal requirements such as certification, quality and acceptance/rejection criteria shall be included. Details on connection of boardwalk units and foundation system such that assurance of uniform load transfer shall be checked.
- b. Construction methods for drilled shaft installation see Special Provision for Drilled Shafts.

B. FINAL SUBMITTAL: Once a boardwalk, foundation and railing system design has been reviewed and accepted by the Owner, the Contractor shall submit the final plans. The designer of the boardwalk, foundations and railing system is responsible for the review of any drawings prepared for fabrication. One set of all approved shop drawings shall be submitted to the Engineer for permanent records.

C. SUBMITTALS: Product Data: Submit Manufacturer's technical product data for railing components and accessories.

Manufacturer to supply submittal drawings for approval to include the following:

- 1. Section-thru details.
- 2. Mounting methods.
- 3. Typical elevations.
- 4. Key plan layout.

- D. SHOP DRAWINGS: Shop drawings shall:
- a. Be sealed by a licensed Structural Engineer in the State of Illinois.
 - b. Show actual field conditions and true elevations and locations supplied after field verification, along with foundation layout and dimensions.
 - c. Clearly detail reinforcement in beams, treads and foundations, including clear dimension from concrete edge, size and amount of rebar.
 - d. Clearly state concrete reinforcement strength and epoxy coating where required as well as component weight and lifting locations.
 - e. Railing layout and details including post layout, connection details, and any transition details to the prefabricated boardwalk structure.

Delivery, Storage, and Handling:

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Damaged Boardwalk Elements: Any boardwalk elements damaged by the Contractor during transportation or handling shall be replaced with undamaged elements at no additional cost to the owner. Repair of these damaged elements will not be acceptable.
- C. Field Measurements: Where handrails and railings are indicated to fit to other construction, check actual dimensions of other construction by accurate field measurements before fabrication; show recorded measurements on final shop drawings:
 1. Where field measurements cannot be made without delaying the railing fabrication and delivery, obtain guaranteed dimensions in writing by the Contractor and proceed with fabrication of products so as not to delay fabrication, delivery and installation.
- C. Coordinate fabrication and delivery schedule of rail elements with construction progress and sequence to avoid delay of railing installation.

Warranty:

- A. Boardwalk manufacturer shall warranty all precast concrete components against defects in material and workmanship for a period of 10 years.
- B. Railing manufacturer shall warranty the railing against defects in materials and workmanship for a period of 12 months.

Method of Measurement: The boardwalk structure will be measured in square feet of completed and accepted structure measured horizontally from edge of final tread to edge of final tread and within the clear path width as defined in the plans.

Basis of Payment: The precast concrete boardwalk will be paid for at the contract unit price per SQUARE FOOT for BOARDWALK STRUCTURE. This price shall include all materials, equipment, labor and work necessary for and incidental to the design, preparation of submittals, construction, delivery, unloading, assembly, and installation of the boardwalk, foundations, and railings as shown in the contract plans or as directed by the Engineer.

MAINTENANCE OF ROADWAYS (D1)

Effective: September 30, 1985

Revised: November 1, 1996

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

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

STATUS OF UTILITIES (D-1)

Effective: June 1, 2016
Revised: January 1, 2020

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

UTILITIES TO BE ADJUSTED

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

No conflicts to be resolved.

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

| Agency/Company Responsible to Resolve Conflict | Name of contact | Phone | E-mail address |
|---|---|------------------------|--|
| AT&T (Distribution) | Steve Larson Head of Legal Mandate Team | (630) 573- 5450 | g05256@att.com |
| Comcast | Martha Gieras | (224) 229- 5862 | martha_gieras@cable.comcast.com |
| ComEd | Jennifer Maberto | ((779) 231- 2246 | Jennifer.maberto@comed.com |
| MCI-Verizon Business Team, Investigation | Investigation Team | | investigations@verizon.com |
| Metropolitan Water Reclamation District | Paul Sobanski | (708)- 588- 4080 | johnsonm1@mwrdd.org |
| Sprint | Steven Hughes | (814) 553- 2300 | steven.hughes1@t-mobile.com |
| Nicor Gas | Sakibul Forah | (630) 388- 2903 | sforah@southernco.com |
| CenturyLink | Ben Pacocha | (847) 954- 8250 | Ben.pacocha@lumen.com |

| | | | |
|--|-------------------|----------------|-----------------------------------|
| Crown Castle | Joseph Mellenthin | | joseph.mellenthin@crowncastle.com |
| CDOT Division of Electrical Operations | Jose Vasquez | (312) 744-4713 | Anthony.Vieu@cityofchicago.org |
| CTA – Traffic | Joseph Osowski | (312) 681-4151 | josowski@transitchicago.com |

UTILITIES TO BE WATCHED AND PROTECTED

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

| Location | Type | Description | Owner | Action |
|--|----------------------|---|-------|--|
| Lawrence Ave Sta. 300+00 to 300+50 | Underground gas main | The contractor is alerted that there is a 12” underground gas main that runs on the north side of Lawrence Avenue. There are no anticipated conflicts with the main. | Nicor | Gas main shall be protected from damage by the Contractor during construction. |
| Lawrence Ave Sta 41+00 to 45+50 | Underground gas main | The Contractor is alerted that there is a 12” underground gas main running underneath and/or adjacent to the proposed path. There are no anticipated conflicts with the main. | Nicor | Gas main shall be protected from damage by the Contractor during construction. |
| Northeast corner of Lawrence Ave and East River Road | Underground gas main | The Contractor is alerted that there is a 12” underground gas main and a 2” underground gas main running close to the ADA ramp and traffic signal work. | Nicor | Gas main shall be protected from damage by the Contractor during construction. |

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| | | | | |
|---|-----------------------------|---|--|--|
| | | There are no anticipated conflicts with the main. | | |
| Lawrence Ave Sta. 45+00 to 54+00 | Manholes | The Contractor is alerted that there is a sewer manholes on the north side of Lawrence Ave near the proposed path. There are no anticipated conflicts with the manholes. | MWRD | Manholes shall be located, protected and/or adjusted to grade if necessary. Authorization may be obtained by contacting Mr. Cedric Robertson, Managing Engineer at (708) 588-3896. |
| Lawrence Ave/E. River Road Intersection | Underground Electric Cables | The Contractor is alerted that there is a high voltage underground electric cable on the east side of East River Road at Lawrence Ave. There are no anticipated conflicts with the cable. | Comed Transmission | Use extreme caution near Comed facilities. Hand dig while crossing all 69/138/345 KV transmission lines. Comed Transmission shall be notified two (2) business days prior to the start of work. To schedule an onsite inspector during construction, contact Leslie Paschal at (630) 437-4767. |
| Lawrence Ave/E. River Road Intersection | Underground Electric Cables | The project crosses ComEd assets. There are no anticipated conflicts with the Comed facilities. | Comed Distribution | Any issues or work needed when crossing or adjacent to any ComEd assets, please contact Jennifer Maberto @ 779.231.2246 or via email @ jennifer.maberto@comed.com at least six weeks prior to construction start." |
| Lawrence Ave west of East River Road | Underground electric cables | The Contractor is alerted that the Division of Electrical Operations has facilities in the proposed work area. There are no anticipated conflicts with the facilities. | CDOT Division of Electrical Operations | The contractor is directed to exercise caution during construction and/ or excavation. The contractor assumes all liability for any damages to Division of Electrical Operations facilities. It is the contractor's responsibility to contact Mr. Jose Vasquez at 312-744-4713 with a minimum of (3) weeks in advance notice. It is the contractor's responsibility to coordinate with Division of Electrical Operations for |

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| | | | | |
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| | | | | <p>maintenance transfers. Contact "DIGGER" at 8-1-1 a minimum of 48 hours prior to any excavation. The contractor is to hand dig around and support in place any Division of Electrical facilities encountered.</p> |
| Lawrence Ave/E. River Road Intersection | Underground communications facilities | There are existing Crown Castle facilities in the area. There are no anticipated conflicts. | Crown Castle | <p>Use extreme caution near Crown Castle facilities. Hand trench within 3' of Crown Castle facilities to visually locate, and a minimum of 12" clearance (vertical & horizontal) from existing Crown Castle facilities is required. Contact Digger for locates a minimum of 48 hours before beginning construction.</p> |
| East River Road (north of Lawrence Ave) | Bus Operations | CTA operates buses on East River Road (north of Lawrence) | CTA – Traffic | <p>CONTRACTOR MUST CONTACT CTA MINIMUM OF TWO WEEKS PRIOR TO ANY BUS SERVICE IMPACTS. Please contact CTA Traffic Planning to discuss impacts to bus routing and coordinate bus stop relocations. For more information please visit: http://www.transitchicago.com/nearbyconstruction/ CTA point of contact is North Region Traffic Analyst Joseph Osowski at josowski@transitchicago.com or (312) 681-4151.</p> |
| Lawrence Ave/E. River Road Intersection | Buried fiber optic cable | There are existing MCI/WOW facilities in the area. There are no anticipated conflicts. | MCI/WOW | <p>Use extreme caution near all MCI/WOW facilities. Hand excavation is required to locate and expose fiber optic facilities prior to crossing and when working within 3 feet of all MCI/WOW facilities. Contact DIGGER for locates a minimum of 48</p> |

| | | | | |
|--|--|--|--|---------------------------------------|
| | | | | hours prior to start of construction. |
|--|--|--|--|---------------------------------------|

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

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

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

PUBLIC CONVENIENCE AND SAFETY (D1)

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

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

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

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

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

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

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

HOT-MIX ASPHALT BINDER AND SURFACE COURSE (D1)

Effective: November 1, 2019

Revised: December 1, 2021

Revise Article 1004.03(c) to read:

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

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

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

2/ The coarse aggregates used shall be capable of being combined with the fine aggregates and mineral filler to meet the approved mix design and the mix requirements noted herein.

3/ The specified coarse aggregate gradations may be blended.

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

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

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

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

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

Revise Note 2. and add Note 6 to Article 1030.02 of the Standard Specifications to read:

“Item

Article/Section

- (g) Performance Graded Asphalt Binder (Note 6)
- (h) Fibers (Note 2)

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

Note 6. The asphalt binder shall be an SBS PG 76-28 when the SMA is used on a full-depth asphalt pavement and SBS PG 76-22 when used as an overlay, except where modified herein. The asphalt binder shall be a SBS PG 76-22 for IL-4.75, except where modified herein..”

Revise table in Article 1030.05(a) of the Standard Specifications to read:

| "MIXTURE COMPOSITION (% PASSING) ^{1/} | | | | | | | | | | | | |
|--|------------|-----|----------|-------------------|---------|-------------------|------------------|------------------|----------|------------------|------------|-------------------|
| Sieve Size | IL-19.0 mm | | SMA 12.5 | | SMA 9.5 | | IL-9.5mm | | IL-9.5FG | | IL-4.75 mm | |
| | min | max | min | max | min | max | min | max | min | max | min | max |
| 1 1/2 in (37.5 mm) | | | | | | | | | | | | |
| 1 in. (25 mm) | | 100 | | | | | | | | | | |
| 3/4 in. (19 mm) | 90 | 100 | | 100 | | | | | | | | |
| 1/2 in. (12.5 mm) | 75 | 89 | 80 | 100 | | 100 | | 100 | | 100 | | 100 |
| 3/8 in. (9.5 mm) | | | | 65 | 90 | 100 | 90 | 100 | 90 | 100 | | 100 |
| #4 (4.75 mm) | 40 | 60 | 20 | 30 | 36 | 50 | 34 | 69 | 60 | 75 ^{6/} | 90 | 100 |
| #8 (2.36 mm) | 20 | 42 | 16 | 24 ^{4/} | 16 | 32 ^{4/} | 34 ^{5/} | 52 ^{2/} | 45 | 60 ^{6/} | 70 | 90 |
| #16 (1.18 mm) | 15 | 30 | | | | | 10 | 32 | 25 | 40 | 50 | 65 |
| #30 (600 μm) | | | 12 | 16 | 12 | 18 | | | 15 | 30 | | |
| #50 (300 μm) | 6 | 15 | | | | | 4 | 15 | 8 | 15 | 15 | 30 |
| #100 (150 μm) | 4 | 9 | | | | | 3 | 10 | 6 | 10 | 10 | 18 |
| #200 (75 μm) | 3.0 | 6.0 | 7.0 | 9.0 ^{3/} | 7.5 | 9.5 ^{3/} | 4.0 | 6.0 | 4.0 | 6.5 | 7.0 | 9.0 ^{3/} |
| #635 (20 μm) | | | ≤ 3.0 | | ≤ 3.0 | | | | | | | |
| Ratio Dust/Asphalt Binder | | 1.0 | | 1.5 | | 1.5 | | 1.0 | | 1.0 | | 1.0 |

- 1/ Based on percent of total aggregate weight.
- 2/ The mixture composition shall not exceed 44 percent passing the #8 (2.36 mm) sieve for surface courses with Ndesign = 90.
- 3/ Additional minus No. 200 (0.075 mm) material required by the mix design shall be mineral filler, unless otherwise approved by the Engineer.
- 4/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted above the percentage stated on the table.
- 5/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted below 34 percent.
- 6/ When the mixture is used as a binder, the maximum shall be increased by 0.5 percent passing."

Revise Article 1030.05(b) of the Standard Specifications to read:

(b) Volumetric Requirements. The target value for the air voids of the HMA shall be 4.0 percent, for IL-4.75 and SMA mixtures it shall be 3.5 percent and for Stabilized Subbase it shall be

3.0 percent at the design number of gyrations. The voids in the mineral aggregate (VMA) and voids filled with asphalt binder (VFA) of the HMA design shall be based on the nominal maximum size of the aggregate in the mix and shall conform to the following requirements.

| Mix Design | Voids in the Mineral Aggregate (VMA), % Minimum for Ndesign | | | | |
|----------------------------|--|------|------|--|------|
| | 30 | 50 | 70 | 80 | 90 |
| IL-19.0 | | 13.5 | 13.5 | | 13.5 |
| IL-9.5 | | 15.0 | 15.0 | | |
| IL-9.5FG | | 15.0 | 15.0 | | |
| IL-4.75 ^{1/} | | 18.5 | | | |
| SMA-12.5 ^{1/2/5/} | | | | 17.0 ^{3/} /16.0 ^{4/} | |
| SMA-9.5 ^{1/2/5/} | | | | 17.0 ^{3/} /16.0 ^{4/} | |
| IL-19.0L | 13.5 | | | | |
| IL-9.5L | 15.0 | | | | |

- 1/ Maximum draindown shall be 0.3 percent according to Illinois Modified AASHTO T 305.
- 2/ The draindown shall be determined at the JMF asphalt binder content at the mixing temperature plus 30°F.
- 3/ Applies when specific gravity of coarse aggregate is ≥ 2.760.
- 4/ Applies when specific gravity of coarse aggregate is < 2.760.
- 5/ For surface course, the coarse aggregate can be crushed steel slag, crystalline crushed stone or crushed sandstone. For binder course, coarse aggregate shall be crushed stone (dolomite), crushed gravel, crystalline crushed stone, or crushed sandstone”

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

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

Add after third sentence of Article 1030.09(b) to read:

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

Revise Table 1 and Note 4/ of Table 1 in Article 406.07(a) of the Standard Specifications to read:

| | Breakdown/Intermediate Roller (one of the following) | Final Roller (one or more of the following) | Density Requirement |
|--|--|---|---------------------|
| | | | |

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| | | | |
|--|--|---|---|
| IL-9.5, IL-9.5FG, IL-19.0 ^{1/} | V _D , P, T _B , 3W, O _T , O _B | V _S , T _B , T _F , O _T | As specified in Section 1030 |
| IL-4.75 and SMA ^{3/ 4/} | T _B , 3W, O _T | T _F , 3W | As specified in Section 1030 |
| Mixtures on Bridge Decks ^{2/} | T _B | T _F | As specified in Articles 582.05 and 582.06. |

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

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

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

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

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

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

“When a test strip is constructed, the Contractor shall collect and split the mixture according to the document “Hot-Mix Asphalt Test Strip Procedures”. The Engineer, or a representative, shall deliver split sample to the District Laboratory for verification testing. The Contractor shall complete mixture tests stated in Article 1030.09(a). Mixture sampled shall include enough material for the Department to conduct mixture tests detailed in Article 1030.09(a) and in the document “Hot-Mix Asphalt Mixture Design Verification Procedure” Section 3.3. The mixture test results shall meet the requirements of Articles 1030.05(b) and 1030.05(d), except Hamburg wheel tests will only be conducted on High ESAL mixtures during production.”

ENGINEER'S FIELD OFFICE TYPE A (D1)

Effective: January 1, 2022

Revise the first paragraph of Article 670.02 to read:

670.02 Engineer's Field Office Type A (D1). Type A (D1) field offices shall have a ceiling height of not less than 7 feet and a floor space of not less than 1000 square feet with a minimum of two separate offices. The office shall also have a separate storage room capable of being locked for the storage of the nuclear measuring devices. The office shall be provided with sufficient heat, natural and artificial light, and air conditioning. Doors and windows shall be equipped with locks approved by the Engineer.

Add the following to Article 670.07 Basis of Payment.

The building or buildings, fully equipped, will be paid for at the contract unit price per calendar month or fraction thereof for ENGINEER'S FIELD OFFICE, TYPE A (D1).

TRAFFIC CONTROL PLAN (D1)

Effective: September 30, 1985

Revised: January 1, 2007

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

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

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

STANDARDS: 701101-05, 701106-02, 701301-04, 701426-09, 701501-06, 701601-09, 701602-10, 701606-10, 701701-10, 701801-06, 701901-08

DETAILS:

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

TC-13 – DISTRICT ONE TYPICAL PAVEMENT MARKINGS

TC-21 – DETOUR SIGNING FOR CLOSING STATE HIGHWAYS

TC-22 – ARTERIAL ROAD INFORMATION SIGN

SPECIAL PROVISIONS:

CHANGEABLE MESSAGE SIGN

MAINTENANCE OF ROADWAYS (D1)

PUBLIC CONVENIENCE AND SAFETY (D1)

TEMPORARY TRAFFIC SIGNAL TIMING

KEEPING ARTERIAL ROADWAYS OPEN TO TRAFFIC (LANE CLOSURE ONLY)

TEMPORARY INFORMATION SIGNING

WORK ZONE TRAFFIC CONTROL DEVICES (BDE)

FRICITION AGGREGATE (D1)

Effective: January 1, 2011
 Revised: December 1, 2021

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

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

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

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

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

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

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

HOT-MIX ASPHALT – MIXTURE DESIGN VERIFICATION AND PRODUCTION (D1)

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

Add to Article 1030.05 (d)(3) of the Standard Specifications to read:

“ During mixture design, prepared samples shall be submitted to the District laboratory by the Contractor for verification testing. The required testing, and number and size of prepared samples submitted, shall be according to the following tables.

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

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

- 1/ The compacted gyratory bricks for Hamburg wheel and I-FIT testing shall be 7.5 ± 0.5 percent air voids.
- 2/ If the Contractor does not possess the equipment to prepare the 160 mm tall brick(s), twice as many 115 mm tall compacted gyratory bricks will be acceptable.

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

“When a test strip is not required, each HMA mixture shall still be sampled on the first day of production: I-FIT and Hamburg wheel testing for High ESAL; I-FIT testing for Low ESAL. Within two working days after sampling the mixture, the Contractor shall deliver gyratory cylinders to the District laboratory for Department verification testing. The High ESAL mixture test results shall meet the requirements of Articles 1030.05(d)(3) and 1030.05(d)(4). The Low ESAL mixture test results shall meet the requirements of Article 1030.05(d)(4). The required number and size of prepared samples submitted for the Hamburg wheel and I-FIT testing shall be according to the “High ESAL - Required Samples for Verification Testing” table in Article 1030.05(d)(3) above.”

Add the following to the end of Article 1030.10 of the Standard Specifications to read:

“Mixture sampled during first day of production shall include approximately 60 lb (27 kg) of additional material for the Department to conduct Hamburg wheel testing and approximately 80 lb (36 kg) of additional material for the Department to conduct I-FIT

testing. Within two working days after sampling, the Contractor shall deliver prepared samples to the District laboratory for verification testing. The required number and size of prepared samples submitted for the Hamburg wheel and I-FIT testing shall be according to the "High ESAL - Required Samples for Verification Testing" table in Article 1030.05(d)(3) above."

HOT-MIX ASPHALT (D-1)

Effective: January 1, 2022

Revised: August 1, 2022

Replace Article 1030.09(g)(1) of the Standard Specifications with the following:

“(1) The Contractor shall sample approximately 150 lb (70 kg) of mix as required for the Department’s random mixture verification tests according to Article 1030.09(h)(1).”

Replace the second sentence of Article 1030.09(h)(1) of the Standard Specifications with the following:

“The Engineer will randomly identify one sample for each 3,000 tons (2,720 metric tons) of mix, with a minimum of one sample per mix. If the remaining mix quantity is 600 tons (544 metric tons) or less, the quantity will be combined with the previous 3,000 tons (2,720 metric tons) in the Engineer’s random sample identification. If the required tonnage of a mixture for a single pay item is less than 250 tons (225 metric tons) in total, the Engineer will waive mixture verification tests.”

Add the following to the end of the third paragraph of Article 1030.09(h)(2) of the Standard Specifications:

“The HMA maximum theoretical specific gravity (G_{mm}) will be based on the Department mixture verification test. If there is more than one Department mixture verification G_{mm} test, the G_{mm} will be based on the average of the Department test results.”

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

Effective: June 26, 2006
 Revised: December 1, 2021

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

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

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

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

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

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

“A dedicated storage tank for the Ground Tire Rubber (GTR) modified asphalt binder shall be provided. This tank must be capable of providing continuous mechanical mixing throughout by continuous agitation and recirculation of the asphalt binder to provide a

uniform mixture. The tank shall be heated and capable of maintaining the temperature of the asphalt binder at 300 °F to 350 °F (149 °C to 177 °C). The asphalt binder metering systems of dryer drum plants shall be calibrated with the actual GTR modified asphalt binder material with an accuracy of ± 0.40 percent.”

KEEPING ARTERIAL ROADWAYS OPEN TO TRAFFIC (LANE CLOSURES ONLY)

Effective: January 22, 2003

Revised: August 10, 2017

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

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

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

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

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

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

One lane or ramp blocked = \$ 1,000

Two lanes blocked = \$ 2,500

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

TEMPORARY INFORMATION SIGNING

Effective: November 13, 1996

Revised: January 29, 2020

Description.

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

Materials.

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

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

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

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

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

GENERAL CONSTRUCTION REQUIREMENTS

Installation.

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

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

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

Method of Measurement.

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

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

Basis Of Payment.

Des Plaines River Trail Segment 3
Forest Preserve District of Cook County
Contract No. 61H87
Section No. 17-00034-03-BT
Cook County

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

45 MIL HOT SPRAY THERMOPLASTIC PAVEMENT MARKING

Effective: February 28, 1994
Revised: December 18, 2012

This work shall consist of furnishing and applying spray thermoplastic pavement marking lines, sizes and colors as shown on the plans. The material shall be a mixture of resins and other materials providing an essentially nonvolatile thermoplastic compound especially developed for traffic markings. Spray thermoplastic pavement markings shall be applied only by contractors on the list of Approved Spray Thermoplastic Contractors maintained by the Engineer of Operations and in effect on the date of advertisement for bids.

Ingredient Materials:

- (a) Binder. The binder shall consist of a mixture of synthetic resins, at least one of which is solid at room temperature. The total binder content of the thermoplastic compound shall be well distributed throughout the compound. The binder shall be free from all foreign objects or ingredients that would cause bleeding, staining or discoloration. The binder shall be 25 percent minimum by weight of the thermoplastic compound. The binder shall be characterized by an "IR Spectra". Future shipments of binder will be checked by an "IR Spectra" to verify that the binder has not been changed.
- (b) Pigment. The pigment used for the white thermoplastic compound shall be a highgrade pure (minimum 93 percent) titanium dioxide (TiO₂). The white pigment content shall not be less than 10 percent by weight and shall be uniformly distributed throughout the thermoplastic compound.

The pigments used for the yellow thermoplastic compound shall be heat resistant, and color-fast yellows, golds and oranges, which shall produce a compound meeting the requirements of the current Federal Highway Color Tolerance Chart, PR Color No. 1. The medium chrome yellow pigment content shall be not less than 4 percent by weight and shall be uniformly distributed throughout the thermoplastic compound.

- (c) Filler: The filler to be incorporated with the resins as a binder shall be a white calcium carbonate, silica, or an approved substitute. Any filler, which is insoluble in 6N hydrochloric acid, shall be of such particle size as to pass a No. 100 (150 µm) sieve.
- (d) Glass Beads.

(1) Scope:

This specification covers glass beads to be used for reflectorizing pavement marking lines.

Type A – uncoated

Type B - moisture resistant, silicone coated

Type A shall be used as intermix beads with thermoplastic pavement marking materials. They shall be uniformly mixed throughout the material at the rate of not less than 25 percent by weight (retained on the No. 100 (150 µm) sieve) of thermoplastic compound. Type B shall be used as drop-on beads with thermoplastic pavement marking materials and shall be applied uniformly at a minimum rate of 6 pounds per 100 square feet (2.9 kilograms per 10 square meters).

(2) Properties:

The glass beads furnished under this specification shall consist essentially of transparent, water-white glass particles of a spherical shape. They shall be manufactured from a glass of a composition designed to be highly resistant to traffic wear and to the effects of weathering. The glass beads shall conform to the following requirements:

- (a) Sieve Analysis. The glass beads shall meet the following sieve requirements:

| <u>Sieve Size</u> | <u>Passing</u> |
|-------------------|----------------|
| No. 20 (850 µm) | 100 |
| No. 30 (600 µm) | 75 - 100 |
| No. 50 (300 µm) | 15 - 40 |
| No. 100 (150 µm) | 0 - 5 |
| No. 200 (75 µm) | 0 - 1 |

- (b) Imperfections. The surface of the glass beads shall be free of pits and scratches. The glass beads shall be spherical in shape and shall contain not more than 20 percent by weight of irregular shapes when tested by the standard method using a vibratile inclined glass plate as adopted by the Department.
- (c) Index of Refraction. The index of refraction of the glass beads shall be not less than 1.50 when tested by the immersion method at 77 °F (25 °C).
- (d) Silica Content. The glass beads shall contain not less than 65 percent silica (SiO₂).
- (e) Chemical Stability. Glass beads which show a tendency toward decomposition, including surface etching, when exposed to paint or thermoplastic constituents will be rejected. The glass beads shall be tested by Federal Specification TT-B-1325B, Section 4.3.9 (water resistance) and evaluated for compliance with Section 3.2.9, with the following exceptions:

The size of the sample to be tested shall be 25 grams and the reflux time shall be 5 hours.

- (f) Flowing Properties. The glass beads shall flow uniformly through dispensing equipment in atmospheric humidity up to 94%.

Intermix beads shall pass the following test: One hundred grams of glass beads, spread evenly and thinly in a suitable container, shall be conditioned at 77 °F (25 °C) for 4 hours over a solution of sulfuric acid (Sp. Gr. 1.10) in a closed desiccator. After 4 hours, the glass beads shall flow readily through a clean glass analytical funnel, 60°, 75 mm diameter and 105 mm stem. Inside diameter of the stem shall be a nominal 1/4 inch (6.35 mm).

The drop-on beads shall have a silicone, moisture resistant coating and pass the following test: One hundred grams of beads are placed in a 600 ml beaker and an equivalent volume of distilled water shall be added to the beaker. The beaker will then stand for 5 minutes, at the end of which time the water shall be carefully poured off and the beads transferred to a clean dry beaker and allowed to stand for 5 minutes. The beads will then be poured slowly into a standard glass funnel (Corning 6120), 127 mm diameter, 102 mm stem length and 11 mm stem inside diameter.

The beads shall flow through the funnel stem without stoppage. Slight initial agitation to start the flow through the funnel at the beginning of the test is permissible.

- (g) Packaging. The Type B glass beads shall be delivered in approved moisture proof bags consisting of a least five-ply paper construction unless otherwise specified. Each bag shall contain 50 pounds (22.7 kg) net, and shall be legibly marked with the manufacturer, specifications and type, lot number, and the month and year the glass beads were packaged.

Thermoplastic Compound:

(a) Characteristic Requirements:

- (1) In the plastic state, the material shall not give off fumes that are toxic or otherwise injurious to persons or property. The manufacturer shall provide material safety data sheets for the product.
- (2) The temperature versus viscosity characteristic of the plastic material shall remain constant and the material shall not deteriorate in any manner during reheating processes.
- (3) There shall be no obvious change in color of the material as a result of repeated heating or from batch to batch. The maximum elapsed time after application after which normal traffic will leave no impression or imprint on the new stripe shall be 30 seconds when the air and road surface temperature is approximately 70 ± 3 °F (21 ± 2 °C). After application and proper drying, the

material shall show no appreciable deformation or discoloration, shall remain free from tack, and shall not lift from the pavement under normal traffic conditions within a road temperature range of -20 to 150 °F (-28.9 to 65.6 °C). The stripe shall maintain its original dimensions and placement.

Cold ductility of the material shall be such as to permit normal dimensional distortion as a result of traffic impact within the temperature range specified.

- (4) The material shall provide a stripe that has a uniform thickness throughout its cross section and has the density and character to provide a sharp edge of the line.
- (5) The thermoplastic compound after heating for 4 hours \pm 5 min. at 375 \pm 3 °F (190.6 \pm 2 °C) and cooled at 77 °F (25 °C) shall meet the following requirements for daylight reflectance and color, when tested, using a color spectrophotometer with 45° circumferential / 0° geometry, illuminant C, and 2° 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.

White: Daylight Reflectance, 75 percent minimum

*Yellow: Daylight Reflectance, 45 percent minimum

*Shall match Federal Highway Color Tolerance Chart, PR Color No. 1.

- (6) Specific Gravity - the specific gravity of the thermoplastic material shall not exceed 2.15.
- (7) Softening Point - After heating the thermoplastic material for 4 hours \pm 5 min. at 375 \pm 3 °F (190.6 \pm 2 °C) and testing in accordance with ASTM E28, the material shall have a minimum softening point of 180 °F (82.2 °C) as measured by the ring and ball method.
- (8) Tensile Bond Strength - After heating the thermoplastic material for 4 hours \pm 5 min. at 375 °F (190.6 °C), the tensile bond strength to unprimed, sandblasted portland cement concrete block, 0.0625 inch (1.587 mm) thick film drawn-down 375 °F (190.6 °C), tested at 75 \pm 2 °F (23.9 \pm 1 °C) shall exceed 180 psi (1.24 Mpa) when tested in accordance with ASTM D4796-88.
- (9) Impact Resistance - After heating the thermoplastic material for 4 hours \pm 5 min at 375 \pm 3 °F (190.6 \pm 2 °C) the impact resistance shall be a minimum of 50 inch pounds (0.576 kilogram meters) with no cracks or bond loss when 0.0625 inch (1.587 mm) thick film drawdown is made at 375 °F (190.6 °C) on an unprimed sandblasted Portland cement concrete block, male indenter 5/8 inch (15.875 mm), no female Die, tested at 75 \pm 2 °F (23.9 \pm 1 °C) when tested in accordance with ASTM D2794 minimum.
- (10) Yellowness Index - The white thermoplastic material shall not exceed a yellowness index of 12 when tested in accordance with ASTM D1925.

(b) Identification

Each package of material shall be stenciled with the manufacturer's name, the type of material and IDOT specification number, the month and year the material was packaged and lot number. Lot numbers must begin with the last two digits of the year manufactured and be sequential with Lot 1. The letters and numbers used in the stencils shall be a minimum of 1/2 inch (12.7 mm) in height.

(c) Packaging

The thermoplastic material shall be packaged in suitable containers that will not adhere to the product during shipment and storage. The container of thermoplastic material shall weigh approximately 50 lbs (22.7 kg). Each container shall designate the color, binder (alkyd or hydrocarbon), spray and user information. The label shall warn the user that the material shall be heated in the range of 350 – 400 °F (177 – 204 °C).

(d) Storage Life

The material shall meet the requirements of this specification for a period of one year. The thermoplastic must also melt uniformly with no evidence of skins or unmelted particles for this one-year period. The manufacturer shall replace any material that does not meet the above requirements.

Sampling and Testing:

- (a) Unless otherwise provided, all materials shall be sampled and tested in accordance with the latest published standard methods of the American Society for Testing and Materials, and revisions thereof, in effect on the date of invitation for bids, where such standard methods exist. In case there are no ASTM Standards which apply, applicable standard methods of the American Association of State Highway Transportation Officials, or the Federal Government, or of other recognized standardizing agencies shall be used.
- (b) The right is reserved to inspect the material either at the place of manufacture or at the destination or at both places. If inspected at the place of manufacture, the manufacturer shall furnish such facilities as may be required for collecting and forwarding samples, and shall also furnish facilities for testing the material during the process of manufacture, if required. Tests will be made by and at the expense of the Department. All material samples for acceptance tests shall be taken or witnessed by a representative of the Bureau of Materials and Physical Research. All material samples shall be submitted to the Engineer of Materials and Physical Research, 126 East Ash Street, Springfield, Illinois 62704-4766 at least 30 days in advance of the pavement marking operations. Random check samples may be taken at the job site at the discretion of the Engineer.
- (c) The Engineer will test and approve the basic ingredients.

(d) The sample(s) shall be labeled with the lot number, date, quantity and any other pertinent information. Samples shall be submitted in the following manner:

(1) Ingredient Materials:

(a) Glass beads: At least three randomly selected bags or containers shall be obtained from each lot or shipment of glass beads. The content of each bag or container shall be passed through a large Riffle Sampler, thus splitting the material down until a representative 1-quart (1-liter) sample is obtained. The sample from each container shall be submitted for testing.

(b) Binder: One pint (0.5 liter).

(c) Pigments: One pint (0.5 liter).

(d) Filler: One pint (0.5 liter).

(2) Thermoplastic:

At least three randomly selected containers shall be obtained from each lot. A 10 pound (4.5 kg) composite sample of the three containers shall be submitted for testing and acceptance. The lot size shall be approximately 44,000 pounds (20,000 kg) unless the total order is less than this amount.

Manufacturer's Responsibility:

(a) The manufacturer shall perform tests on a minimum of one sample per 10,000 pounds (4,500 kg) of thermoplastic produced. Minimum tests required shall be a softening point determination and color. Manufacturer's test results shall be submitted along with the thermoplastic sample to the Bureau of Materials and Physical Research.

(b) The manufacturer shall retain the test sample for a minimum period of 18 months.

(c) The manufacturer shall furnish the Bureau of Materials and Physical Research with copies of bills of lading for all material inspected. Bills of lading shall indicate the consignee and destination, date of shipment, lot numbers, quantity, type of material, name and location of source.

Material Acceptance:

Final acceptance of a particular lot of thermoplastic will be based on the following:

(a) Compliance of ingredient materials with the specifications.

(b) Compliance of thermoplastic material with the specifications.

(c) Manufacturer's test results for each lot of thermoplastic have been received.

(d) Identification requirements are satisfactory.

Notification: The Contractor shall notify the Engineer 72 hours prior to the placement of the thermoplastic markings in order that an inspector can be present during the operation. At the time of this notification, the Contractor shall indicate the manufacturer and lot numbers of thermoplastic and glass beads that he intends to use. The Engineer will ensure that the approved lot numbers appear on the material package. Failure to comply with this provision may be cause for rejection.

Installation Requirements:

- (a) Before applying thermoplastic, the crack sealant shall be fully cured and hardened and the Contractor shall remove any dirt, glaze, grease, or any other material that would reduce the adhesion of the thermoplastic to the pavement.
- (b) This thermoplastic material shall be readily renewable by placing an overlay of new material directly over old markings of the same material. Such new material shall bond itself to the old markings in such a manner that no splitting or separation takes place. The contractor shall remove all existing material that might cause premature failure of the new material.
- (c) The thermoplastic material shall be installed in a molten state by the spray method at a minimum temperature of 350 °F (177 °C) and a maximum temperature of 400 °F (204 °C). Scorching or discoloration of material shall be cause for rejection by the Engineer. The machinery shall be constructed so that all mixing and conveying parts, up to and including the spray gun maintain the material in the molten state.
- (d) Thermoplastic pavement marking materials shall not be applied by the spray method when air and pavement surface temperatures are below 50 °F (10 °C) or when the surface of the pavement contains any evidence of moisture.
- (e) Unless directed by the Engineer, lines shall not be laid directly over a longitudinal crack or joint. The edge of the center line or lane line shall be offset a minimum distance of 2 inches (50 mm) from a longitudinal crack or joint. Edge lines shall be approximately 2 inches (50 mm) from the edge of pavement. The finished center and lane lines shall be straight, with the lateral deviation of any 10 foot (3 meter) line not to exceed 1 inch (25 mm).
- (f) A primer sealer of the type recommended by the manufacturer of the thermoplastic material shall be applied on all Portland concrete pavement surfaces, and if recommended by the manufacturer, on other types of pavement surface, prior to the installation of the thermoplastic material. The primer shall be free of solvent and water prior to the thermoplastic application.
- (g) The thermoplastic material shall be applied at a thickness of not less than 0.045 inch (1.143 mm), but in no case shall it exceed a thickness of 0.050 inch (1.27 mm). Finished lines shall be within a 1/4 inch (6.35 mm) of the width specified in the plans.

- (h) The Contractor shall place the thermoplastic markings with adequate drop on glass in accordance with the above requirements, uniformly applied to assure nighttime reflectivity. It shall be the Contractor's responsibility to use compatible combination of thermoplastic material and beads to preclude the surface beads from sinking deeply into the thermoplastic.
- (i) The thickness of the markings will be measured above the pavement surface at such random points as the Engineer selects to determine conformance to these specifications. If the measurements show less than 0.045 inch (1.143 mm), the Engineer will "chip" the edges of the markings at random points and measure the thickness of the chips to determine if the overall thickness of the markings is at least 0.045 inch (1.143 mm). If the overall thickness or the thickness above the pavement surface is substantially in conformance with the thickness requirements, payment will be made at 100 percent of the contract unit prices involved. When the thickness at a given location is less than 0.045 inch (1.143 mm), additional measurements will be taken on each side of such location at such intervals as the Engineer may select to determine the extent of the deficient portion of the marking. The Contractor shall then apply additional thermoplastic material and beads to bring the thickness of the markings to at least 0.045 inch (1.143 mm).

Equipment Requirements:

- (a) The application equipment used for placing lane and edge line on freeways shall be permanently mounted on a truck of sufficient size and stability to insure smooth, straight application. The truck shall be equipped to carry a minimum of 4,000 pounds (1800 kilograms) of molten thermoplastic. The equipment shall have the capability of automatically placing intermittent and continuous lines. The equipment shall be so constructed as to provide the various widths of pavement marking lines specified. The mounting shall be such as to allow the spray equipment to accurately follow road irregularities and produce lines of uniform dimensions.
- (b) The equipment used to install hot applied thermoplastic material shall provide continuous uniform heating to temperatures exceeding 400 °F (204 °C), mixing and agitation of the material. Conveying parts of the equipment between the main material reservoir and the dispensing device shall prevent accumulation and clogging. All parts of the equipment, which comes in contact with the material, shall be constructed for easy accessibility and exposure for cleaning and maintenance. The equipment shall operate so that all mixing and conveying parts including the line dispensing device, maintains the material at the plastic temperature. The use of pans, aprons, or similar devices to prevent die overruns will not be permitted.
- (c) Glass beads applied to the surface of the completed marking shall be applied by an automatic bead dispenser attached to the marking machine so that the beads are dispensed closely behind the installed marking. The glass bead dispenser shall be equipped with an automatic cut-off control synchronized with the cut-off of the thermoplastic material.

- (d) A special kettle shall be provided for uniformly melting and heating the thermoplastic material. The kettle must be equipped with an automatic thermostat control device and material thermometer for positive temperature control and to prevent overheating or under-heating of the material. The heating kettle and application equipment shall meet the requirements of the National Fire Underwriters and the National Fire Protection Association.
- (e) The Contractor shall provide an accurate temperature measuring device which shall be capable of measuring the pavement temperature prior to installation of the thermoplastic and the temperature of the molten thermoplastic material immediately after it is applied.

Inspection: The 45 mil hot spray thermoplastic pavement markings will be inspected following installation, but no later than November 1, and inspected following a winter performance period that extends 180 days from November 1 in accordance with the provisions of Article 780.10 of the Standard Specification.

Method of Measurement: Lines will be measured for payment in feet. Double yellow lines will be measured as two separate lines.

Basis of Payment: This work will be paid for at the contract unit prices per foot of applied line width for HOT SPRAY THERMOPLASTIC PAVEMENT MARKING – LINE of the width specified.

TRAFFIC SIGNAL GENERAL REQUIREMENTS

Effective: May 22, 2002

Revised: March 25, 2016

800.01TS

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

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

Definitions of Terms.

Add the following to Section 101 of the Standard Specifications:

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

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

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

Submittals.

Revise Article 801.05 of the Standard Specifications to read:

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

1. All material approval requests shall be made prior to or no later than the date of the preconstruction meeting. A list of major traffic signal items can be found in Article 801.05. Material or equipment which is similar or identical shall be the product of the

- same manufacturer, unless necessary for system continuity. Traffic signal materials and equipment shall bear the U.L. label whenever such labeling is available.
2. Product data and shop drawings shall be assembled by pay item. Only the top sheet of each pay item submittal will be stamped by the Department with the review status, except shop drawings for mast arm pole assemblies and the like will be stamped with the review status on each sheet.
 3. Original manufacturer published product data and shop drawing sheets with legible dimensions and details shall be submitted for review.
 4. When hard copy submittals are necessary, four complete copies of the manufacturer's descriptive literatures and technical data for the traffic signal materials shall be submitted. For hard copy or electronic submittals, the descriptive literature and technical data shall be adequate for determining whether the materials meet the requirements of the plans and specifications. If the literature contains more than one item, the Contractor shall indicate which item or items will be furnished.
 5. When hard copy submittals are necessary for structural elements, four complete copies of the shop drawings for the mast arm assemblies and poles, and the combination mast arm assemblies and poles showing, in detail, the fabrication thereof and the certified mill analyses of the materials used in the fabrication, anchor rods, and reinforcing materials shall be submitted.
 6. Partial or incomplete submittals will be returned without review.
 7. Certain non-standard mast arm poles and special structural elements will require additional review from IDOT's Central Office. Examples include ornamental/decorative, non-standard length mast arm pole assemblies and monotube structures. The Contractor shall account for the additional review time in his schedule.
 8. The contract number or permit number, project location/limits and corresponding pay code number must be on each sheet of correspondence, catalog cuts and mast arm poles and assemblies drawings.
 9. Where certifications and/or warranties are specified, the information submitted for approval shall include certifications and warranties. Certifications involving inspections, and/or tests of material shall be complete with all test data, dates, and times.
 10. After the Engineer reviews the submittals for conformance with the design concept of the project, the Engineer will stamp the drawings indicating their status as 'Approved', 'Approved-As-Noted', 'Disapproved', or 'Incomplete'. Since the Engineer's review is for conformance with the design concept only, it is the Contractor's responsibility to coordinate the various items into a working system as specified. The Contractor shall not be relieved from responsibility for errors or omissions in the shop, working, layout drawings, or other documents by the Department's approval thereof. The Contractor must still be in full compliance with contract and specification requirements.
 11. The Contractor shall secure approved materials in a timely manner to assure construction schedules are not delayed.
 12. All submitted items reviewed and marked 'APPROVED AS NOTED', 'DISAPPROVED', or 'INCOMPLETE' are to be resubmitted in their entirety, unless otherwise indicated within the submittal comments, with a disposition of previous comments to verify contract compliance at no additional cost to the contract.
 13. Exceptions to and deviations from the requirements of the Contract Documents will not be allowed. It is the Contractor's responsibility to note any deviations from Contract requirements at the time of submittal and to make any requests for deviations

in writing to the Engineer. In general, substitutions will not be acceptable. Requests for substitutions must demonstrate that the proposed substitution is superior to the material or equipment required by the Contract Documents. No exceptions, deviations or substitutions will be permitted without the approval of the Engineer.

14. Contractor shall not order major equipment such as mast arm assemblies prior to Engineer approval of the Contractor marked proposed traffic signal equipment locations to assure proper placement of contract required traffic signal displays, push buttons and other facilities. Field adjustments may require changes in proposed mast arm length and other coordination.

Marking Proposed Locations.

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

Add the following to Article 801.09 of the Standard Specifications:

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

Inspection of Electrical Systems.

Add the following to Article 801.10 of the Standard Specifications:

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

Maintenance and Responsibility.

Revise Article 801.11 of the Standard Specifications to read:

- a. Existing traffic signal installations and/or any electrical facilities at all or various locations may be altered or reconstructed totally or partially as part of the work on this Contract. The Contractor is hereby advised that all traffic control equipment, presently installed at these locations, may be the property of the State of Illinois, Department of Transportation, Division of Highways, County, Private Developer, Municipality or Transit Agency in which they are located. Once the Contractor has begun any work on any portion of the project, all traffic signals within the limits of this contract or those which have the item "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," shall become the full responsibility of the Contractor. The Contractor shall supply the Engineer, Area Traffic Signal Maintenance and Operations Engineer, IDOT ComCenter and the Department's Electrical Maintenance Contractor with two 24-hour emergency contact names and telephone numbers.

- b. Automatic Traffic Enforcement equipment such as red lighting running and railroad crossing camera systems are owned and operated by others and the Contractor shall not be responsible for maintaining this equipment.
- c. Regional transit, County and other agencies may also have equipment connected to existing traffic signal or peripheral equipment such as PTZ cameras, switches, transit signal priority (TSP and BRT) servers and other devices that shall be included with traffic signal maintenance at no additional cost to the contract.
- d. When the project has a pay item for “Maintenance of Existing Traffic Signal Installation,” “Temporary Traffic Signal Installation(s)” and/or “Maintenance of Existing Flashing Beacon Installation,” the Contractor must notify both the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 and the Department’s Electrical Maintenance Contractor, of their intent to begin any physical construction work on the Contract or any portion thereof. This notification must be made a minimum of seven (7) working days prior to the start of construction to allow sufficient time for inspection of the existing traffic signal installation(s) and transfer of maintenance to the Contractor. The Department will attempt to full-fill the Contractor’s inspection date request(s), however workload and other conditions may prevent the Department from accommodating specific dates or times. The Contractor shall not be entitled to any other compensation if the requested inspection date(s) cannot be scheduled by the Department. If work is started prior to an inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection. The Contractor will become responsible for repairing or replacing all equipment that is not operating properly or is damaged at no cost to the owner of the traffic signal. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted.
- e. The Contractor is advised that the existing and/or temporary traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shut down the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.
- f. The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals and other equipment noted herein. Any inquiry, complaint or request by the Department, the Department’s Electrical Maintenance Contractor or the public, shall be investigated and repairs begun within one hour. Failure to provide this service will result in liquidated damages of \$1000 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work

shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of \$1000 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. The Department may inspect any signaling device on the Department's highway system at any time without notification.

- g. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.
- h. The Contractor shall be responsible to clear snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment.
- i. The Contractor shall maintain the traffic signal in normal operation during short or long term loss of utility or battery back-up power at critical locations designated by the Engineer. Critical locations may include traffic signals interconnected to railroad warning devices, expressway ramps, intersection with an SRA route, critical corridors or other locations identified by the Engineer. Temporary power to the traffic signal must meet applicable NEC and OSHA guidelines and may include portable generators and/or replacement batteries. Temporary power to critical locations shall not be for separately but shall be included in the contract.

Damage to Traffic Signal System.

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

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

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

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

Traffic Signal Inspection (TURN-ON).

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

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

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

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

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

Upon demonstration that the signals are operating and all work is completed in accordance with the Contract and to the satisfaction of the Engineer, the Engineer will then allow the signals to be placed in continuous operation. The Agency that is responsible for the

maintenance of each traffic signal installation will assume the maintenance upon successful completion of this inspection.

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

Final Project Documentation:

1. Record Drawings. Signal plans of record with field revisions marked in red ink. One hard copy set of 11"x17" record drawings shall also be provided.
2. Inventory. Inventory of new and existing traffic signal equipment including cabinet types and devices within cabinets in an Excel spread sheet format. One hard copy shall also be provided.
3. Pictures. Digital pictures of a minimum 12M pixels of each intersection approach showing all traffic signal displays and equipment. Pictures shall include controller cabinet equipment in enough detail to clearly identify manufacture and model of major equipment.
4. Field Testing. Written notification from the Contractor and the equipment vendor of satisfactory field testing with corresponding material performance measurements, such as for detector loops and fiber optic systems (see Article 801.13). One hard copy of all contract required performance measurement testing shall also be provided.
5. Materials Approval. The material approval letter. A hard copy shall also be provided.
6. Manuals. Operation and service manuals of the signal controller and associated control equipment. One hard copy shall also be provided.
7. Cabinet Wiring Diagram and Cable Logs. Five (5) hard copies 11" x 17" of the cabinet wiring diagrams shall be provided along with electronic pdf and dgn files of the cabinet wiring diagram. Five hard copies of the cable logs and electronic excel files shall be provided with cable #, number of conductors and spares, connected device/signal head and intersection location.
8. Controller Programming Settings. The traffic signal controller's timings; backup timings; coordination splits, offsets, and cycles; TBC Time of Day, Week and Year Programs; Traffic Responsive Program, Detector Phase Assignment, Type and Detector Switching; and any other functions programmable from the keyboard. The controller manufacturer shall also supply a printed form, not to exceed 11" x 17" for recording that data noted above. The form shall include a location, date, manufacturer's name, controller model and software version. The form shall be approved by the Engineer and a minimum of three (3) copies must be furnished at each turn-on. The manufacturer must provide all programming information used within the controller at the time of turn-on.
9. Warrantees and Guarantees. All manufacturer and contractor warrantees and guarantees required by Article 801.14.
10. GPS coordinate of traffic signal equipment as describe in the Record Drawings section herein.

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

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

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

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

Record Drawings.

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

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

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

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

Add the following to Article 801.16 of the Standard Specifications:

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

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

Datum to be used shall be North American 1983.

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

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

Examples:

| Date | Item | Description | Latitude | Longitude |
|------------|-------------------------|---|-----------|------------|
| 01/01/2015 | MP (Mast Arm Pole) | NEQ, NB, Dual, Combination Pole | 41.580493 | -87.793378 |
| 01/01/2015 | HH (Handhole) | Heavy Duty, Fiber, Intersection, Double | 41.558532 | -87.792571 |
| 01/01/2015 | ES (Electrical Service) | Ground mount, Pole mount | 41.765532 | -87.543571 |
| 01/01/2015 | CC (Controller Cabinet) | | 41.602248 | -87.794053 |

Des Plaines River Trail Segment 3
 Forest Preserve District of Cook County
 Contract No. 61H87
 Section No. 17-00034-03-BT
 Cook County

| | | | | |
|------------|---------------------------------|--|-----------|------------|
| 01/01/2015 | RSC (Rigid Steel Crossing) | IL 31 east side crossing south leg to center HH at Klausen | 41.611111 | -87.790222 |
| 01/01/2015 | PTZ (PTZ) | NEQ extension pole | 41.593434 | -87.769876 |
| 01/01/2015 | POST (Post) | | 41.651848 | -87.762053 |
| 01/01/2015 | MCC (Master Controller Cabinet) | | 41.584593 | -87.793378 |
| 01/01/2015 | COMC (Communication Cabinet) | | 41.584600 | -87.793432 |
| 01/01/2015 | BBS (Battery Backup System) | | 41.558532 | -87.792571 |
| 01/01/2015 | CNCR (Conduit Crossing) | 4-inch IL 31 n/o of Klausen | 41.588888 | -87.794440 |

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

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

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

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

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

Locating Underground Facilities.

Revise Section 803 to the Standard Specifications to read:

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

The exact location of all utilities shall be field verified by the Contractor before the installation of any components of the traffic signal system. For locations of utilities, locally

owned equipment, and leased enforcement camera system facilities, the local Counties or Municipalities may need to be contacted: in the City of Chicago contact Digger at (312) 744-7000 and for all other locations contact J.U.L.I.E. at 1-800-892-0123 or 811.

Restoration of Work Area.

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

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

Bagging Signal Heads.

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

RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM

Effective: May 22, 2002

Revised: July 1, 2015

800.03TS

Description.

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

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

LEVEL II applies when improvements are made to an existing signalized intersection within an existing closed loop traffic signal system and detailed analysis of the intersection operation is desired by the engineer, or when a new signalized or existing signalized intersection is being added to an existing system, but optimization of the entire system is

not required. The purpose of this work is to optimize the subject intersection, while integrating it into the existing signal system with limited impact to the system operations. This item also includes an evaluation of the overall system operation, including the traffic responsive program.

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

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

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

(a) LEVEL I Re-Optimization

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

(b) LEVEL II Re-Optimization

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

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

Basis of Payment.

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

GROUNDING OF TRAFFIC SIGNAL SYSTEMS

Effective: May 22, 2002

Revised: July 1, 2015

806.01TS

Revise Section 806 of the Standard Specifications to read:

General.

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

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

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

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

4. Individual conductor splices in handholes shall be soldered and sealed with heat shrink. When necessary to maintain effective equipment grounding, a full cable heat shrink shall be provided over individual conductor heat shrinks.
- (c) The grounding electrode conductor shall be similar to the equipment grounding conductor in color coding (green) and size. The grounding electrode conductor is used to connect the ground rod to the equipment grounding conductor and is bonded to ground rods via exothermic welding, UL listed pressure connectors, and UL listed clamps.

UNDERGROUND RACEWAYS

Effective: May 22, 2002
Revised: July 1, 2015
810.02TS

Revise Article 810.04 of the Standard Specifications to read:

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

Add the following to Article 810.04 of the Standard Specifications:

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

Add the following to Article 810.04 of the Standard Specifications:

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

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

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

ROD AND CLEAN EXISTING CONDUIT

Effective: January 1, 2015

Revised: July 1, 2015

810.03TS

Description.

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

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

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

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

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

Basis of Payment.

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

MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION

General.

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

Maintenance.

1. The Contractor shall check all controllers every two (2) weeks, which will include visually inspecting all timing intervals, relays, detectors, and pre-emption equipment to ensure that they are functioning properly. The Contractor shall check signal system communications and phone lines to assure proper operation. This item includes, as routine maintenance, all portions of emergency vehicle pre-emption equipment. The Contractor shall maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs. Prior to the traffic signal maintenance transfer, the contractor shall supply a detailed maintenance schedule that includes dates, locations, names of electricians providing the required checks and inspections along with any other information requested by the Engineer.
2. The Contractor is advised that the existing and/or span wire traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shut down the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m.

on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.

3. The Contractor shall provide immediate corrective action when any part or parts of the system fail to function properly. Two far side heads facing each approach shall be considered the minimum acceptable signal operation pending permanent repairs. When repairs at a signalized intersection require that the controller be disconnected or otherwise removed from normal operation, and power is available, the Contractor shall place the traffic signal installation on flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer. The Contractor shall be required to place stop signs (R1-1-36) at each approach of the intersection as a temporary means of regulating traffic. When the signals operate in flash, the Contractor shall furnish and equip all their vehicles assigned to the maintenance of traffic signal installations with a sufficient number of stop signs as specified herein. The Contractor shall maintain a sufficient number of spare stop signs in stock at all times to replace stop signs which may be damaged or stolen.
4. The Contractor shall provide the Engineer with 2 (two) 24-hour telephone numbers for the maintenance of the traffic signal installation and for emergency calls by the Engineer.
5. Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of the Standard Specifications and these special provisions.
6. The Contractor shall respond to all emergency calls from the Department or others within one (1) hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the contract. The Contractor may institute action to recover damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the traffic signal installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the State's Electrical Maintenance Contractor perform the maintenance work. The Contractor shall be responsible for all of the State's Electrical Maintenance Contractor's costs and liquidated damages of \$1000 per day per occurrence. The State's Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The Contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor. The Contractor shall allow the Electrical Maintenance Contractor to make reviews of the Existing Traffic Signal Installation that has been transferred to the Contractor for Maintenance.
7. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.

8. Equipment included in this item that is damaged or not operating properly from any cause shall be replaced with new equipment meeting current District One traffic signal specifications and provided by the Contractor at no additional cost to the Contract and/or owner of the traffic signal system, all as approved by the Engineer. Final replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices outside the controller cabinet shall not be allowed.
9. The Contractor shall be responsible to clear snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment.
10. The Contractor shall maintain the traffic signal in normal operation during short or long term loss of utility or battery back-up power at critical locations designated by the Engineer. Critical locations may include traffic signals interconnected to railroad warning devices, expressway ramps, intersection with an SRA route, critical corridors or other locations identified by the Engineer. Temporary power to the traffic signal must meet applicable NEC and OSHA guidelines and may include portable generators and/or replacement batteries. Temporary power to critical locations shall not be paid for separately but shall be included in the contract.
11. Temporary replacement of damaged or knockdown of a mast arm pole assembly shall require construction of a full or partial span wire signal installation or other method approved by the Engineer to assure signal heads are located overhead and over traveled pavement. Temporary replacement of mast arm mount signals with post mount signals will not be permitted.

Basis of Payment.

This work will be paid for at the contract unit price per each for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION. Each intersection will be paid for separately.

ELECTRIC CABLE

Effective: May 22, 2002

Revised: July 1, 2015

873.01TS

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

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

Service cable may be single or multiple conductor cable.

PEDESTRIAN SIGNAL POST

Effective: January 1, 2020
875.02TS

Description.

This work shall consist of furnishing and installing a metal pedestrian signal post. All installations shall meet the requirements of the "District One Standard Traffic Signal Design Details".

Materials.

- a. General. The pedestrian signal post shall be designed to support the traffic signal loading shown on the plans. The design and fabrication shall be according to the Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, as published by AASHTO.
- b. Post. The post shall be made of steel or aluminum and have an outside diameter of 4 1/2 in. The post shall be threaded for assembly to the base. Aluminum posts shall be according to the specifications for Schedule 80 aluminum pipe. Steel posts shall be according to the specifications for Schedule 40 steel pipe.
- c. Base. The base of a steel post shall be cast iron. The base of an aluminum post shall be aluminum. The base shall be threaded for the attachment to the threaded post. The base shall be approximately 10 in. high and 6 3/4 in. square at the bottom. The bottom of the base shall be designed to accept four 5/8 in. diameter anchor rods evenly spaced in a 6 in. diameter circle. The base shall be true to pattern, with sharp clean cutting ornamentation, and equipped with access doors for cable handling. The door shall be fastened to the base with stainless steel screws. A grounding lug shall be provided inside the base.
- d. Anchor Rods. The anchor rods shall be 5/8 in. in diameter and 16 in. long and shall be according to Article 1006.09. The anchor rods shall be threaded approximately 6 in. at one end and have a bend at the other end. The first 12 in. at the threaded end shall be galvanized. One each galvanized nut and trapezoidal washer shall be furnished with each anchor rod. The washer shall be properly sized to fully engage and sit flush on all sides of the slot of the base plate.

The aluminum post and base shall be drilled at the third points around the diameter and 1/4 in. by 2 in. stainless steel bolts shall be inserted to prevent the post from turning and wobbling.

- e. Finish. The steel post, steel post cap and the cast iron base shall be hot-dipped galvanized according to AASHTO M 111. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with 851.01TS TRAFFIC SIGNAL PAINTING Special Provisions. If the post and the base are threaded after the galvanization, the bare exposed metal shall be immediately cleaned to remove all cutting solvents and oils, and then spray painted with two coats of an approved galvanized paint.

The aluminum post shall have a natural finish, 100 grit or finer.

Installation.

The pedestrian signal post shall be erected plumb, securely bolted to a concrete foundation, and grounded to a ground rod according to the details shown on the plans. No more than 3/4 in. of the post threads shall protrude above the base.

A post cap shall be furnished and installed on the top of the post. The post cap shall match the material of the post. The Contractor shall apply an anti-seize paste compound on all nuts and bolts prior to assembly.

Prior to the assembly, the Contractor shall apply two additional coats of galvanized paint on the threads of the post and the base. The Contractor shall use a fabric post tightener to screw the post to the base.

Basis of Payment.

This work will be paid for at the contract unit price per each for PEDESTRIAN SIGNAL POST, of the length specified.

CONCRETE FOUNDATION, PEDESTRIAN POST

Effective: April 1, 2019

Revised: November 1, 2020

878.03TS

This item shall follow Section 878. Traffic Signal Concrete Foundation of the Standard Specifications.

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

Basis of Payment.

This work will be paid for at the contract unit price per foot of depth of CONCRETE FOUNDATION, TYPE A 12-INCH DIAMETER.

LIGHT EMITTING DIODE (LED) PEDESTRIAN SIGNAL HEAD

Effective: May 22, 2002

Revised: July 1, 2015

881.01TS

Add the following to the third paragraph of Article 881.03 of the Standard Specifications:

No mixing of different types of pedestrian traffic signals or displays will be permitted.

Add the following to Article 881.03 of the Standard Specifications:

(a) Pedestrian Countdown Signal Heads.

- (1) Pedestrian Countdown Signal Heads shall not be installed at signalized intersections where traffic signals and railroad warning devices are interconnected.
- (2) Pedestrian Countdown Signal Heads shall be 16 inch (406mm) x 18 inch (457mm), for single units with glossy yellow or black polycarbonate housings. All pedestrian head housings shall be the same color (yellow or black) at the intersection. For new signalized intersections and existing signalized intersections where all pedestrian heads are being replaced, the proposed head housings shall be black. Where only selected heads are being replaced, the proposed head housing color (yellow or black) shall match existing head housings. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on.
- (3) Each pedestrian signal LED module shall be fully MUTCD compliant and shall consist of double overlay message combining full LED symbols of an Upraised Hand and a Walking Person. "Egg Crate" type sun shields are not permitted. Numerals shall measure 9 inches (229mm) in height and easily identified from a distance of 120 feet (36.6m).

Materials.

Add the following to Article 1078.02 of the Standard Specifications:

General.

1. The module shall operate in one mode: Clearance Cycle Countdown Mode Only. The countdown module shall display actual controller programmed clearance cycle and shall start counting when the flashing clearance signal turns on and shall countdown to "0" and turn off when the steady Upraised Hand (symbolizing Don't Walk) signal turns on. Module shall not have user accessible switches or controls for modification of cycle.
2. At power on, the module shall enter a single automatic learning cycle. During the automatic learning cycle, the countdown display shall remain dark.
3. The module shall re-program itself if it detects any increase or decrease of Pedestrian Timing. The counting unit will go blank once a change is detected and then take one complete pedestrian cycle (with no counter during this cycle) to adjust its buffer timer.
4. If the controller preempts during the Walking Person (symbolizing Walk), the countdown will follow the controller's directions and will adjust from Walking Person to flashing Upraised Hand. It will start to count down during the flashing Upraised Hand.
5. If the controller preempts during the flashing Upraised Hand, the countdown will continue to count down without interruption.
6. The next cycle, following the preemption event, shall use the correct, initially programmed values.

7. If the controller output displays Upraised Hand steady condition and the unit has not arrived to zero or if both the Upraised Hand and Walking Person are dark for some reason, the unit suspends any timing and the digits will go dark.
8. The digits will go dark for one pedestrian cycle after loss of power of more than 1.5 seconds.
9. The countdown numerals shall be two (2) "7 segment" digits forming the time display utilizing two rows of LEDs.
10. The LED module shall meet the requirements of the Institute of Transportation Engineers (ITE) LED purchase specification, "Pedestrian Traffic Control Signal Indications - Part 2: LED Pedestrian Traffic Signal Modules," or applicable successor ITE specifications, except as modified herein.
11. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.
12. In the event of a power outage, light output from the LED modules shall cease instantaneously.
13. The LEDs utilized in the modules shall be AllnGaP technology for Portland Orange (Countdown Numerals and Upraised Hand) and GaN technology for Lunar White (Walking Person) indications.
14. The individual LEDs shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

Basis of Payment.

Add the following to the first paragraph of Article 881.04 of the Standard Specifications:

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

Add the following to Article 881.04 of the Standard Specifications:

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

ACCESSIBLE PEDESTRIAN SIGNALS

Effective: April 1, 2003

Revised: July 1, 2015

888.02TS

Description.

This work shall consist of furnishing and installing pedestrian push button accessible pedestrian signals (APS) type. Each APS shall consist of an interactive vibrotactile pedestrian pushbutton with speaker, an informational sign, a light emitting diode (LED) indicator light, a solid state electronic control board, a power supply, wiring, and mounting hardware. The APS shall meet the requirements of the MUTCD and Sections 801 and 888 of the Standard Specifications, except as modified herein.

Electrical Requirements.

The APS shall operate with systems providing 95 to 130 VAC, 60 Hz and throughout an ambient air temperature range of -29 to +160 °F (-34 to +70 °C).

The APS shall contain a power protection circuit consisting of both fuse and transient protection.

Audible Indications.

A pushbutton locator tone shall sound at each pushbutton with volume settings a maximum of 5 dBA louder than ambient sound.

If two accessible pedestrian pushbuttons are placed less than 10 ft (3 m) apart or placed on the same pole, the audible walk indication shall be a speech walk message.

A clear, verbal message shall be used to communicate the pedestrian walk interval. This message shall sound throughout the WALK interval only. The verbal message shall be modeled after: "Street Name." Walk Sign is on to cross "Street Name." No other messages shall be used to denote the WALK interval.

Where two accessible pedestrian pushbuttons are separated by at least 10 ft (3 m), the walk indication shall be an audible percussive tone. It shall repeat at 8 to 10 ticks per second with a dominant frequency of 880 Hz.

Automatic volume adjustments in response to ambient traffic sound level shall be provided up to a maximum volume of 100 dBA. Locator tone and verbal messages shall be no more than 5 dB louder than ambient sound.

Pedestrian Pushbutton.

Pedestrian pushbuttons shall be at least 2 in. (50 mm) in diameter or width. The force required to activate the pushbutton shall be no greater than 3.5 lb (15.5 N).

A red LED indicator shall be located on or near the pushbutton which, when activated, acknowledges the pedestrians request to cross the street. The recorded messages and roadway designations shall be confirmed with the engineer and included with submitted product data.

Signage.

A sign shall be located immediately above the pedestrian pushbutton and parallel to the crosswalk controlled by the pushbutton. The sign shall be one of the following standard MUTCD designs: R10-3b, R10-3d, or R10-3e.



R10-3b



R10-3d



R10-3e

Tactile Arrow.

A tactile arrow, pointing in the direction of travel controlled by a pushbutton, shall be provided either on the pushbutton or its sign.

Vibrotactile Feature.

The pushbutton shall pulse when depressed and shall vibrate continuously throughout the WALK interval.

Training.

The Contractor shall provide APS onsite training for Department personnel and person(s) or group that requested the installation of the APS. APS features and operation shall be demonstrated during the training. The training shall be presented by the APS equipment supplier. Time, date, and location of the training and demonstration shall be coordinated with the Engineer.

Basis of Payment.

This work will be paid for at the contract unit price each for a pedestrian push button, ACCESSIBLE PEDESTRIAN SIGNALS type and shall include furnishing, installation, mounting hardware, message programming, and training.

REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT

Effective: May 22, 2002

Revised: July 1, 2015

895.02TS

Add the following to Article 895.05 of the Standard Specifications:

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

All equipment to be returned to the State shall be delivered by the Contractor to the State's Traffic Signal Maintenance Contractor's main facility. The Contractor shall contact the State's Electrical Maintenance Contractor to schedule an appointment to deliver the equipment. No equipment will be accepted without a prior appointment. All equipment shall be delivered within 30 days of removing it from the traffic signal installation. The Contractor shall provide one hard copy and one electronic file of a list of equipment that is to remain the property of the State, including model and serial numbers, where applicable. The Contractor shall also provide a copy of the Contract plan or special provision showing the quantities and type of equipment. Controllers and peripheral equipment from the same location shall be boxed together (equipment from different locations may not be mixed) and all boxes and controller cabinets shall be clearly marked or labeled with the location from which they were removed. If equipment is not returned according to these requirements, it will be rejected by the State's Electrical Maintenance Contractor. The Contractor shall be responsible for the condition of the traffic signal equipment from the time Contractor takes maintenance of the signal installation until the acceptance of a receipt drawn by the State's Electrical Maintenance Contractor indicating the items have been returned in good condition.

The Contractor shall safely store and arrange for pick up or delivery of all equipment to be returned to agencies other than the State. The Contractor shall package the equipment and provide all necessary documentation as stated above.

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

MODIFY EXISTING CONTROLLER AND CABINET

Description: This work shall consist of modifying the existing controller and cabinet to operate the proposed pedestrian pushbutton equipment. This includes making all necessary modifications to the controller as well as the controller cabinet including field wiring, hardware, and labor to achieve proper operation of the intersection's pushbuttons as shown on the plans.

General: The work shall be in accordance with Sections 857, 863, 873, and 895 of the Standard Specifications and shall include all necessary wiring, hardware, and modifications to the existing controller cabinet to implement the proposed scope of work as shown on the plans. All necessary materials, parts, and labor required for modifying the controller cabinet to accommodate proposed signal phasing including field wiring, shall be considered included in this pay item.

Basis of Payment: This work will be paid for at the contract unit price EACH for MODIFY EXISTING CONTROLLER AND CABINET, which price shall be payment in full for furnishing all materials, hardware, wiring, and labor required to modify the existing controller and cabinet necessary for proper operation of the intersection's pedestrian pushbutton equipment to the satisfaction of the Engineer.

TEMPORARY TRAFFIC SIGNAL TIMING

Effective: May 22, 2002

Revised: July 1, 2015

890.02TS

Description.

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

All timings and adjustments necessary for this work shall be performed by an approved Consultant who has previous experience in optimizing Closed Loop Traffic signal Systems for District One of the Illinois Department of Transportation. The Contractor shall contact the Traffic Signal Engineer at (847) 705-4424 for a listing of approved Consultants.

The following tasks are associated with TEMPORARY TRAFFIC SIGNAL TIMING.

- (a) Consultant shall attend temporary traffic signal inspection (turn-on) and/or detour meeting and conduct on-site implementation of the traffic signal timings.
- (b) Consultant shall be responsible for making fine-tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations.
- (c) Consultant shall provide monthly observation of traffic signal operations in the field.
- (d) Consultant shall provide on-site consultation and adjust timings as necessary for construction stage changes, temporary traffic signal phase changes, and any other conditions affecting timing and phasing, including lane closures, detours, and other construction activities.
- (e) Consultant shall make timing adjustments and prepare comment responses as directed by the Area Traffic Signal Operations Engineer.
- (f) Return original timing plan once construction is complete.

Basis of Payment.

The work shall be paid for at the contract unit price each for TEMPORARY TRAFFIC SIGNAL TIMING, which price shall be payment in full for performing all work described herein per intersection. When the temporary traffic signal installation is turned on and/or detour implemented, 50 percent of the bid price will be paid. The remaining 50 percent of the bid price will be paid following the removal of the temporary traffic signal installation and/or detour.

**IDOT TRAINING PROGRAM GRADUATE ON-THE-JOB TRAINING SPECIAL
PROVISION (TPG)**

Effective: August 1, 2012 Revised: February 2, 2017

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

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

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

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

Finally, the Contractor must maintain all records it creates as a result of participation in the Program on the Contract, and furnish periodic written reports to the IDOT District EEO Officer that document its contractual performance under and compliance with this Special Provision.

Finally, through participation in the Program and reimbursement of wages, the Contractor is not relieved of, and IDOT has not waived, the requirements of any federal or state labor or employment law applicable to TPG workers, including compliance with the Illinois Prevailing Wage Act.

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

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

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

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

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

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

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

SPECIAL PROVISION
FOR
INSURANCE

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

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

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

City of Chicago

Forest Preserve District of Cook County

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

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

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

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

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

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

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

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

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

| Density Verification Method | |
|-------------------------------------|--|
| <input type="checkbox"/> | Cores |
| <input checked="" type="checkbox"/> | Nuclear Density Gauge (Correlated when paving \geq 3,000 tons per mixture) |

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

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

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

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

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

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

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



Storm Water Pollution Prevention Plan

Print Form

Reset Form

| | | |
|---|-----------------------|---|
| Route <i>Des Plaines River Trail - Segment 3</i> | Marked Route | Section Number <i>17-00034-03-BT</i> |
| Project Number <i>BDEF(542)</i> | County <i>Cook</i> | Contract Number <i>61H87</i> |

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

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

| | |
|------------------------------------|---------------------------|
| Signature <i>Pamela Sielski</i> | Date <i>05/25/2022</i> |
|------------------------------------|---------------------------|

| | | |
|-------------------------------------|---|--|
| Print Name <i>Pamela Sielski</i> | Title <i>Landscape Architect/Project Mgr</i> | Agency <i>Forest Preserves of Cook County</i> |
|-------------------------------------|---|--|

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

I. Site Description:

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

The project involves work along the existing Des Plaines River Trail System between Lawrence Avenue and Bryn Mawr Avenue (from STA 294+00 to STA 367+14.8) in the Forest Preserves of Cook County, Illinois (Latitude: N 41° 58' 24"; Longitude: W 87° 51' 21"); Section: 10 & 15; Township: 40N; Range: 12E

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

The work to be performed under this contract consists of improvements to an existing multi-use trail (resurfacing & reconstruction). The existing trail alignment will be used to the extent practical. Work will be completed in four stages (plus a pre-stage [tree protection & removal]) and includes installation/maintenance of erosion & sediment control (ESC) practices; construction of culverts, underdrains & other drainage structures; excavation of existing path; haul away excess excavation/unsuitable material; placement of aggregate subgrade, base course, and surface course (hot mix asphalt or aggregate); furnish & place topsoil; construction of a pedestrian overpass at Lawrence Avenue; construction of a boardwalk; final stabilization; removal of ESC measures; and all incidental and collateral work necessary to complete the project as shown on the plans and described in the special provisions.

C. Provide the estimated duration of this project:

12 months

D. The total area of the construction site is estimated to be 4.0 acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is 1.1 acres.

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

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Pre-construction weighted C = 0.38; Post-construction weighted C = 0.49

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

- 69A - Milford Silty Clay Loam, 0 to 2 percent slopes (K factor = 0.24 - low susceptibility of soil erosion)
- 192A - Del Rey Silt Loam, 0 to 2 percent slopes (K factor = 0.43 - high susceptibility of soil erosion)
- 327B - Fox Silt Loam, 2 to 4 percent slopes (K factor = 0.37 - moderate susceptibility of soil erosion)
- 370B - Saylesville Silt Loam, 2 to 4 percent slopes (K factor = 0.43 - high susceptibility of soil erosion)
- 533 - Urban Land (K factor not listed)
- 696A/B - Zurich Silt Loam, 0 to 4 percent slopes (K factor = 0.37 - moderate susceptibility of soil erosion)
- 1107A - Sawmill Silty Clay Loam, Undrained, Frequently Flooded, 0 to 2 percent slopes (K factor = 0.37 - moderate susceptibility of soil erosion)
- 2811A - Urban Land-Anthropotic Udorthents Complex, 0 to 2 percent slopes (K factor not listed)
- 3451A - Lawson Silt Loam, Frequently Flooded, Brief Duration, 0 to 2 percent slopes (K factor = 0.32 - moderate susceptibility of soil erosion)

* K factor = soil erodibility factor

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

Twelve wetland/waters of the U.S. areas were identified in Segment 3. Total = 42.59+ ac (Wetland #8 = 0.07 ac; Wetland #9 = 0.08 ac; Wetland #10 = 0.03 ac; Wetland #11 = 0.01 ac; Wetland #12 = 0.01; Wetland #13 = 0.03 ac; Wetland #14 = 0.02 ac; Wetland #15 = 6.89+ ac; Wetland #16 = 0.24 ac; Wetland #17 = 0.08 ac; Wetland #18 = 10.89+ ac; Wetland #26 = 24.24+ ac). The project requires approximately 0.03 acre of permanent & 0.01 acre of temporary impacts to wetlands/waters of the U.S. Wetland/waters of the U.S. impacts associated with this project have been authorized by the U.S. Army Corps of Engineers (USACE) under Nationwide Permit 42 (02/09/2022).

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

Steep slopes (varying from approximately 1:1 to 2:1 [H:V]) are located adjacent to the west edge of the existing multi-use trail from approximately STA 323+00 to STA 333+00. These steep slopes are located along a section of trail that is to be resurfaced (i.e., no excavation/soil disturbance).

Potentially erosive areas associated with the project include idle, disturbed soils throughout the trail reconstruction portion of the project corridor (refer to Typical Sections and Plan & Profile Sheets). Based on the Soil Survey of Cook County, the soils throughout the project corridor are predominantly mapped as silt loams and silty clay loams. Based on the K factor (soil erodibility factor), the majority of the mapped soils are moderately to highly susceptible to erosion.

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

See Typical Sections, Construction Staging Details, Plan & Profile Sheets, Erosion and Sediment Control Plan, and Cross-Sections.

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

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

Forest Preserves of Cook County; Illinois Department of Transportation (IDOT); City of Chicago

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

IDOT; City of Chicago

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

Des Plaines River and Unnamed Tributaries (segments at project corridor are not listed as Biologically Significant Streams by IDNR): Des Plaines River is the ultimate receiving water

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

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

Sensitive environmental resources and areas of the site to be protected or to remain undisturbed are discussed in Section I.O below.

A 50-ft buffer will be provided where practicable and feasible. However, the project involves reconstructing and resurfacing an existing trail within Forest Preserve property - portions of which are located within wetland/stream buffer under existing conditions. The project requires permanent & temporary impacts to wetlands/waters of the U.S. The wetland/waters of the U.S. impacts associated with this project have been authorized by the USACE under Nationwide Permit 42 (02/09/2022). Off-site and preserved buffer areas will be protected by perimeter erosion barrier (including a double row of perimeter erosion barrier to meet buffer requirements, where necessary) and other Best Management Practices (BMPs) as discussed in this Storm Water Pollution Prevention Plan (SWPPP) and as shown on the Erosion and Sediment Control Plan.

A project goal/requirement was to avoid/minimize impacts to environmental (e.g., trees, wetlands, floodplain) and cultural resources located along the project corridor to the extent practical. This goal/requirement resulted in limited work space adjacent to the existing trail and limits structural BMP options. Therefore, vegetation removal, soil exposure, and staging construction activities will be coordinated as necessary to minimize idle, disturbed soils adjacent to buffer areas and wetlands/surface waters. Trail resurfacing is proposed between STA 319+87 and STA 334+00. This stretch of the project is adjacent to 100-year floodplain, floodway, the Des Plaines River/adjacent wetland, buffer, and relatively steep slopes. No soil excavation/soil disturbance is proposed within the trail resurfacing portion of the project.

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

Wetlands; the Des Plaines River and its tributaries; wetland/stream buffers; 100-year floodplain/riparian areas and floodway; trees; and highly erodible soils

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

Des Plaines River (AUID IL_G-15) is on the 2018 303(d) list (approved by the U.S. Environmental Protection Agency on 03/19/2021). Impairment causes include: chloride, mercury, dissolved oxygen (DO), polychlorinated biphenyls, sedimentation/siltation, fecal coliform, phosphorus (total), and loss of instream cover.

Note: The "Impaired Waters of Illinois Draft 2020/2022 Integrated Water Quality Report" was out for Public Notice (02/14/2022 to 03/16/2022).

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

Upstream and adjacent to the Des Plaines River, the Erosion and Sediment Control Plan includes perimeter erosion barrier, inlet filters, erosion control blanket, and temporary seeding to protect the receiving waters. The project involves reconstructing and resurfacing an existing trail within Forest Preserve property. A project goal/requirement was to avoid/minimize impacts to environmental (e.g., trees, wetlands, floodplain) and cultural resources located along the project corridor to the extent practical. This goal/requirement resulted in limited work

space adjacent to the existing trail and limits structural BMP options. Therefore, vegetation removal, soil exposure, and staging construction activities will be coordinated as necessary to minimize idle, disturbed soils +

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

Between the north project limits and approximately STA 319+64, the proposed improvements are located immediately adjacent to the Des Plaines River and its 100-year floodplain or floodway. The proposed improvements cross an Unnamed Tributary to the Des Plaines River at approximately STA 343+40, where an existing box culvert is to be removed during construction activities. Stormwater flows via surface runoff are anticipated to reach the Des Plaines River and its tributary along this portion of the project corridor. Additionally, within the project limits, proposed underdrain outlets will discharge to upland areas in the vicinity of the Des Plaines River at the following approximate locations: STA 319+97, STA 346+48, and STA 367+25. None of the proposed underdrain outlets directly discharge to the Des Plaines River (or its hydrologically connected/adjacent wetlands) +

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

Dewatering discharges are anticipated at the proposed Lawrence Avenue pedestrian overpass (approximate STA 296+90 to STA 302+50) and at the proposed boardwalk (including box culvert removal) (approximate STA 336+00 to STA 346+50). Contractor shall provide additional dewatering information per Part II.G below, as necessary. +

Applicable Federal, Tribal, State, or Local Programs

See Part II.F below.

Floodplain

Between the north project limits and approximately STA 319+64, the proposed improvements are located immediately adjacent to the Des Plaines River and its 100-year floodplain or floodway. Approximately 320-ft of the proposed trail crosses the Des Plaines River floodway and approximately 2,030-ft of the proposed trail crosses the 100-year floodplain. To minimize soil disturbance/impacts to wetland, surface waters, floodplain, and floodway, boardwalk is proposed from STA 336+00 to STA 346+50. Trail resurfacing is proposed between STA 319+87 and STA 334+00. This stretch of the project is adjacent to 100-year floodplain and floodway. No soil excavation/soil disturbance is proposed within the trail resurfacing portion of the project. Upstream and adjacent to the Des Plaines River floodplain and floodway, perimeter erosion barrier, erosion control blanket, and temporary seeding will be installed, as necessary. Refer to the Plan & Profile Sheets and the Erosion and Sediment Control Plan for additional information. +

Historic Preservation

In a memorandum dated, 11/17/2020, IDOT's Cultural Resources Unit made a "No Historic Properties Affected" finding pursuant to Section 106 of the National Historic Preservation Act. During Phase I coordination, it was determined that potential site impacts could be avoided through BMPs, including soil disturbance restrictions. BMPs have been incorporated into the Site Improvement Plans and Special Provisions, as necessary. +

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

TMDL (fill out this section if checked above)

The name(s) of the listed water body:

Not applicable - receiving waterbody stream segments do not have a 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:

Not applicable - receiving waterbody stream segments do not have a TMDL

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:

Not applicable - receiving waterbody stream segments do not have a TMDL

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

Based on the Natural Resources Review by IDOT, dated 01/05/2021, there will be no adverse effect by the project on State-listed threatened or endangered species or INAI sites. Additionally, IDOT determined that the proposed improvements are not likely to jeopardize the continued existence of any Federally listed threatened or

endangered species or result in the destruction or modification of any critical habitat. Segment 3 is not located within a nature preserve.

In a letter dated, 01/25/2022, IDNR also concluded that adverse effects to protected resources are unlikely. However, if tree clearing is necessary, IDNR recommends removing trees between November 1st and March

Other

Tree protection (e.g., root pruning and root preservation) shall be in accordance with the Site Improvement Plans, IDOT Standard Specifications, and Special Provisions.

Idle, disturbed highly erodible soils shall be stabilized in accordance with this SWPPP (see Section II below) and the Site Improvement Plans, including General Notes and Erosion and Sediment Control Plan.

Wetland

Twelve wetlands were identified throughout the Segment 3 project corridor (see Section I.G above). Wetlands will be protected during construction by using perimeter erosion barrier and high visibility fencing. See the Erosion and Sediment Control Plan, Plan & Profile Sheets, and General Notes.

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

- | | |
|--|---|
| <input checked="" type="checkbox"/> Antifreeze / Coolants | <input checked="" type="checkbox"/> Solid Waste Debris |
| <input checked="" type="checkbox"/> Concrete | <input checked="" type="checkbox"/> Solvents |
| <input checked="" type="checkbox"/> Concrete Curing Compounds | <input checked="" type="checkbox"/> Waste water from cleaning construction equipments |
| <input checked="" type="checkbox"/> Concrete Truck Waste | <input type="checkbox"/> Other (Specify) _____ |
| <input checked="" type="checkbox"/> Fertilizers / Pesticides | <input type="checkbox"/> Other (Specify) _____ |
| <input checked="" type="checkbox"/> Paints | <input type="checkbox"/> Other (Specify) _____ |
| <input checked="" type="checkbox"/> Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids) | <input type="checkbox"/> Other (Specify) _____ |
| <input checked="" type="checkbox"/> Soil Sediment | <input type="checkbox"/> Other (Specify) _____ |

II. Controls:

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

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

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

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

1. Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.
2. On areas where construction activity has temporarily ceased and will resume after fourteen (14) days, a temporary stabilization method can be used. The following stabilization practices will be used for this project:

- ¹²¹ Erosion Control Blanket / Mulching
- Geotextiles
- Permanent Seeding
- Preservation of Mature Seeding
- Protection of Trees
- Sodding
- Temporary Erosion Control Seeding

- Temporary Turf (Seeding, Class 7)
- Temporary Mulching
- Vegetated Buffer Strips
- Other (Specify) _____
- Other (Specify) _____
- Other (Specify) _____
- Other (Specify) _____

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

Trees/vegetation provide erosion control. Perimeter controls will protect trees and buffer areas located in the vicinity of construction activities. Construction activities shall be performed in a manner that limits the amount of exposed soil at any one time. Temporary stabilization measures (including erosion control blanket and temporary seed) shall be installed at idle, disturbed areas in accordance with the NPDES ILR10 permit and the Erosion and Sediment Control Plan.

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

Permanent seeding (installed with erosion control blanket) shall be used as a permanent erosion control measure.

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

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

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

- *Dust suppression shall be used to control dust and airborne dirt generated by the Contractor's construction activities. Dust control (if necessary) shall follow IDOT Standard Specifications.*
- *Dewatering filtering shall be used as necessary for excavation activities that encounter groundwater or other water that needs to be removed from the construction area. Dewatering shall follow the General Notes in the Site Improvement Plans and be in accordance with the NPDES ILR10 permit. Contractor shall provide additional dewatering information per Part II.G below, as necessary.*
- *Instream/wetland work will be performed in accordance with Nationwide Permit 42.*

- 122
- *Perimeter erosion barrier shall be installed at the perimeter of work areas, including where runoff sheet flows off site. Perimeter erosion barrier allows sediment to settle from runoff before storm water leaves the work area. Perimeter erosion barrier shall not be installed where sheet flow enters the construction site, unless directed by the Engineer. The work areas shall be graded as the project progresses to eliminate the concentration of runoff and/or appropriate sediment control devices shall be installed to trap sediment.*
 - *Existing culverts and existing inlets, catch basins, and manholes with open lids shall be protected with appropriate inlet protection to detain and/or filter sediment-laden runoff and allow sediment to settle. Proposed drainage structures shall be protected with inlet and outlet protection immediately following their construction and prior to receiving runoff from disturbed soils.*
 - *Stabilized construction entrance(s) shall be installed at ingress/egress points to reduce or eliminate the tracking*

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

- *Temporary sediment controls shall be removed after final stabilization of those portions of the site located upslope of the controls.*
- *A retaining wall shall be installed at the proposed Lawrence Avenue pedestrian overpass (approximate STA 296+90 to STA 302+50) and near STA 331+80 to hold sloping ground in place and to prevent the erosion and movement of soil.*
- *Rock outlet protection will be placed at discharge locations as necessary to provide a non-erosive velocity flow from the structure to a water course.*

D. Treatment Chemicals

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

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

Polymer flocculants or treatment controls are not proposed at this time. However, if during construction activities, it is determined that polymer flocculants or treatment chemicals are necessary to maintain permit compliance, the SWPPP shall be updated with the information at Section G below. The Contractor must obtain approval from the Engineer prior to the use of any proposed polymer flocculants or treatment chemicals.

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

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

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

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

Description of permanent storm water management controls:

Velocity dissipation device/rock outlet protection; Stormwater detention via coarse aggregate under the proposed multi-use trail with underdrain to a catch basin with restrictor

F. Approved State or Local Laws: The management practices, controls and provisions contained in this plan will be in accordance with IDOT specifications, which are at least as protective as the requirements contained in the IEPA's Illinois Urban Manual. Procedures and

requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials shall be described or incorporated by reference in the space provided below. Requirements specified in sediment and erosion site plans, site permits, storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI, to be authorized to discharge under the Permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

Description of procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials:

- *USACE Section 404 of the Clean Water Act permit (Nationwide Permit 42)*
- *IDNR - Office of Water Resources Part 3700 Floodway Construction Permit*
- *City of Chicago Stormwater Approval*
- *City of Chicago Harbor Permit*

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

1. The Contractor shall provide a construction schedule containing an adequate level of detail to show major activities with implementation of pollution prevention BMPs, including the following items:

- Approximate duration of the project, including each stage of the project
- Rainy season, dry season, and winter shutdown dates
- Temporary stabilization measures to be employed by contract phases
- Mobilization time-frame
- Mass clearing and grubbing/roadside clearing dates
- Deployment of Erosion Control Practices
- Deployment of Sediment Control Practices (including stabilized cons
 - Deployment of Construction Site Management Practices (including concrete washout facilities, chemical storage, refueling locations, etc.)
 - Paving, saw-cutting, and any other pavement related operations
 - Major planned stockpiling operation
 - Time frame for other significant long-term operations or activities that may plan non-storm water discharges as dewatering, grinding, etc
 - Permanent stabilization activities for each area of the project

2. During the pre-construction meeting, the Contractor and each subcontractor shall provide, as an attachment to their signed Contractor Certification Statement, a discussion of how they will comply with the requirements of the permit in regard to the following items and provide a graphical representation showing location and type of BMPs to be used when applicable:

- Temporary Ditch Checks - Identify what type and the source of Temporary Ditch Checks that will be installed as part of the project. The installation details will then be included with the SWPPP.
- Vehicle Entrances and Exits - Identify type and location of stabilized construction entrances and exits to be used and how they will be maintained.
- Material Delivery, Storage and Use - Discuss where and how materials including chemicals, concrete curing compounds, petroleum products, etc. will be stored for this project.
- Stockpile Management - Identify the location of both on-site and off-site stockpiles. Discuss what BMPs will be used to prevent pollution of storm water from stockpiles.
- Waste Disposal - Discuss methods of waste disposal that will be used for this project.
- Spill Prevention and Control - Discuss steps that will be taken in the event of a material spill (chemicals, concrete curing compounds, petroleum, etc.)
- Concrete Residuals and Washout Wastes - Discuss the location and type of concrete washout facilities to be used on this project and how they will be signed and maintained.
- Litter Management - Discuss how litter will be maintained for this project (education of employees, number of dumpsters, frequency of dumpster pick-up, etc.).
- Vehicle and Equipment Fueling - Identify equipment fueling locations for this project and what BMPs will be used to ensure containment and spill prevention.
- Vehicle and Equipment Cleaning and Maintenance - Identify where equipment cleaning and maintenance locations for this project and what BMPs will be used to ensure containment and spill prevention.
- Dewatering Activities - Identify the controls which will be used during dewatering operations to ensure sediments will not leave the construction site.
- Polymer Flocculants and Treatment Chemicals - Identify the use and dosage of treatment chemicals and provide the Resident Engineer with Material Safety Data Sheets. Describe procedures on how the chemicals will be used and identify who will be responsible for the use and application of these chemicals. The selected individual must be trained on the established procedures.
- Additional measures indicated in the plan.

III. Maintenance: ¹²⁴

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

All controls shall be maintained in good working order by the General Contractor or Subcontractor. If repair is warranted, it shall be completed as soon as possible. New control measures needed or controls needing repair or modification as a result of an inspection shall be implemented as soon as practical, but no later than seven (7) calendar days following the inspection. Requests for repairs to existing controls or new control measures requested by a Regulatory Agency shall be initiated within 24 hours.

- Inlet Protection: Remove sediment from inlet filter baskets when basket is 25% full or 50% of the fabric pores are covered with silt. Clean filter if standing water is present longer than one hour after a rain event. Clean sediment or replace silt fence when sediment accumulates to one-third the height of the fabric. Where there is evidence of sediment accumulation adjacent to the inlet protection device, remove the deposited sediment by the end of the same business day in which it is found or by the end of the following business day if removal by the same business day is not feasible. Remove trash accumulated around or on top of the inlet protection device. When filter is removed for cleaning, replace fabric if any tear is present.*
- Outlet Protection/Riprap: Restore dislodged protection and correct erosion that may occur. Remedy deficient areas prone to increased erosion immediately to prevent greater deficiencies.*
- Perimeter Erosion Barrier (PEB): Repair tears, gaps or undermining. Restore leaning PEB and ensure taut. Repair or replace any missing or broken stakes immediately. Clean PEB if sediment reaches one-third height of barrier. Remove PEB once final stabilization is established. Repair PEB if undermining occurs anywhere along its entire length.*
- Erosion Control Blanket: Repair damage due to water running beneath the blanket and restore blanket when displacement occurs. Reseeding may be necessary. Replace all displaced blanket and re-staple.*
- Seeding: Reapply seed if stabilization hasn't been achieved. Apply erosion control blanket (or alternative approved by Engineer) to hold seed in place if seed has been washed away or found to be concentrated in ditch bottoms. Restore rills as quickly as possible on slopes steeper than 1(V):4(H) to prevent sheet-flow from becoming concentrated flow patterns. Mow, if necessary, to promote seed soil contact when excessive weed development occurs. Supplement seed if weather conditions (extreme heat or cold) are not conducive to germination.*
- Temporary Stabilized Construction Entrances: Replenish stone or replace exit if vehicles continue to track sediment onto the roadway from the construction site. Any sediment reaching a public or private roadway shall be removed before the end of the work day or sooner if directed by the Engineer. Track out shall be removed by sweeping or shoveling these surfaces (or by using other similarly effective means of sediment removal approved by the Engineer). Hosing or sweeping tracked out sediment into any stormwater conveyance, storm drain inlet, or waters of the U.S. is prohibited. Ensure culverts (if provided) are free from damage and repair or replace as needed.*
- Stockpile Management: Repair and/or replace perimeter controls and stabilization measures when stockpile material has potential to be discharged or leave the limits of the protection. Remove all off-tracked material by sweeping or other methods. Update the SWPPP any time a stockpile location has been removed, relocated, added or required maintenance. During summer months, stockpiles should be watered to maintain the cover crop.*

- *Dewatering: Ensure proper operation and compliance with permits or water quality standards. Remove accumulated sediment from the flow area. Dispose of sediment in accordance with all applicable laws and regulations. Remove and replace dewatering bags (if used) when half full of sediment or when discharge rate is impractical. Immediately stop discharge if receiving areas show signs of cloudy water, erosion, or sediment accumulation.*
- *Temporary Concrete Washout: Do not discharge wastewater into the environment (Note: Acidity, not particulates, is environmentally detrimental). Facilitate evaporation of low volume washout water. Clean and remove any discharges within 24 hours of discovery. If effluent cannot be removed prior to anticipated rainfall event, place and secure a non-collapsing, non-water collecting cover over the washout facility to prevent accumulation and precipitation overflow. Replace damaged liner immediately. Remove washout when no longer needed and restore disturbed areas to original condition. Properly dispose of solidified concrete waste.*
- *Material Delivery and Storage: Document the various types of materials delivered and their storage locations in the SWPPP. Update the SWPPP any time significant changes occur to material storage or handling locations and when they have been removed. Clean-up spills immediately. Remove empty containers.*
- *Solid Waste Management: Designate a waste collection area(s) and identify them in the SWPPP. Inspect inlets, outfalls, and drainageways for litter, debris, containers, etc. Observe the construction site for improper waste disposal. Update the SWPPP any time the trash management plan significantly changes. Correct items discarded outside of designated areas.*
- *Vehicle and Equipment Fueling, Cleaning, and Maintenance: Clean-up spills immediately. Contractor must provide documentation that spills were cleaned, materials disposed of, and impacts mitigated. Update the SWPPP when designated location has been removed, relocated, added or requires maintenance. In the event of a spill into a storm drain, waterway or onto a paved surface, the owner of the fuel must immediately take action to contain the spill. Once contained, clean-up the spill. As an initial step, this may involve collecting any bulk material and placing it in a secure container for later disposal. Follow-up cleaning will also be required to remove residues from paved or other hard surfaces.*
- *Portable Restroom Facilities: Maintain in accordance with applicable laws to prevent unsanitary conditions. Check for leaks and remove and replace as needed.*

Additional information can be found in the IDOT Erosion and Sediment Control Field Guide and the Illinois Urban

IV. Inspections:

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

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

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

The Incidence of Non-Compliance shall be mailed to the following address:
Illinois Environmental Protection Agency

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Division of Water Pollution Control
Attn: Compliance Assurance Section
1021 North Grand East
Post Office Box 19276
Springfield, Illinois 62794-9276

V. Failure to Comply:

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



Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

Division of Water Pollution Control Notice of Intent (NOI) for General Permit to Discharge Storm Water Associated with Construction Site Activities

This fillable form may be completed online, a copy saved locally, printed and signed before it is submitted to the Permit Section at the above address.

For Office Use Only

OWNER INFORMATION

Company/Owner Name: Forest Preserves of Cook County

Permit No. ILR10 _____

Mailing Address: 536 N. Harlem Avenue

Phone: (708) 771-1355

City: River Forest State: IL Zip: 60305

Fax: _____

Contact Person: Pamela Sielski

E-mail: Pamela.sielski@cookcountyiil.gov

Owner Type (select one) Special District

MS4 Community: Yes No

CONTRACTOR INFORMATION

Contractor Name: _____

Mailing Address: _____

Phone: _____

City: _____ State: _____ Zip: _____

Fax: _____

CONSTRUCTION SITE INFORMATION

Select One: New Change of information for: ILR10 _____

Project Name: Des Plaines River Trail (DPRT), Segment 3

County: Cook

Street Address: DPRT (Lawrence Av-Bryn Mawr Av) City: Chicago

IL Zip: 60656

Latitude: 41 58 24 N Longitude: 87 51 21 W 10 & 15 4UN 14C
(Deg) (Min) (Sec) (Deg) (Min) (Sec) Section Township Range

Approximate Construction Start Date 2022-10-01

Approximate Construction End Date 2023-09-30

Total size of construction site in acres: 4.0

If less than 1 acre, is the site part of a larger common plan of development?

Yes No

Fee Schedule for Construction Sites:
Less than 5 acres - \$250
5 or more acres - \$750

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Has the SWPPP been submitted to the Agency? Yes No

(Submit SWPPP electronically to:)

Location of SWPPP for viewing: Address: _____

City: _____

SWPPP contact information:

Inspector qualifications: _____

Contact Name: _____

Phone: _____

Fax: _____

E-mail: _____

Project inspector, if different from above

Inspector qualifications: _____

Inspector's Name: _____

Phone: _____

Fax: _____

E-mail: _____

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed \$50,000 for the violation and an additional civil penalty of not to exceed \$10,000 for each day during which the violation continues (415 ILCS 5/42) and may also prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

TYPE OF CONSTRUCTION (select one)

Construction Type Reconstruction

SIC Code: 9512

Type a detailed description of the project:

Improvements to existing multi-use trail. Existing trail alignment will be used to extent practical. Work will be completed in four stages (plus pre-stage) and includes installation/maintenance of ESC practices; excavation of existing path; construction of drainage structures; haul away excess excavation/unsuitable material; placement of aggregate subgrade, base course, and surface course (hot mix asphalt or aggregate); furnish & place topsoil; construction of ped overpass at Lawrence Ave; construction of boardwalk; final stabilization; removal of ESC measures; and all incidental and collateral work necessary to complete the project as shown on the plans and described in the special provisions.



HISTORIC PRESERVATION AND ENDANGERED SPECIES COMPLIANCE

Has the project been submitted to the following state agencies to satisfy applicable requirements for compliance with Illinois law on:

Historic Preservation Agency Yes No

Endangered Species Yes No

RECEIVING WATER INFORMATION

Does your storm water discharge directly to: Waters of the State or Storm Sewer

Owner of storm sewer system: Illinois Department of Transportation; City of Chicago

Name of closest receiving water body to which you discharge: Des Plaines River and Unnamed Tributaries

Mail completed form to: Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Permit Section Post Office Box
19276 Springfield, Illinois 62794-9276
or call (217) 782-0610
FAX: (217) 782-9891

Or submit electronically to:

I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this 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. In addition, I certify that the provisions of the permit, including the development and implementation of a storm water pollution prevention plan and a monitoring program plan, will be complied with.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Pamela Sielski

Owner Signature:

Pamela Sielski
Printed Name:

05/25/2022

Date:

Landscape Architect/Project Manager
Title:



**DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, CHICAGO DISTRICT
231 SOUTH LA SALLE STREET, SUITE 1500
CHICAGO IL 60604-1437**

February 9, 2022

Regulatory Branch
LRC-2022-073

SUBJECT: Nationwide Permit Authorization for Segment 3, Des Plaines River Trail requiring 0.03 acre of permanent and 0.1 acre of temporary impacts to waters of the United States, located near Schiller Park between Bryn Mawr Avenue and Lawrence Avenue, Cook County, Illinois (Latitude 41.98021, Longitude -87.85583)

Ms. Pamela Sielski
Forest Preserve District of Cook County
536 North Harlem Avenue
River Forest, Illinois 60305

Dear Ms. Sielski:

This letter is in response to your pre-construction notification, dated January 26, 2022, submitted on your behalf by Christopher B. Burke Engineering Ltd., for the above-referenced project. We have determined that activities in waters of the U.S. associated with the project is authorized by Nationwide Permit (NWP) Number 42 (NWP 42 Recreational Facilities).

This determination covers only your project as described above and in the approved project plans titled, "Des Plaines River Trail Segment 3 Plan and Profile Sheets", dated 1/21/2022, , prepared by Terra Engineering Ltd. Caution must be taken to prevent construction materials and activities from impacting waters of the United States beyond the scope of this authorization. If the design, location, or purpose of the project is changed, you should contact this office to determine the need for further authorization.

The subject activity may be performed without further authorization from this office provided that the activity complies with the NWP terms and general conditions, the regional conditions for Illinois, and the Section 401 Water Quality Certification ("WQC") conditions added by the Illinois Environmental Protection Agency ("IEPA"). The NWP Program terms, general conditions, and regional conditions are listed in the enclosed NWP Summary. The WQC conditions are listed in the enclosed Fact Sheet.

Specifically, we wish to draw your attention to General Condition 21, which requires permittees to notify our office immediately in the event of discovery of previously unknown human remains, Native American cultural items, or archaeological artifacts; and a term of the NWP program, which states that NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

Please note that IEPA has issued Section 401 Water Quality Certification for this NWP. The conditions of this WQC are automatically conditions of this NWP verification and are included in the enclosed Fact Sheet. If you have any questions regarding Section 401 certification, please contact Ms. Hope Nation at IEPA's Division of Water Pollution Control, Permit Section #15, by telephone at (217) 785-6858.

This verification is valid until March 14, 2026, when NWP 42 is scheduled to be modified, reissued, or revoked. Furthermore, if you commence or are under contract to commence this activity before the date the NWP is modified, reissued, or revoked, you will have 12 months from the date of the modification, reissuance or revocation to complete the activity under the present terms and conditions. Failure to comply with the general and regional conditions of this NWP, or any project-specific special conditions of this authorization, may result in the suspension or revocation of your authorization.

Once you have completed the authorized activity, please sign and return the enclosed compliance certification as required by general condition 30. If you have any questions, please contact Ms. Brielle Cummings of this office by telephone at (312) 846-5545, or email at Brielle.K.Cummings@usace.army.mil.

Sincerely,

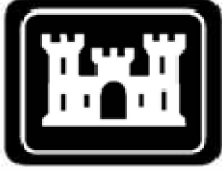
Diedra L. McLaurin

Diedra L. McLaurin
Team Leader
Regulatory Branch

Enclosures

cc:

Metropolitan Water Reclamation District of Greater Chicago (Maureen Durkin)
Christopher B. Burke Engineering, Ltd. (Thomas McArdle)



**PERMIT COMPLIANCE
CERTIFICATION**

Permit Number: LRC-2022-00073

Permittee: Pamela Sielski. Forest Preserve District of Cook County

Date of Verification: February 9, 2022

I hereby certify that the work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of said permit and if applicable, compensatory wetland mitigation was completed in accordance with the approved mitigation plan.¹

PERMITTEE

DATE

Within 30 days after completion of the activity authorized by this permit and any mitigation required by the permit, this certification must be signed and returned to the following address:

Email to: ChicagoRequests@usace.army.mil
Subject: Compliance Certification, LRC-2022-073

Please note that your permitted activity is subject to compliance inspections by Corps of Engineers representatives. If you fail to comply with this permit, you may be subject to permit suspension, modification, or revocation.

¹ If compensatory mitigation was required as part of your authorization, you are certifying that the mitigation area has been graded and planted in accordance with the approved plan. You are acknowledging that the maintenance and monitoring period will begin after a site inspection by a Corps of Engineers representative or after thirty days of the Corps' receipt of this certification. You agree to comply with all permit terms and conditions, including additional reporting requirements, for the duration of the maintenance and monitoring period.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-AGL-5600-OE

Issued Date: 04/22/2022

Aren Kriks
Forest Preserve District of Cook County
536 N. Harlem Ave.
River Forest, IL 60305

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

| | |
|------------|---|
| Structure: | Crane Bike Path Bridge Crane |
| Location: | Norridge, IL |
| Latitude: | 41-57-58.41N NAD 83 |
| Longitude: | 87-51-07.67W |
| Heights: | 628 feet site elevation (SE) 172 feet above ground level (AGL) 800 feet above mean sea level (AMSL) |

This aeronautical study revealed that the temporary structure does exceed obstruction standards but would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

****SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION****

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination did not include an evaluation of the permanent structure associated with the use of this temporary structure. If the permanent structure will exceed Title 14 of the Code of Federal Regulations, part 77.9, a separate aeronautical study and FAA determination is required.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (847) 294-7458, or fred.souchet@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-AGL-5600-OE

Signature Control No: 515545041-525383758

(TMP)

Fred Souchet
Specialist

Additional Condition(s) or Information for ASN 2022-AGL-5600-OE

Proposal: To construct and/or operate a(n) Crane to a height of 172 feet above ground level, 800 feet above mean sea level.

Location: The structure will be located 2.59 nautical miles east of ORD Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

At 800 AMSL, 4D, Chicago O'Hare Intl (ORD) Chicago, IL. ILS or LOC RWY 28C, ZUPTI FIX MINIMUMS, increase S-LOC 28C MDA.///RNAV (GPS) RWY 28C, increase LNAV MDA.///RNAV (GPS) RWY 28R, increase LNAV MDA.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, flags/red lights-Chapters 3(Marked),4,5(Red),14(Temporary),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

As a condition to this determination, the temporary structure must be lowered to the ground when not in use and during the hours between sunset and sunrise.

It is required that the FAA be notified 3 business days prior to the temporary structure being erected and again when the structure is removed from the site. Notification should be made to this office through your registered e-filing account. Notification is necessary so that aeronautical procedures can be temporarily modified to accommodate the structure.

NOTIFICATION IS REQUIRED AGAIN THROUGH YOUR REGISTERED E-FILING ACCOUNT WHEN THE TEMPORARY STRUCTURE IS REMOVED FROM THE SITE FOR NOTICE TO AIRMAN (NOTAM) CANCELLATION.

It is required that the manager of CHICAGO O'HARE INTL, (773) 686-8060 be notified at least 3 business days prior to the temporary structure being erected and again when the structure is removed from the site.

It is required that the manager of ORD Air Traffic Control Tower (ATCT) Manager (773)601-7660 or (773) 601-7866 be notified at least 3 business days prior to the temporary structure being erected and again when the structure is removed from the site. Additionally, please provide contact information for the onsite operator in the event that Air Traffic Control requires the temporary structure to be lowered immediately.

This determination expires on 04/22/2023 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-AGL-5599-OE

Issued Date: 04/22/2022

Aren Kriks
Forest Preserve District of Cook County
536 N. Harlem Ave.
River Forest, IL 60305

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Bridge Lawrence Avenue Bike Bridge
Location: Norridge, IL
Latitude: 41-57-58.41N NAD 83
Longitude: 87-51-07.67W
Heights: 628 feet site elevation (SE)
31 feet above ground level (AGL)
659 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
 Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 10/22/2023 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (847) 294-7458, or fred.souchet@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-AGL-5599-OE.

Signature Control No: 515545040-525382360

(DNE)

Fred Souchet
Specialist

Attachment(s)
Map(s)





Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

Uncontaminated Soil Certification by Licensed Professional Engineer or Licensed Professional Geologist for Use of Uncontaminated Soil as Fill in a CCDD or Uncontaminated Soil Fill Operation LPC-663

Revised in accordance with 35 Ill. Adm. Code 1100, as amended by PCB R2012-009 (eff. Aug. 27, 2012)

This certification form is to be used by professional engineers and professional geologists to certify, pursuant to 35 Ill. Adm. Code 1100.205(a)(1)(B), that soil (i) is uncontaminated soil and (ii) is within a pH range of 6.26 to 9.0. If you have questions about this form, please telephone the Bureau of Land Permit Section at 217/524-3300.

This form may be completed online, saved locally, printed and signed, and submitted to prospective clean construction or demolition debris (CCDD) fill operations or uncontaminated soil fill operations.

I. Source Location Information

(Describe the location of the source of the uncontaminated soil)

Project Name: Des Plaines River Trail Segment 3 Office Phone Number, if available: _____

Physical Site Location (address, including number and street):

Trail Segment 3 Between Bryn Mawr Avenue and Lawrence Avenue

City: Chicago State: IL Zip Code: _____

County: Cook Township: _____

Lat/Long of approximate center of site in decimal degrees (DD.ddddd) to five decimal places (e.g., 40.67890, -90.12345):

Latitude: 41.97425 Longitude: - 87.85604

(Decimal Degrees) (-Decimal Degrees)

Identify how the lat/long data were determined:

GPS Map Interpolation Photo Interpolation Survey Other

EPA Site Number(s), if assigned: BOL: _____ BOW: _____ BOA: _____

Approximate Start Date (mm/dd/yyyy): _____ Approximate End Date (mm/dd/yyyy): _____

Estimated Volume of debris (cu. Yd.): 3,000

II. Owner/Operator Information for Source Site

Site Owner

Name: Forest Preserve District of Cook County

Street Address: 536 N Harlem Ave

PO Box: _____

City: River Forest State: IL

Zip Code: _____ Phone: _____

Contact: _____

Email, if available: _____

Site Operator

Name: _____

Street Address: _____

PO Box: _____

City: _____ State: _____

Zip Code: _____ Phone: _____

Contact: _____

Email, if available: _____

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed \$50,000 for the violation and an additional civil penalty of not to exceed \$10,000 for each day during which the violation continues (415 ILCS 5/42). This form has been approved by the Forms Management Center.

III. Basis for Certification and Attachments

For each item listed below, reference the attachments to this form that provide the required information.

- a. A Description of the soil sample points and how they were determined to be sufficient in number and appropriately located 35 Ill. Adm. Code 1100.610(a):

Soil sampling points were selected based on the expected limits of proposed excavation and evenly spaced; Site historical documents including readily available Federal & State databases were reviewed to identify sampling points and adequacy.

- b. Analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to 35 Ill. Adm. Code Part 1100, Subpart F and that the soil pH is within the range of 6.25 to 9.0, including the documentation of chain of custody control, a copy of the lab analysis; the accreditation status of the laboratory performing the analysis; and certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the Agency's rules for the accreditation of environmental and the scope of the accreditation [35 Ill. Adm. Code 1100.201(g), 1100.205(a), 1100.610]:

Soils represented by samples BP-2 and BW-1, as indicated on the attached drawing are excluded from certification. Historical records, Analytical test results and chain of custody documentation are attached. pH of all samples was within the range of 6.26 and 9.0. Laboratory's accreditation is attached.


IV. Certification Statement, Signature and Seal of Licensed Professional Engineer or Licensed Professional Geologist

I, Sanjeev Bandi (name of licensed professional engineer or geologist) certify under penalty of law that the information submitted, including but not limited to, all attachments and other information, is to the best of my knowledge and belief, true, accurate and complete. In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil. I also certify that the soil pH is within the range of 6.25 to 9.0. In addition, I certify that the soil has not been removed from the site as part of a cleanup or removal of contaminants. All necessary documentation is attached.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

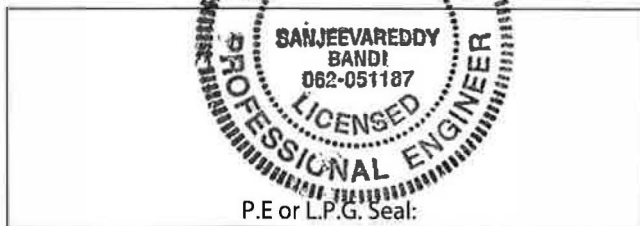
Company Name: Interra, Inc.
Street Address: 600 Territorial Drive, Suite G
City: Bolingbrook State: IL Zip Code: 60440
Phone: 630-754-8700

Sanjeev Bandi
Printed Name:



Licensed Professional Engineer or
Licensed Professional Geologist Signature:

Jul 9, 2021
Date:



ACCESSIBLE PEDESTRIAN SIGNALS (APS) (BDE)

Effective: April 1, 2003

Revised: January 1, 2022

Description. This work shall consist of furnishing and installing accessible pedestrian signals (APS). Each APS shall consist of an interactive vibrotactile pedestrian pushbutton with speaker, an informational sign, a light emitting diode (LED) indicator light, a solid-state electronic control board, a power supply, wiring, and mounting hardware. The APS shall meet the requirements of the MUTCD and Sections 801 and 888 of the Standard Specifications, except as modified herein.

Electrical Requirements. The APS shall operate with systems providing 95 to 130 VAC, 60 Hz and throughout an ambient air temperature range of -29 to +160 °F (-34 to +70 °C).

The APS shall contain a power protection circuit consisting of both fuse and transient protection.

Audible Indications. A pushbutton locator tone shall sound at each pushbutton and shall be deactivated during the associated walk indication and when associated traffic signals are in flashing mode. Pushbutton locator tones shall have a duration of 0.15 seconds or less and shall repeat at 1-second intervals. Each actuation of the pushbutton shall be accompanied by the speech message "Wait".

If two accessible pedestrian pushbuttons are placed less than 10 ft (3 m) apart or placed on the same pole, the audible walk indication shall be a speech walk message. This message shall sound throughout the WALK interval only. The verbal message shall be modeled after: "Street Name, Walk Sign is on to cross Street Name." For signalized intersections utilizing exclusive pedestrian phasing, the verbal message shall be "Walk sign is on for all crossings". In addition, a speech pushbutton information message shall be provided by actuating the APS pushbutton when the WALK interval is not timing. This verbal message shall be modeled after: "Wait. Wait to cross 'Street Name' at 'Street Name'".

Where two accessible pedestrian pushbuttons are separated by at least 10 ft (3 m), the walk indication shall be an audible percussive tone. It shall repeat at 8 to 10 ticks per second with a dominant frequency of 880 Hz.

Automatic volume adjustments in response to ambient traffic sound level shall be provided up to a maximum volume of 100 dBA. Locator tone and verbal messages shall be no more than 5 dB louder than ambient sound.

At locations with railroad interconnection, an additional speech message stating "Walk time shortened when train approaches" shall be used after the speech walk message. At locations with emergency vehicle preemption, an additional speech message "Walk time shortened when emergency vehicle approaches" shall be used after the speech walk message.

Pedestrian Pushbutton. Pedestrian pushbuttons shall be at least 2 in. (50 mm) in diameter or width. The force required to activate the pushbutton shall be no greater than 3.5 lb (15.5 N).

A red LED shall be located on or near the pushbutton which, when activated, acknowledges the pedestrians request to cross the street.

Signage. A sign shall be located immediately above the pedestrian pushbutton and parallel to the crosswalk controlled by the pushbutton. The sign shall conform to one of the following standard MUTCD designs: R10-3, R10-3a, R10-3e, R10-3i, R10-4, and R10-4a.

Tactile Arrow. A tactile arrow, pointing in the direction of travel controlled by a pushbutton, shall be provided on the pushbutton.

Vibrotactile Feature. The pushbutton shall pulse when depressed and shall vibrate continuously throughout the WALK interval.

Method of Measurement. This work will be measured for payment as each, per pushbutton.

Basis of Payment. This work will be paid for at the contract unit price per each for ACCESSIBLE PEDESTRIAN SIGNALS.

80099

AGGREGATE SUBGRADE IMPROVEMENT (BDE)

Effective: April 1, 2012

Revised: April 1, 2022

Add the following Section to the Standard Specifications:

“SECTION 303. AGGREGATE SUBGRADE IMPROVEMENT

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

303.02 Materials. Materials shall be according to the following.

| Item | Article/Section |
|--|-----------------|
| (a) Coarse Aggregate | 1004.07 |
| (b) Reclaimed Asphalt Pavement (RAP) | 1031.09 |

303.03 Equipment. The vibratory roller shall be according to Article 1101.01, or as approved by the Engineer. Vibratory machines, such as tampers, shall be used in areas where rollers do not fit.

303.04 Soil Preparation. The minimum immediate bearing value (IBV) of the soil below the improved subgrade shall be according to the Department’s “Subgrade Stability Manual” for the aggregate thickness specified.

303.05 Placing and Compacting. The maximum nominal lift thickness of aggregate gradations CA 2, CA 6, and CA 10 when compacted shall be 9 in. (225 mm). The maximum nominal lift thickness of aggregate gradations CS 1, CS 2, and RR 1 when compacted shall be 24 in. (600 mm).

The top surface of the aggregate subgrade improvement shall consist of a layer of capping aggregate gradations CA 6 or CA 10 that is 3 in. (75 mm) thick after compaction. Capping aggregate will not be required when aggregate subgrade improvement is used as a cubic yard pay item for undercut applications.

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

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

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

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

Add the following to Section 1004 of the Standard Specifications:

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

(a) Description. The coarse aggregate shall be crushed gravel, crushed stone, or crushed concrete. In applications where greater than 24 in. (600 mm) of ASI material is required, gravel may be used below the top 12 in (300 mm) of ASI.

(b) Quality. The coarse aggregate shall consist of sound durable particles reasonably free of deleterious materials.

(c) Gradation.

(1) The coarse aggregate gradation for total ASI thickness less than or equal to 12 in. (300 mm) shall be CA 2, CA 6, CA 10, or CS 1.

The coarse aggregate gradation for total ASI thickness greater than 12 in. (300 mm) shall be CS 1 or CS 2 as shown below or RR 1 according to Article 1005.01(c).

| COARSE AGGREGATE SUBGRADE GRADATIONS | | | | | |
|--------------------------------------|--------------------------------|--------|---------|---------|---------|
| Grad No. | Sieve Size and Percent Passing | | | | |
| | 8” | 6” | 4” | 2” | #4 |
| CS 1 | 100 | 97 ± 3 | 90 ± 10 | 45 ± 25 | 20 ± 20 |
| CS 2 | | 100 | 80 ± 10 | 25 ± 15 | |

| COARSE AGGREGATE SUBGRADE GRADATIONS (Metric) | | | | | |
|---|--------------------------------|--------|---------|---------|---------|
| Grad No. | Sieve Size and Percent Passing | | | | |
| | 200 mm | 150 mm | 100 mm | 50 mm | 4.75 mm |
| CS 1 | 100 | 97 ± 3 | 90 ± 10 | 45 ± 25 | 20 ± 20 |
| CS 2 | | 100 | 80 ± 10 | 25 ± 15 | |

(2) Capping aggregate shall be gradation CA 6 or CA 10.”

Add the following to Article 1031.09 of the Standard Specifications:

“(b) RAP in Aggregate Subgrade Improvement (ASI). RAP in ASI shall be according to Articles 1031.01(a), 1031.02(a), 1031.06(a)(1), and 1031.06(a)(2), and the following.

- (1) The testing requirements of Article 1031.03 shall not apply.
- (2) Crushed RAP used for the lower lift may be mechanically blended with aggregate gradations CS 1, CS 2, and RR 1 but it shall be no greater than 40 percent of the total product volume. RAP agglomerations shall be no greater than 4 in. (100 mm).
- (3) For capping aggregate, well graded RAP having 100 percent passing the 1 1/2 in. (38 mm) sieve may be used when aggregate gradations CS 1, CS 2, CA 2, or RR 1 are used in the lower lift. FRAP will not be permitted as capping material.

Blending shall be through calibrated interlocked feeders or a calibrated blending plant such that the prescribed blending percentage is maintained throughout the blending process. The calibration shall have an accuracy of ± 2.0 percent of the actual quantity of material delivered.”

80274

BLENDED FINELY DIVIDED MINERALS (BDE)

Effective: April 1, 2021

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

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

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

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

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

80436

COMPENSABLE DELAY COSTS (BDE)

Effective: June 2, 2017

Revised: April 1, 2019

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Add the following to Section 109 of the Standard Specifications.

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

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

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

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

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

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

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

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

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

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

80384

CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)

Effective: June 1, 2010

Revised: November 1, 2014

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

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

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

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

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

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

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

device manufacturer that the emission control device provides a minimum PM emission reduction of 50 percent.

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

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

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

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

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

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

Diesel Retrofit Deficiency Deduction

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

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

If a Contractor accumulates three diesel retrofit deficiency deductions for the same piece of equipment in a contract period, the Contractor will be shutdown until the deficiency is corrected.

Such a shutdown will not be grounds for any extension of the contract time, waiver of penalties, or be grounds for any claim.

80261

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)

Effective: September 1, 2000

Revised: March 2, 2019

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

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

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

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

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

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

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

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. The determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates, in the absence of unlawful discrimination and in an arena of fair and open competition, DBE companies can be expected to perform 13.00 % of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will only award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set for in this Special Provision:

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

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

<http://www.idot.illinois.gov/doing-business/certifications/disadvantaged-business-enterprise-certification/il-ucp-directory/index>.

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

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

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

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

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

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

bidder has failed to meet the requirements of this Special Provision or that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification will also include a statement of reasons for the adverse determination. If the Utilization Plan is not approved because it is deficient as a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no more than a five calendar day period to cure the deficiency.

- (c) The bidder may request administrative reconsideration of an adverse determination by emailing the Department at "DOT.DBE.UP@illinois.gov" within the five calendar days after the receipt of the notification of the determination. The determination shall become final if a request is not made on or before the fifth calendar day. A request may provide additional written documentation or argument concerning the issues raised in the determination statement of reasons, provided the documentation and arguments address efforts made prior to submitting the bid. The request will be reviewed by the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person to consider all issues of documentation and whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten working days after receipt of the request for reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

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

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

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

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

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

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

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

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

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

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

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

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

made on the contract until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.

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

80029

PORTLAND CEMENT CONCRETE – HAUL TIME (BDE)

Effective: July 1, 2020

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

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

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

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

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

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

80430

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:

$$\text{Percent Difference} = \{(MPI_L - MPI_M) \div MPI_L\} \times 100$$

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) Furnishing Metal Pile Shells 12 in. (305 mm), 0.250 in. (6.35 mm) wall thickness) Furnishing Metal Pile Shells 14 in. (356 mm), 0.250 in. (6.35 mm) wall thickness) Other piling | 23 lb/ft (34 kg/m) 32 lb/ft (48 kg/m) 37 lb/ft (55 kg/m) 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 Steel Plate Beam Guardrail, Type B w/steel posts Steel Plate Beam Guardrail, Types A and B w/wood posts Steel Plate Beam Guardrail, Type 2 Steel Plate Beam Guardrail, Type 6 Traffic Barrier Terminal, Type 1 Special (Tangent) Traffic Barrier Terminal, Type 1 Special (Flared) | 20 lb/ft (30 kg/m) 30 lb/ft (45 kg/m) 8 lb/ft (12 kg/m) 305 lb (140 kg) each 1260 lb (570 kg) each 730 lb (330 kg) each 410 lb (185 kg) each |
| Steel Traffic Signal and Light Poles, Towers and Mast Arms Traffic Signal Post Light Pole, Tenon Mount and Twin Mount, 30 - 40 ft (9 - 12 m) Light Pole, Tenon Mount and Twin Mount, 45 - 55 ft (13.5 - 16.5 m) Light Pole w/Mast Arm, 30 - 50 ft (9 - 15.2 m) Light Pole w/Mast Arm, 55 - 60 ft (16.5 - 18 m) Light Tower w/Luminaire Mount, 80 - 110 ft (24 - 33.5 m) Light Tower w/Luminaire Mount, 120 - 140 ft (36.5 - 42.5 m) Light Tower w/Luminaire Mount, 150 - 160 ft (45.5 - 48.5 m) | 11 lb/ft (16 kg/m) 14 lb/ft (21 kg/m) 21 lb/ft (31 kg/m) 13 lb/ft (19 kg/m) 19 lb/ft (28 kg/m) 31 lb/ft (46 kg/m) 65 lb/ft (97 kg/m) 80 lb/ft (119 kg/m) |
| Metal Railings (excluding wire fence) Steel Railing, Type SM Steel Railing, Type S-1 Steel Railing, Type T-1 Steel Bridge Rail | 64 lb/ft (95 kg/m) 39 lb/ft (58 kg/m) 53 lb/ft (79 kg/m) 52 lb/ft (77 kg/m) |
| Frames and Grates Frame Lids and Grates | 250 lb (115 kg) 150 lb (70 kg) |

80127

SUBCONTRACTOR AND DBE PAYMENT REPORTING (BDE)

Effective: April 2, 2018

Add the following to Section 109 of the Standard Specifications.

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

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

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

80397

SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)

Effective: November 2, 2017

Revised: April 1, 2019

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

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

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

80391

TRAINING SPECIAL PROVISIONS (BDE)

Effective: October 15, 1975

Revised: September 2, 2021

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

20338

WEEKLY DBE TRUCKING REPORTS (BDE)

Effective: June 2, 2012

Revised: November 1, 2021

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

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

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

80302

WORK ZONE TRAFFIC CONTROL DEVICES (BDE)

Effective: March 2, 2020

Add the following to Article 701.03 of the Standard Specifications:

“(q) Temporary Sign Supports 1106.02”

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

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

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

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

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

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

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

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

Category 3 includes devices that are expected to cause significant velocity changes or other potentially harmful reactions to impacting vehicles. These include crash cushions (impact

attenuators), truck mounted attenuators, and other devices not meeting the definitions of Category 1 or 2. Category 3 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 3 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2029. Category 3 devices shall be crash tested for Test Level 3 or the test level specified.

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

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

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

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

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

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

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

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

80427

WORKING DAYS (BDE)

Effective: January 1, 2002

The Contractor shall complete the work within 85 working days.

80071

HIGH LOAD MULTI-ROTATIONAL BEARINGS

Effective: October 13, 1988

Revised: April 30, 2021

Description. This work shall consist of furnishing and installing High Load Multi-Rotational type bearing assemblies at the locations shown on the plans.

High Load Multi-Rotational (HLMR) bearings shall be one of the following at the Contractors option unless otherwise noted on the plans:

- a) Pot Bearings. These bearings shall be manufactured so that the rotational capability is provided by an assembly having a rubber disc of proper thickness, confined in a manner so it behaves like a fluid. The disc shall be installed, with a snug fit, into a steel cylinder and confined by a tight fitting piston. The outside diameter of the piston shall be no more than 0.03 in. (750 microns) less than the inside diameter of the cylinder at the interface level of the piston and rubber disc. The sides of the piston shall be beveled. PTFE sheets, or silicone grease shall be utilized to facilitate rotation of the rubber disc. Suitable brass sealing rings shall be provided to prevent any extrusion between piston and cylinder.
- b) Shear Inhibited Disc Type Bearing. The Structural Element shall be restricted from shear by the pin and ring design and need not be completely confined as with the Pot Bearing design. The disc shall be a molded monolithic Polyether Urethane compound.

These bearings shall be further subdivided into one or more of the following types:

- 1) Fixed. These allow rotation in any direction but are fixed against translation.
- 2) Guided Expansion. These allow rotation in any direction but translation only in limited directions.
- 3) Non-Guided Expansion. These allow rotation and translation in any direction.

The HLMR bearings shall be of the type specified and designed for the loads shown on the plans. The design of the top and bottom bearing plates are based on detail assumptions which are not applicable to all suppliers and may require modifications depending on the supplier chosen by the Contractor. The overall depth dimension for the HLMR bearings shall be as specified on the plans. The horizontal dimensions shall be limited to the available bearing seat area. Any modifications required to accommodate the bearings chosen shall be submitted to the Engineer for approval prior to ordering materials. Modifications may include the addition of steel filler plates or the adjustment of beam seat elevations. Adjustments to bridge seat elevations and accompanying reinforcement details shall be approved by the Structural Engineer of record. Modifications required shall be made at no additional cost to the State. Inverted pot bearing configurations will not be permitted.

The Contractor shall comply with all manufacturer's material, fabrication and installation requirements specified.

All bearings shall be supplied by prequalified manufacturers. The Department will maintain a list of prequalified manufacturers. The Contractor's options are limited to those systems prequalified by the Department on the date that the contract is bid.

Submittals. Shop drawings shall be submitted to the Engineer for approval according to Article 105.04 of the Standard Specifications. All steel filler plate details shall be included in the shop drawings. In addition the Contractor shall furnish certified copies of the bearing manufacturer's test reports on the physical properties of the component materials for the bearings to be furnished and a certification by the bearing manufacturer stating the bearing assemblies furnished conform to all the requirements shown on the plans and as herein specified. Submittals with insufficient test data and supporting certifications will be rejected.

Materials. The materials for the HLMR bearing assemblies shall be according to the following:

- (a) Elastomeric Materials. The rubber disc for Pot bearings shall be according to Article 1083.02(a) of the Standard Specifications.
- (b) Polytetrafluoroethylene (PTFE) Material. The PTFE material shall be according to Article 1083.02(b) of the Standard Specifications, except that it shall be dimpled lubricated with a maximum coefficient of friction of 0.02 on stainless steel. The friction requirement shall be as specified in the Long Term Deterioration Test required for prequalification and the Sliding Friction Test as specified below.
- (c) Stainless Steel Sheets: The stainless steel sheets shall be of the thickness specified and shall be according to Article 1083.02(c).
- (d) Structural Steel. All structural steel used in the bearing assemblies shall be according to AASHTO M 270, Grade 50 (M 270M Grade 345), unless otherwise specified.
- (e) Threaded studs. The threaded stud, when required, shall conform to the requirements of Article 1083.02(d)(4) of the Standard Specifications.

- (f) Polyether Urethane for Disc bearings shall be according to all of the following requirements:

| PHYSICAL PROPERTY | ASTM TEST METHOD | REQUIREMENTS | |
|---|------------------|--------------------------|--------------------------|
| | | | |
| Hardness, Type D durometer | D 2240 | 45 Min | 65 Max |
| Tensile Stress, psi (kPa) At 100% elongation, min | D 412 | 1500 psi (10,350 kPa) | 2300 psi (15,900 kPa) |
| Tensile Stress, psi (kPa) At 200% elongation, min | D 412 | 2800 psi (19,300 kPa) | 4000 psi (27,600 kPa) |
| Tensile Strength, psi (kPa), min | D 412 | 4000 psi (27,600 kPa) | 6000 psi (41,400 kPa) |
| Ultimate Elongation, %, min | D 412 | 350 | 220 |
| Compression Set 22 hr. at 158 °F (70 °C), Method B %, max | D 395 | 40 | 40 |

The physical properties for a durometer hardness between the minimum and maximum values shown above shall be determined by straight line interpolation.

Design. The fabricator shall design the HLMR bearings according to the appropriate AASHTO Design Specifications noted on the bridge plans.

Fabrication. The bearings shall be complete factory-produced assemblies. They shall provide for rotation in all directions and for sliding, when specified, in directions as indicated on the plans. All bearings shall be furnished as a complete unit from one manufacturing source. All material used in the manufacture shall be new and unused with no reclaimed material incorporated into the finished assembly.

The translation capability for both guided and non-guided expansion bearings shall be provided by means of a polished stainless steel sliding plate that bears on a PTFE sheet bonded and recessed to the top surface of the piston or disc. The sliding element of expansion bearings shall be restrained against movement in the fixed direction by exterior guide bars capable of resisting the horizontal forces or 20 percent of the vertical design load on the bearing applied in any direction, whichever is greater. The sliding surfaces of the guide bar shall be of PTFE sheet and stainless steel. Guiding off of the fixed base, or any extension of the base, will not be permitted.

Structural steel bearing plates shall be fabricated according to Article 505.04(l) of the Standard Specifications. Prior to shipment the exposed edges and other exposed portions of the structural steel bearing plates shall be cleaned and given a corrosion protection coating as specified on the plans and according to the applicable Special Provisions and Articles 506.03

and 506.04 of the Standard Specifications. During cleaning and coating the stainless steel, PTFE sheet and neoprene shall be protected from abrasion and coating material.

PTFE sheets shall be bonded to steel under factory controlled conditions using heat and pressure for the time required to set the epoxy adhesive used. The PTFE sheet shall be free from bubbles and the sliding surface shall be burnished to an absolutely smooth surface.

The steel piston and the steel cylinder for pot bearings shall each be machined from a solid piece of steel. The steel base cylinder shall be either integrally machined, recessed into with a snug fit, or continuously welded to its bottom steel bearing plate.

Packaging. Each HLMR bearing assembly shall be fully assembled at the manufacturing plant and delivered to the construction site as complete units. The assemblies shall be packaged, crated or wrapped so the assemblies will not be damaged during handling, transporting and shipping. The bearings shall be held together with removable restraints so sliding surfaces are not damaged.

Centerlines shall be marked on both top and base plates for alignment in the field. The bearings shall be shipped in moisture-proof and dust-proof covers.

Performance Testing. The following performance tests are required per lot on the project. A lot size shall be the number of bearings per type (fixed, guided expansion, non-guided expansion) on the project, but not to exceed 25 bearings per type. When multiple sizes of bearings are used on the same contract, they shall be grouped by type when determining lot sizes and amount of bearings to be tested. All tests shall be performed by the manufacturer prior to shipment.

Dimension Check. Each bearing shall be checked dimensionally to verify all bearing components are within tolerances. Failure to satisfy any dimensional tolerance shall be grounds for rejecting the bearing component or the entire bearing assembly.

Clearance Test. This test shall be performed on one bearing per lot. The bearing selected for this test shall be the one with the least amount of clearance based on the dimension check. The bearing assembly shall be loaded to its service limit state rated capacity at its full design rotation but not less than 0.02 radians to verify the required clearances exist. This test shall be performed twice for each bearing with the rotation oriented longitudinally with the bridge once in each direction. Any visual signs of rubbing or binding shall be grounds for rejection of the lot.

Proof Load Test. This test shall be performed on one bearing per lot. The bearing assembly shall be load tested to 150 percent of the service limit state rated capacity at a rotation of 0.02 radians. The load shall be maintained for 5 minutes, removed then reapplied for 5 minutes. If the load drops below the required value during either application, the test shall be restarted from the beginning. This test shall be performed twice for each bearing with the rotation oriented longitudinally with the bridge once in each direction.

The bearing shall be visually examined both during the test and upon disassembly after the test. Any resultant visual defects include, but are not limited to:

1. Extruded or deformed elastomer, polyether urethane, or PTFE.
2. Insufficient clearances such as evidence of metal to metal contact between the pot wall and the top plate.
3. Damaged components such as cracked steel, damaged seal rings, or damaged limiting rings.
4. Bond failure.

If any of the above items are found it shall be grounds for rejection of the lot.

Sliding Friction Test. For expansion bearings, this test shall be performed on one bearing per lot. The sliding surfaces shall be thoroughly cleaned with a degreasing solvent. No lubrication other than that specified for the bearing shall be used. The bearing shall be loaded to its service limit state rated capacity for 1 hour prior to and throughout the duration of the sliding test. At least 12 cycles of plus and minus sliding with an amplitude equaling the smaller of the design displacement and 1 inch (25 mm) shall then be applied. The average sliding speed shall be between 0.1 inch and 1.0 inches (2.5 mm and 25 mm) per minute. The sliding friction coefficient shall be computed for each direction of each cycle and its mean and standard deviation shall be computed for the sixth through twelfth cycles.

The friction coefficient for the first movement and the mean plus two standard deviations for the sixth through twelfth cycles shall not exceed the design value used. In addition, the mean value for the sixth through twelfth cycles shall not exceed 2/3 of the design value used. Failure of either of these shall result in rejection of the lot.

The bearing shall also be visually examined both during and after the testing, any resultant defects, such as bond failure, physical destruction, or cold flow of the PTFE shall also be cause for rejection of the lot.

The Contractor shall furnish a notarized certification from the bearing manufacturer stating the HLMR bearings have been performance tested as specified, and a purchase order prior to fabrication. The purchase order shall contain, as a minimum, the quantity and size of each type of bearing furnished. The notarized certifications and the purchase order shall be submitted in one package to the Engineer of Tests at the Bureau of Materials and Physical Research (126 East Ash Springfield, IL 62704). The Department reserves the right to perform any of the specified tests on one or more of the furnished bearings. If the tested bearing shows failure it shall be replaced and the remaining bearings shall be similarly tested for acceptance at the Contractor's expense.

The manufacturer shall furnish samples of component materials used in the bearings, for testing by the Department, to the Engineer of Tests at the Bureau of Materials and Physical Research (126 East Ash Springfield, IL 62704). The required components shall be those components of

HLMR bearings that are consistent with elastomeric bearing components according to Article 1083.04 of the Standard Specifications.

Installation. The HLMR bearings shall be erected according to Article 521.05 of the Standard Specifications.

Exposed edges and other exposed portions of the structural steel plates shall be field painted as specified for Structural Steel.

Basis of Payment. This work will be paid for at the contract unit price each for HIGH LOAD MULTI-ROTATIONAL BEARINGS, FIXED; HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION; or HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION of the load rating specified.

When the fabrication and erection of HLMR bearings is accomplished under separate contracts, the applicable requirements of Article 505.09 shall apply.

Fabricated HLMR bearings and other materials complying with the requirements of this item, furnished and accepted, will be paid for at the contract unit price each for FURNISHING HIGH LOAD MULTI-ROTATIONAL BEARINGS, FIXED, FURNISHING HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION or FURNISHING HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION of the load rating specified.

Storage and care of fabricated HLMR bearings and other materials complying with the requirements of this item by the Fabrication Contractor beyond the specified storage period, will be paid for at the contract unit price per calendar day for STORAGE OF HIGH LOAD MULTI-ROTATIONAL BEARINGS if a pay item is provided for in the contract, or will be paid for according to Article 109.04 if a pay item is not provided in the contract.

HLMR bearings and other materials fabricated under this item erected according to the requirements of the specifications, and accepted, will be paid for at the contract unit price each for ERECTING HIGH LOAD MULTI-ROTATIONAL BEARINGS, FIXED, ERECTING HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION or ERECTING HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION of the load rating specified.

PEDESTRIAN TRUSS SUPERSTRUCTURE

Effective: January 13, 1998

Revised: October 23, 2020

Description: This work shall consist of the design, fabrication, storage, delivery and erection of a welded steel, pedestrian truss superstructure. Also included in this work shall be the furnishing and installation of a deck, all bearings, anchors and/or retainers, railings, fencing and miscellaneous items as indicated on the plans.

Materials:

Truss. Structural steel shall conform to the requirements of Section 1006 of the Standard Specifications, ASTM A847 for cold formed welded square and rectangular tubing, AASHTO M270 Grade 50W (M270M 345W) for atmospheric corrosion resistant structural steel, as applicable, unless otherwise shown on the plans or approved by the Engineer. All structural steel field connections shall be bolted with high strength bolts. High strength bolts for unpainted weathering steel shall conform to ASTM A325 (A325M) (Type 3). For painted structures, the high strength bolts shall be mechanically galvanized according to the requirements of Article 1006.08(a) of the Standard Specifications.

Deck. The deck type shall be as specified on the plans. The materials shall comply with the applicable portions of the materials section of the Standard Specifications.

When specified for use, the concrete deck and stay-in-place forms shall be non composite. Metal Forms shall have a minimum thickness of 0.0359 in. (912 microns) or 20 Gage and shall be galvanized per ASTM A653 (A653M) with a G165 (Z350) min. coating designation.

Railing. The railing shall consist of a smooth rub rail, a toe plate and misc. elements, all located on the inside face of the truss.

Bearings. The bearing shall be designed and furnished as detailed in the plans, in the absence of details, the bearings details shall be as specified by the bridge manufacturer.

When specified for use, elastomeric bearings shall be according to Article 1083 of the Standard Specifications. Teflon surfaces shall be per Article 1083.02(b) of the Standard Specification and shall be bonded to the bearing plate.

Suppliers. The Department maintains a pre-qualified list of proprietary structural systems allowed for pedestrian truss superstructures. This list can be found on the Departments web site under Prequalified Structural Systems. The Contractor's options are limited to those systems pre-qualified by the Department on the date that the project is bid. These systems have been reviewed for structural feasibility and adequacy only. Presence on this list shall in no case relieve the Contractor of the site-specific design or QC/QA requirements stated herein.

The manufacturer shall provide evidence of current certification by AISC according to Article 106.08(b) of the Standard Specifications.

Design: The superstructure shall conform to the clear span, clear width, and railing configuration shown on the contract plans. The design shall be according to the LRFD Guide Specifications for the Design of Pedestrian Bridges. The design loads shall be as specified by the Guide Specification except as follows:

| Design Wind Loads (P_z) for Pedestrian Trusses in Illinois | | |
|--|-----------|--|
| Application | psf (kPa) | Applied to: |
| Circular Members | 35 (1.68) | Projected vertical area of member |
| Flat Members | 55 (2.63) | Projected vertical area of member |
| Signs | 35 (1.68) | Projected vertical area of sign |
| Chain Link Fencing | 10 (0.48) | Full projected area of fencing as if solid |

The railings shall be designed per the appropriate Bridge Design Specifications for bicycle railings as shown on the plans. Smooth rub rails shall be attached to the bicycle railing and located at a bicycle handlebar height of 3.5 ft. (1.1 m) above the top of the deck.

Prior to beginning construction or fabrication, the Contractor shall submit design calculations and six sets of shop drawings for each pedestrian bridge to the Engineer for review and approval. In addition, for bridges with any span over 150 ft. (46 m), or over a State or Federal Route, or within the States Right-of-Way, a copy of the shop drawings will be reviewed and approved for structural adequacy, by the Bureau of Bridges and Structures prior to final approval of shop drawings. The shop drawings shall include all support reactions for each load type. The following certification shall be placed on the first sheet of the bridge shop plans adjacent to the seal and signature of the Structural Engineer:

“I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans and complies with the requirements of the Contract and the current ‘Guide Specifications for Design of Pedestrian Bridges’.”

The substructure is designed per the appropriate Bridge Design Specifications and based on the assumed truss loads, as shown on the plans. If the manufacturer’s design exceeds those loads and/or the substructure needs to be adjusted to accommodate the truss superstructure chosen, then the Contractor shall submit the redesign to the Engineer for approval prior to ordering any material or starting construction. All design calculations, shop drawings and redesigned substructure drawings shall be sealed by a Structural Engineer licensed in the State of Illinois.

Construction: Truss erection procedures shall be according to the manufacturer’s instructions. The deck shall be placed according to the applicable Sections of the Standard Specifications.

When weathering steel is used, all structural steel shall be prepared according to Article 506.07.

When painting is specified, all structural steel shall be cleaned and painted according to Section 506. The paint system and color of the finish coat shall be as specified in the plans.

Method of Measurement: The pedestrian truss superstructure will be measured in square feet (square meters) of completed and accepted structure measured horizontally from back to back of abutments and within the clear path width as defined on the plans.

Basis of Payment: The pedestrian superstructure will be paid for at the contract unit price per square foot (square meter) for PEDESTRIAN TRUSS SUPERSTRUCTURE.

ERECTION OF CURVED STEEL STRUCTURES

Effective: June 1, 2007

Description: In addition to the requirements of Article 505.08(e), the following shall apply.

The Contractor or sub-Contractor performing the erection of the structural steel is herein referred to as the Erection Contractor.

Erection Plan: The Erection Contractor shall retain the services of an Illinois Licensed Structural Engineer, experienced in the analysis and preparation of curved steel girder erection plans, for the completion of a project-specific erection plan. The structural engineer, herein referred to as the Erection Engineer, shall sign and seal the erection plan, drawings, and calculations for the proposed erection of the structural steel.

The erection plan shall be complete in detail for all phases, stages, and conditions anticipated during erection. The erection plan shall include structural calculations and supporting documentation necessary to completely describe and document the means, methods, temporary support positions, and loads necessary to safely erect the structural steel in conformance with the contract documents and as outlined herein. The erection plans shall address and account for all items pertinent to the steel erection including such items as sequencing, falsework, temporary shoring and/or bracing, girder stability, crane positioning and movement, means of access, pick points, girder shape, permissible deformations and roll, interim/final plumbness, cross frame/diaphragm placement and connections, bolting and anchor bolt installation sequences and procedures, and blocking and anchoring of bearings. The Erection Contractor shall be responsible for the stability of the partially erected steel structure during all phases of the steel erection.

The erection plans and procedures shall be submitted to the Engineer for review and acceptance prior to starting the work. Review, acceptance and/or comments by the Department shall not be construed to guarantee the safety or final acceptability of the work or compliance with all applicable specifications, codes, or contract requirements, and shall neither relieve the Contractor of the responsibility and liability to comply with these requirements, nor create liability for the Department. Significant changes to the erection plan in the field must be approved by the Erection Engineer and accepted by the Engineer for the Department.

Basis of Payment: This work shall not be paid for separately but shall be included in the applicable pay items according to Article 505.13 of the Standard Specifications.

HOT DIP GALVANIZING FOR STRUCTURAL STEEL

Effective: June 22, 1999

Revised: October 20, 2017

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.

To insure 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 insure 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. After galvanizing and prior to shipping, contact surfaces for any bolted connections shall be roughened by hand wire brushing or according to SSPC-SP7 (Brush-Off Blast Cleaning). Power wire brushing is not allowed.

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 BRIDGE JOINT SEAL

Effective: December 21, 2016

Revised: October 23, 2020

Description. This work shall consist of furnishing all labor, equipment and materials necessary to prepare the joint opening and install preformed bridge joint seal(s) at the locations specified. Unless otherwise detailed on the plans or specified herein, the maximum rated movement for this joint type is 4 inches (100 mm).

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

- (a) 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 transition assemblies fabricated to the angle(s) specified on the plans. 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 G155-00A |
| Density of Cellular Polyurethane Foam (Unconfined) | 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 |

(b) Preformed 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 |

- (a) 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 |
| Color | Black | Visual |

**Table 2
Physical Properties of the V-Epoxy-R**

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

| 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.

(d) 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 insure 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 preformed joint seal will be measured for payment in feet (meters) measured along the centerline of joint, from out to out of the deck, no measurement will be made for joint material used to turn up into the parapet, sidewalk, or median.

Basis of Payment. The preformed bridge joint seal will be paid for at the contract unit price per foot (meter) for PREFORMED JOINT SEAL, of the design movement specified, rounded to the nearest half inch (13 mm).

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

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

ATTACHMENTS

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

I. GENERAL

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

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

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

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

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

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

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

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

II. NONDISCRIMINATION

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

6. Training and Promotion:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

III. NONSEGREGATED FACILITIES

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

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

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

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

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

1. Minimum wages

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

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

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

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

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

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

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

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

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

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

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

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

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

2. Withholding

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

3. Payrolls and basic records

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

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

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

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

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

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice

performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one

and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

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

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

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

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of

Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of

Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

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

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

Contract Provision - Cargo Preference Requirements

In accordance with Title 46 CFR § 381.7 (b), the contractor agrees—

“(1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.”

Provisions (1) and (2) apply to materials or equipment that are acquired solely for the project. The two provisions do not apply to goods or materials that come into inventories independent of the project, such as shipments of Portland cement, asphalt cement, or aggregates, when industry suppliers and contractors use these materials to replenish existing inventories.

