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June 12, 2020 Letting

Notice to Bidders, Specifications and Proposal

Contract No. 46538
Various Counties
Section STWDE FRWY SIGN MAINT 20-26
Various Routes
District TR Construction Funds

Prepared by

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Checked by

(Printed by authority of the State of Illinois)

Illinois Department of Transportation

NOTICE TO BIDDERS

1. **TIME AND PLACE OF OPENING BIDS.** Electronic bids are to be submitted to the electronic bidding system (iCX-Integrated Contractors Exchange). All bids must be submitted to the iCX system prior to 12:00 p.m. June 12, 2020 prevailing time 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. 46538
   Various Counties
   Section STWDE FRWY SIGN MAINT 20-26
   Various Routes
   District TR Construction Funds

Repair, maintenance or replacement of damaged sign components, furnishing overhead sign structures or repairs, installing new signs or supports on a work order basis throughout the entire state.

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

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

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

By Order of the
Illinois Department of Transportation

Omer Osman,
Acting Secretary

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2020

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

SUPPLEMENTAL SPECIFICATIONS

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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STATE OF ILLINOIS

SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction," adopted April 1, 2016, the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," and the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids, and the Supplemental Specifications and Recurring Special Provisions indicated on the Check Sheet included herein which apply to and govern the construction of Various Routes, Section STWDE FRWY SIGN MAINT 20-26, Various Counties, Contract No. 46538 and in case of conflict with any part or parts of said Specifications, the said Special Provisions shall take precedence and shall govern.

LOCATION OF IMPROVEMENT

The work to be done under this contract will be primarily on freeways, interstates and major arterials throughout the State, although work may be required to be done on other State-maintained highways at various locations.

COMPLETION DATE

All work on this contract shall be completed on or before **December 30, 2026**. Should the Contractor fail to complete all work by December 30, 2026, the Contractor shall be liable in accordance with Article 108.09 with of the Standard Specifications.

DESCRIPTION OF IMPROVEMENTS

The work shall consist of repairing or replacing damaged sign components, furnishing, or furnishing and installing new signs and supports or replacing damaged overhead sign structure components, end supports at locations described in a work order

WORK ORDERS

No work of any kind is to be performed by the Contractor, unless a work order authorizing work has been issued by the Traffic Operations Engineer. A work order will show the date of issue, job number, location, code number(s), pay item(s), quantity of such pay item, and total cost. Only the amount of replacement or repairs shown on the work order is to be done by the Contractor. If at the time repairs are being made, it appears that additional work is needed, a revised work order must be obtained. The contractor will be responsible for all final field measurements prior to fabrication on all work orders. **The Contractor shall notify the District Contact at least 72 hours before beginning any work in the field and shall obtain permission to begin such work.**

It shall be the contractor’s responsibility to verify all dimensions and conditions existing in the field prior to construction and ordering materials.

Some work orders may require that the Contractor complete the work outlined in the work order during a districts night-time hours.

Any damaged signs, supports, structures or structure components being replaced shall become the property of the contractor and this shall be reflected in the unit price of pay items.

Except as noted below, the Contractor shall complete all the work required on a work order within **75 days** after the date of issue of the work order or its revision unless otherwise extended in the work order or agreed in writing between the Contractor and the Engineer.

Unless otherwise extended on an individual work order the erection of existing sign panels shall be accomplished within **30 days**. Where sign panels are to be installed on new steel posts or a combination of new and existing steel posts, or on an overhead sign truss, where truss repairs are involved, and the Contractor cannot meet the 30-day deadline, the Contractor will be allowed to install the sign on temporary wood posts within the same 30-day period. The Contractor shall then have 45 additional days in which to fabricate and install the new steel posts, any required foundations, effect any truss repairs and re-erect the sign panel on the new posts or on the repaired truss.

The repair or re-erection of a signpost(s), where no new post(s) is involved, and the erection of an existing sign panel on the post(s) shall also be accomplished within **30 days**, installation of the panel on temporary supports will not be allowed.

FAILURE TO COMPLETE A WORK ORDER ON TIME

Time is of the essence in the completion of each work order issued by the Department. Failure to make timely repairs will cause public inconvenience, endanger the public safety and subject the Department to public criticism. All repairs shall be completed within the completion time designated for each work order.

The Contractor may request the Engineer extend an individual work order. The Engineer may extend an individual work order completion date upon written notification to the Contractor.
The Contractor understands and agrees that performance will be expected in varying amounts and at various locations within the area designated in the contract in accordance with the work orders issued by the Engineer.

Should the Contractor fail to complete the work order within the completion time stipulated, the Contractor shall be liable to the Department for liquidated damages of **$100.00** per day per work order. The Department will deduct these liquidated damages from the monies due or to become due to the Contractor from the Department. The time required by the Engineer to approve sign designs or inspect work will not be counted against the balance of days remaining for the contractor to perform the work.

No additional compensation will be given for compliance with the completion times stipulated. The cost shall be considered included in the contract.

QUANTITIES

The quantities specified in this contract indicate the estimated amount of work required in a one-year period. This is merely an estimate to allow Contractors to establish unit prices and permit the Department to determine the low bidder. It shall be understood that the unit prices of this contract shall prevail throughout the period of this contract regardless of the quantity.

REIMBURSEMENT FROM THIRD PARTY FOR REPAIRS OR DAMAGES

The Department reserves the right to make recovery from Third Party or Parties for damage to any part of the existing installations and no part of such recovery or recoveries shall inure to the benefit of the Contractor. To enable the Department to assess damages against said Third Party or Parties, the Contractor shall, upon request, furnish the Engineer an itemized statement of the cost of any repairs to Third Party damage, separating the cost of labor, materials, and equipment.

LOCATING UNDERGROUND CABLE

At those locations, where concrete foundations are to be installed, the Contractor shall notify the District Contact at least 72 hours before beginning any work in the field. The Contractor shall request that the Department find and mark all underground electric cable owned and maintained by the Department which may conflict with the construction operations. In the event the Contractor fails to notify the District Contact and cable is damaged, the Contractor shall replace the entire length of cable or conductors in conduit, in a manner satisfactory to the District Contact, at his/her own expense. Splicing below grade will not be permitted.

CONTRACTOR'S RESPONSIBILITY FOR DAMAGE

The Contractor shall be held responsible for damages resulting from the operations of his equipment or employees and of any damage to a sign or sign structure prior to final inspection by the District Contact. The Contractor shall, at his own expense, restore any damaged property to a condition equal to that existing before damage was done, by repairing, rebuilding, or replacing it as directed by the Engineer.

FINAL CLEANING UP

The final cleaning up shall conform to the requirements set forth in Article 104.06. Each time the Contractor accomplishes work at any location, he will be required to clean up the work area before payment for that work will be submitted.
All costs due to compliance with this Special Provision will be included with the contract and no additional compensation will be allowed.

TRAFFIC CONTROL AND PROTECTION

The Contractor shall arrange his work in such a manner to keep interruptions to traffic flow at a minimum.

Traffic control and protection shall conform to Article 107.09 and Section 701 and to the following standards as required by the Engineer.

Standards 701006, 701101, 701106, 701201, 701301, 701400, 701401, 701406, 701411, 701426, 701428, 701446, 701451, 701456, 701901

Additional traffic control and hour restrictions for closures may have to be imposed to facilitate the flow of traffic on certain sections of highways for some work orders this will also include TC-09 which you will find in the plan sheets.

Conformance to the traffic control and protection standards will not be paid for as a separate item but will be considered included with the various contract items and no additional compensation will be allowed. **This will also include traffic control and protection on interstates, freeways, expressways, and all major arterials.**

FURNISH AND ERECT GRAFFITI RESISTANT SIGN PANEL

This work shall consist of furnishing and erecting an extruded graffiti resistant sign panel complete with reflectorized sign face, legend, and supplemental panels or plates, on existing sign support(s) or overhead sign structure at the location(s) specified in the work order. The type, size, and content of legend requirements will be as specified below or in the work order.
The aluminum extrusions and the installation shall be in according to the requirements of Section 1090 of the Standard Specification, as shown on the plans and/or as directed by the Engineer.

All Type III reflectorized guide signs, supplemental signs, including route shields and supplemental panels shall be fabricated using faces and legend of Type ZZ retroreflective sheeting. This shall include mainline, ramp, crossroad interchange approach directional signing, and route markers. All signs shall be fabricated such that the copy or text and background material is applied in the preferred orientation for the maximum retroreflectivity per the manufacturer's recommendation. Background sheeting and legend shall be provided by the same manufacturer.

This work shall consist of furnishing and erecting an extruded sign panel complete with reflectorized sign face and legend, and supplemental panels which shall be covered with graffiti resistant sheeting provided by the same manufacturer of the sheeting and legend.

This graffiti protection overlay shall assure similar day-night appearance and not reduce retroreflectivity as required by the sheeting called for in the contract, which shall be substantiated by supporting test results. All graffiti resistant films, when applied to the various types of reflective sheeting, must meet the same durability requirements as specified for that type of reflective sheeting. This work will be measured for payment in square feet from edge-to-edge (horizontally and vertically).

The Contractor shall package all signs to prevent damage during shipment.

This work will be paid, for at the contract unit price per square foot, for FURNISH AND ERECT GRAFFITI RESISTANT SIGN PANEL. This price shall include, furnishing all materials, fabricating the sign panel (including sign face and sign legend), furnishing all mounting hardware (including any 4WF1.79 sign brackets required for overhead sign structure mounting) and installing the sign panel on previously erected sign supports or sign structure and removing any existing sign panel(s) as required for the proper installation of the new panel(s). Removal of any existing sign panel(s) will be paid for in accordance with REMOVE SIGN PANEL TYPE *1, 2 or 3.*

FURNISH AND ERECT SIGN PANEL-LOGO

This work shall consist of installing LOGO service signing along the Interstate. Typical layouts and sign designs are shown in the plans. Specific details and locations will be described in the work order(s).

No mounting on bridges or overhead sign structures will be required for this pay item. The supplemental business LOGO panels and mileage plates will be furnished by others and made available to the Contractor at the appropriate District Sign Shop or at a location agreed upon by the Contractor and Engineer. The supplemental panels and plates will be riveted onto the main sign panel as shown in the work order(s). In addition to the holes in the sign panel, necessary to install the supplemental panels and plates, the Contractor shall also drill the upper left hole for all other possible supplemental business LOGO panels. (This is to facilitate spacing of future LOGO panels.)

This work will be paid for at the contract unit price per square foot for **FURNISH AND ERECT SIGN PANEL - LOGO**. This price shall include furnishing all materials, fabricating the sign panel (including sign face and sign legend), furnishing all mounting hardware, installing all supplemental LOGO panels and mileage plates, and installing the sign panel on previously erected sign supports.

The steel supports and concrete foundations for logo sign panels will be paid for under STRUCTURAL STEEL SIGN SUPPORT-BREAKAWAY, STRUCTURAL STEEL SIGN SUPPORT-BREAKAWAY COUPLING TYPE, and CONCRETE FOUNDATIONS respectively.

OVERHEAD SIGN STRUCTURE - END SUPPORT

This work will consist of replacing a damaged or deteriorated end support(s) for an overhead sign structure-span or cantilever.

Materials shall meet the requirements of the sign structure detail sheets shown in the contract, conforming to the dimensions shown on the details attached to the work order and the applicable requirements of Section 1094.

This work shall be done in accordance with the requirements of Sections 733 and as specified herein.

This work shall include removing all grout, if grout is present, cleaning and painting the exposed anchor bolts, and installing a stainless-steel screen wire to enclose the void between the sign support base plates and the foundation. The exposed part of the anchor bolts shall be cleaned and painted with one coat of primer and meet the requirements of Section 4 and 5 of SSPC-PS25 for red iron oxide, zinc oxide, raw linseed oil, and alkyd primer. All debris resulting from this operation shall be removed from the right-of-way.

Any sign panels attached to the end support to be replaced shall be carefully removed and re-installed on the new end support as directed by the Engineer.
Shop drawings for the new end support(s) will be provided by the Contractor and approved in writing before any new materials are ordered.

This work will be paid for at the contract unit price each for **OVERHEAD SIGN STRUCTURE - END SUPPORT**. This price shall include removing any damaged or deteriorated end support(s) from the right-of-way, providing shop drawings, furnishing all materials, fabricating and erecting the end-support(s), galvanizing the exposed steel, removing all grout, cleaning and painting the exposed anchor bolts, installing the wire cloth, removing and reinstalling any existing sign panels, the installation of a sign structure number and providing all necessary traffic control. Removing and re-erecting the overhead sign structure will be paid for as REMOVE AND RE-ERECT OVERHEAD SIGN STRUCTURE-SPAN or REMOVE AND RE-ERECT OVERHEAD SIGN STRUCTURE-CANTILEVER.

BRIDGE MOUNTED SIGN SUPPORT

This work shall consist of removing and replacing bridge-mount sign support(s). The type and number shall be indicated in each individual work order.

Materials shall meet the requirements of the bridge mount sign structure details shown in the contract, conforming to the dimensions shown on the detail sheets attached to the work order and the applicable requirements of Section 1094.

The damaged bridge-mount support(s) shall become the property of the Contractor and shall be removed completely from the right-of-way. The bid price shall reflect any salvage value of the support(s) removed.

Shop drawings for the replacement bridge-mount sign support(s) will be provided by the Contractor and approved in writing before any new materials are ordered.

This work will be paid for at the contract unit price each for **BRIDGE MOUNTED SIGN SUPPORT**, which price shall include removal of the damaged bridge support(s), providing shop drawings, fabricating, furnishing, and erecting the support brackets, angles, and any other necessary hardware.

BREAKAWAY SLIP BASE CONNECTION BOLT SET

This work shall consist of furnishing a breakaway slip base connection bolt set for the installation of a structural steel sign support. The size of the connection bolt set shall be determined by the size of the sign support and as specified in the work order. The Contractor shall deliver the breakaway connection bolt set to the location specified in the work order or the district sign shop in the district where the work order was issued.

A breakaway slip base connection bolt set shall consist of the following items:

FOUR BOLTS, TWELVE FLAT WASHERS AND FOUR HEX NUTS.

The breakaway slip base connection bolt set shall meet the requirements of Section 727 of the Standard Specifications. The diameter and length of the bolt will be as specified in the work order.

This work will be paid for at the contract unit price each for **BREAKAWAY SLIP BASE CONNECTION BOLT SET**, which price shall include furnishing all necessary components to complete the installation for a breakaway slip base type connection for a structural steel sign support and delivery to the location or locations specified in the work order.

STRUCTURAL STEEL SIGN SUPPORT – BREAKAWAY COUPLING TYPE

This work shall consist of furnishing galvanized structural steel breakaway sign supports for ground-mounted signs and breakaway coupling assemblies of the sizes and lengths shown in the work order. The supports shall be attached to the breakaway coupling assembly previously cast within a concrete foundation. Breakaway coupling type structural steel supports shall be used only for the installation of logo sign panels on Interstate Routes 70, 72, 270 and 255.
Materials shall meet the requirements of Articles 1006.04, 1006.08 and 1093.01 except all references to stub posts shall be omitted.

The fabrication of structural steel sign supports shall meet the requirements of Section 727.

The structural steel breakaway sign supports shall be erected in a vertical position on anchor bars previously cast within concrete foundations with the faces of the supports flush with the sign throughout the contact area. The supports shall be plumbed and brought to final grade by using shims as shown on the plans.

The supports shall be connected to the anchor bars by means of a breakaway coupling assembly conforming to the requirements listed elsewhere in these Special Provisions.

Breakaway coupling assemblies shall be the "Break-Safe" system manufactured by Transco-Safety, Inc., 20 Jones Street, New Rochelle, New York 10801.

The breakaway couplings shall be manufactured from alloy steel meeting the requirements of AISI 4130H or 4340H and shall have a minimum tensile yield stress of 1,140 MPa (l65,000 psi) and an ultimate tensile range of 1,240 to 1,480 MPa (l80,000 to 215,000 psi). The breakaway coupling shall have a tensile breaking load of between 209 and 253 kN (47,000 and 57,000 pounds). The Rockwell C hardness shall be 26 minimum.

Hinge plates shall be alloy steel meeting the requirements of AISI 4340, AISI 4130, or an equivalent material and shall have a minimum tensile yield stress of 620 MPa (90,000 psi).
The hinge plates shall have tensile breaking load ranges as follows:

HI-1 73 - 88 kN, (16,400 - l9, 700 lbs.) (l0WF21-14WF30)

HI-2 30 - 36 kN, (6,700 - 8,100 lbs.) (6WF9-8WF20)

All bolts, nuts, and washers shall conform to AASHTO M1641.

Brackets shall be aluminum alloy meeting the requirements of ASTM B-221, Alloy 6061-T6, or an approved equal. The bracket shall incorporate a load-concentrating boss, which shall be stainless steel meeting the requirements of ASTM A-582, Type 416, or approved equal.

Anchor plates shall be made from aluminum Alloy 6061-T6 or equivalent, having minimum yield strength of 240 MPa (35,000 psi).

Anchor bars shall be made from grade 60 steel, or equivalent material, with a minimum allowable tensile stress of 165 MPa (24,000 psi) and shall conform to ASTM designation A-307. The anchor bars shall be hot dip galvanized in conformance with ASTM designation A-153.
Breakaway couplings shall be clean, dry, and free from all foreign material and shall be primed and coated with a coating ground from fully homogenized cellulose acetate butyrate plastic and appropriate coloring agents applied by an electrostatic spray process.

The coating shall have a minimum thickness of .08 mm (3 mils) and be fused at a maximum temperature of 218° C (425° F). Chipped areas of the coated surface shall be repaired. After coating, all threaded surfaces shall be cleaned to allow them to function properly.

Location holes for the breakaway coupling shall be accurately positioned relative to the load concentration member in accordance with the approved shop drawings. All brackets shall be permanently labeled with bracket number to reflect the hole positioning.
The installation of the breakaway coupling assemblies shall be in accordance with the manufacturer's recommendations.

The Contractor shall provide the Engineer certification from the breakaway coupling assembly manufacturer that the assemblies meet all the requirements of these specifications. The Department reserves the right to test any component of the assembly and to reject any or all components failing to meet these specifications.

This work will be measured for payment in pounds of structural steel sign support erected in place. The mass (weight) of structural steel shall be computed based on the nominal weight per foot of the main post installed from the bottom to the top of the post. No allowance will be made for overrun and no deduction made for cuts, copes, and holes.

Bolts, screws, nuts, washers, shims, post brackets, and anchor bars will not be measured for payment, but will be considered as included with this pay item.

This work will be paid for at the contract unit price per pound for **STRUCTURAL STEEL SIGN SUPPORT - BREAKAWAY COUPLING TYPE**, which price shall include payment in full for furnishing and erecting the galvanized posts with all components as specified, including the breakaway coupling assemblies.

FURNISH BREAKAWAY COUPLING SET

Revised January 2003.

This work shall consist of furnishing a small or large breakaway coupling set for the installation of a structural steel sign support. The size of the coupling set shall be determined by the size of the sign support and as specified in the work order. The Contractor shall deliver the breakaway coupling set to the location specified in the work order or the district sign shop in the district where the work order was issued.

A breakaway coupling set shall consist of the following items:

FOUR BOLTS AND FOUR COUPLERS

The breakaway coupling set shall meet the requirements for breakaway coupling assemblies outlined in the Special Provision for Structural Steel Sign Support - Breakaway Coupling Type
.
This work will be paid for at the contract unit price each for **FURNISH BREAKAWAY COUPLING SET**, which price shall include furnishing all necessary components to complete the coupling type installation for a structural steel sign support and delivery to the location or locations specified in the work order.

FURNISH HINGE PLATE SET

This work shall consist of furnishing a small or large hinge plate set for breakaway coupling type installation for structural steel sign support. The size of the hinge plate set shall be determined by the size of the sign support and as specified in the work order. The Contractor shall deliver the hinge plate set to the location specified in the work order or the district sign shop in the district where the work order was issued.

A hinge plate set shall consist of the following items:

FOUR HINGE PLATES AND A TOTAL OF EIGHT BOLTS, NUTS AND WASHERS

The hinge plate set shall meet the requirements for breakaway coupling assemblies outlined in the Special Provision for Structural Steel Sign Support - Breakaway Coupling Type.

This work will be paid for at the contract unit price each for **FURNISH HINGE PLATE SET**, which price shall include furnishing all necessary components to complete the hinge type installation for a structural steel sign support and delivery to the location or locations specified in the work order.

RE-ERECT EXISTING STRUCTURAL STEEL SIGN SUPPORT – BREAKAWAY

This work shall consist of re-erecting an existing structural steel sign support on an existing stub post and torqueing the fuse plate and base plate bolts. This item will only be used for those posts that have been knocked down and need no repair.

Any missing bolts or plates shall be replaced by the Contractor and shall be considered included with this pay item. Replacement bolts or plates shall meet the requirements of Article 727.

When the work order requires the Contractor to re-erect a sign support that was installed with a breakaway type coupling the Contractor shall furnish a breakaway coupling set to complete the re-erection. The furnishing of the breakaway coupling set will be paid for as FURNISH BREAKAWAY COUPLING SET.

This work will be paid for at the contract unit price each for **RE-ERECT EXISTING STRUCTURAL STEEL SIGN SUPPORT – BREAKAWAY**, which price shall include all labor, materials, and equipment required to complete the work.

INSTALL SERVICE SIGN OR MILEAGE PLATE

This work shall consist of installing a service plate advertising gas, food, lodging, or camping business establishment or a mileage plate on a business logo panel. The service plates are fabricated from flat sheet aluminum and will be furnished predrilled by the business establishments and made available to the Contractor at the District Sign Shop where work is being performed or at such other location agreed upon by the Engineer and the Contractor.

Mileage plates are fabricated from flat sheet aluminum and will be furnished predrilled by the District Sign Shop and made available to the Contractor at the District Sign Shop where work is being performed or at such other location agreed upon by the Engineer and the Contractor.

The plates shall be installed using 5 mm (3/16-inch) aluminum rivets with 3 mm (0.125 inch) to 6 mm (0.250 inch) grip range to fully penetrate the sign panel extrusions and firmly attach the plates. Any plate damaged by the Contractor shall be replaced in exact kind at no cost to the Department. The business logo panel shall not be removed when installing a service or mileage plate. A minimum of six plates will be installed or removed on each work order calling for this pay item when the installation of service signs or mileage plates is the only work to be done.

This work will be paid for at the contract unit price each for **INSTALL SERVICE OR MILEAGE PLATE**, which price shall include payment in full for installing a service or mileage plate on a previously erected business logo panel.

REMOVE SERVICE SIGN OR MILEAGE PLATE

This work shall consist of removing an existing service plate advertising a business establishment or a mileage plate from a previously erected business logo panel.

Extreme care shall be taken not to damage or mar the plate in any way. Any plate damaged by the Contractor shall be replaced in exact kind at no cost to the Department. The plates shall be delivered to the District Sign Shop where work is being performed or at such other location agreed upon by the Engineer.

A minimum of six plates will be removed on each work order calling for this pay item when the removal of existing service signs or mileage plates is the only work to be done.

This work will be paid for at the contract unit price each for **REMOVE SERVICE OR MILEAGE PLATE**, which price shall include payment in full for removing a service or mileage plate from a previously erected business logo panel.

TRANSFER SERVICE SIGNS

This work shall consist of removing an existing service sign advertising a business establishment from a previously or newly erected business logo panel and reinstalling the service sign on a newly erected business logo panel.

Extreme care shall be taken not to damage or mar the sign in any way. Any sign damaged by the Contractor shall be replaced in exact kind at no cost to the Department.

This work will be paid for at the contract unit price each for **TRANSFER SERVICE SIGN**, which price shall include payment in full for removing an existing service sign from a previously erected business logo panel and reinstalling the existing service sign on a newly erected business logo panel. The cost of transferring existing mileage plates and directional arrows for the service signs shall be considered included with this pay item.

SIGN SUPPORT REPAIR

This work shall consist of repairing an existing breakaway sign support where the fuse plate has separated from the lower post, resulting in bending of the rear flange.

Any missing hardware shall be replaced by the Contractor and considered as included with the pay item. Replacement hardware shall meet the requirements of Article 727.

Care shall be taken to prevent damage or further damage to the sign. Any damage done by the Contractor to the existing sign shall be repaired by him at no cost to the State.

The post may be straightened by mechanical or heat applied methods. There shall be no residual stress in the rear flange when the fuse plate is reattached. The fuse plate shall be attached before the rear reinforcement plates are attached
.
When the work order requires the Contractor to repair a sign support that was installed with a breakaway type coupling the Contractor shall furnish a breakaway coupling set to complete the repair of the sign support. The furnishing of the breakaway coupling set will be paid for as FURNISH BREAKAWAY COUPLING SET.

This work will be paid for at the contract unit price each for **SIGN SUPPORT REPAIR**. This price shall include straightening of the post, repair or replacement of the fuse plate, re-erection of the existing sign and post if they were removed to facilitate the support repair, attachment of the rear reinforcement plate, replacement of any necessary hardware, and all necessary painting.

REMOVE EXISTING SIGN SUPPORT

This work shall consist of removing an existing steel sign support. The support, including hardware, shall become the property of the Contractor.

This work will be paid for at the contract unit price each for **REMOVE EXISTING SIGN SUPPORT**, which price shall include complete removal of the sign support, including hardware, from the right-of-way.

The removal of any concrete foundations will be paid for as REMOVE CONCRETE FOUNDATION - GROUND MOUNT.

TIGHTEN FUSE AND BASE PLATE

This work shall consist of tightening the bolts on the fuse plate and base plate of a structural steel breakaway sign support. The bolts shall be tightened in accordance with the sign support details shown in the contract. The tightening of the base and fuse plates for at least 16 structural steel breakaway sign supports will be included on each work order calling for this pay item.

The Contractor shall replace any missing bolts, nuts or washers with new ones of the size specified on the sign support details shown in the contract. This work shall be considered included with this pay item. Replacement bolts, nuts or washers shall meet the requirements of Article 727.

The work will be paid for at the contract unit price each per sign support for **TIGHTEN FUSE AND BASE PLATE**. This price shall include payment in full for tightening all bolts on the fuse and base plate for a structural steel breakaway sign support and replacing any missing bolts, nuts, or washers on the fuse and base plate.

TEMPORARY WOOD POST

This work shall consist of furnishing and installing 100 mm (4-in) by 150 mm (6-in) wood posts as temporary sign supports for ground-mounted signs, utilizing direct burial.

This work shall be done in accordance with the requirements of Section 730 and as specified herein.

Should a longer support than specified be necessary; the Contractor shall provide and install the longer support. The method for attaching the sign to the wood posts is shown in the plans.

The temporary wood post(s) shall be supplied in the quantity shown on the work order and shall be found at a specified offset near of the permanent sign location.

The height of the sign shall be a minimum of 900 mm (3 feet) from the top of pavement to the bottom of the sign and a minimum of 1500 mm (5 feet) from the top of the ground to the bottom of the sign. The wood post(s) shall be removed and become the property of the Contractor when the permanent post(s) is installed.

This work will be paid for at the contract unit price each for **TEMPORARY WOOD POST**, which price shall include payment in full for furnishing, erecting, drilling, and removing of wood post(s) and refilling the hole(s) to match the surrounding area

MOUNTING BRACKET – TYPE B

This work shall consist of furnishing a steel tubing bracket **for mounting auxiliary panels on ground-mount signs of the sizes shown in the plans and** attaching the bracket to existing sign supports at the location(s) specified in the work order.

The bracket shall meet all requirements of the EXIT PANEL DETAIL SHEET - B contained herein.

This work will be paid for at the contract unit price each for **MOUNTING BRACKET - TYPE B**, which price shall include payment in full for furnishing bracket with all components as specified and attaching it to existing sign supports.

MOUNTING BRACKET TYPE B REPAIR

This work shall consist of repairing the damaged or bent components of an existing mounting bracket - Type B.

Care shall be taken to prevent damage or further damage to the existing sign. Any damage done by the Contractor to the existing sign; shall be repaired by him at no cost to the State.
The bracket may be straightened by mechanical or heat-applied methods.

This work will be paid for at the contract unit price each for **MOUNTING BRACKET TYPE B REPAIR.** This price shall include straightening of the bracket components, reattachment of the existing sign if it was removed to facilitate the bracket repair, reattachment of the bracket to the sign supports if the bracket was removed to facilitate repair, and all necessary painting.

REPLACE WALKWAY SUPPORT BRACKET

This work shall consist of furnishing all necessary material and labor to remove the damaged walkway support bracket and replace it with a new bracket of the same type and material as the existing. The size of the bracket required will be as indicated on the sign structure detail sheets attached to the work order.

This item does not include replacement or repair of any existing walkway or lighting fixtures.

Shop drawings for the replacement walkway support bracket will be provided by the Contractor and approved in writing before any new materials are ordered.

This work will be paid for at the contract unit price each **for REPLACE WALKWAY SUPPORT BRACKET** and shall be payment in full for furnishing all materials, providing shop drawings, fabricating and erecting this item complete in place.

SIGN PANEL BACKPLATE

This work shall consist of furnishing and installing blank sign panels complete with reflectorized sign faces cut without legend or symbols and installing them within previously erected sign frames. The sign blanks shall be 3 mm (0.125-inch) thick 5052-H38 aluminum conforming to Section 1090 and the background sheeting shall be brown conforming to the Type B requirements of Section 1091.

This work will be paid for at the contract unit price per square foot for **SIGN PANEL BACKPLATE**, which shall include furnishing the sign backplate and installing it in a previously erected sign frame. The cost of removing an existing backplate from a frame assembly to installing the new backplate will not be paid for as a separate item but will be considered included with the contract and no additional compensation will be allowed.

REST AREA POST AND PANEL SIGN SYSTEM

The signs shall match signs previously installed in the rest area and meet the requirements of the following special provisions for the post and panel sign system. The system shall be the Series 325 manufactured by: Charleston Industries, Inc., 955 Estes Avenue, Elk Grove Village, IL 60007, 1-800-722-0209, in Illinois: (847) 228-7l50.

Alternate systems will be considered provided that the component parts are completely interchangeable with the previously installed signs. The engineer's decision as to the acceptability of alternate systems will be final.

INSTALL REST AREA SIGN

This work shall consist of installing a new rest area sign provided by the Department at the site of installation or at the location specified on the work order. The sign may be installed on an existing signpost and frame or a new signpost and frame. All signs that are removed or replaced shall be returned to the Department location the replacement sign was supplied.

This work will be paid for at the contract unit price per each for **INSTALL REST AREA SIGN** which price shall include all necessary hardware, equipment, and labor required to complete the work order

SIGN FRAME – SERIES 325 (DOUBLE)

This work shall consist of furnishing and installing sign frames on two posts. The entire frame is to be slid into the slots in the posts and secured by tamperproof screws. The frame shall meet the requirements shown on the plans.

Frames will be measured for payment in feet. Such measurements are to be the outside perimeter of the frame.

This work will be paid for at the contract unit price per foot for **SIGN FRAME – SERIES 325 (DOUBLE)**, which shall include furnishing the sign frame complete with all necessary hardware and installing it on previously erected posts.

SIGN FRAME – SERIES 325 (SINGLE)

This work shall consist of furnishing and installing sign frames on single posts. Brackets shall be welded to the frames as shown in the plans to accept a Series 2l8 - center mounted post. The entire frame shall be bolted securely to the post. The frames shall meet the requirements shown on the plans.

Frames will be measured for payment in feet. Measurement shall be to the outside perimeter of the frame.

This work will be paid for at the contract unit price per foot for SIGN **FRAME – SERIES 325 (SINGLE**), which shall include furnishing the sign frame complete with all necessary hardware and installing it on a previously erected post.

SIGNPOSTS – SERIES 325 OR 218

This work shall consist of furnishing and installing Series 325 posts for two-post installations and Series 218 post for single post installations, on existing concrete surfaces or by direct burial in concrete as specified in the plans. The posts shall meet the requirements shown in the plans. All signpost lengths and elevations shall be field verified by the Contractor before ordering any material.

The installations shall be by direct burial, in concrete foundations, or attached to concrete surfaces by base plates as noted on the sign layouts. All posts shall be true, plumb, and If two-post installations, parallel to each other. Spacing templates shall be utilized by the Contractor, when installing two-post installations.

The concrete shall be Class SI meeting the applicable portions of Section 503.

The foundation shall be drilled to the dimensions shown in the plans. The post shall be installed plumb and centered in the hole before placement of the concrete. The hole above the foundation shall be filled with black dirt.

This work will be paid for at the contract unit price per foot for **SIGN POST-SERIES 325 OR SIGN POST-SERIES 218**, measured from the bottom of the post in the ground for direct burial or from the base plate where specified, which shall include all necessary drilling, back-filling and seeding, disposal of excess earth, setting of the post and furnishing all concrete. The cost of removing a frame assembly to installing the new post will not be paid for as a separate item but will be considered included with the contract and no additional compensation will be allowed.

BASE PLATE - SERIES 325 OR 218

This work shall consist of furnishing and installing base plates on Series 325 posts for two-post installations and Series 218 posts for single post installations. The base plates shall be factory welded to the posts as shown on the plans. The base plates shall be securely bolted to the foundations or to the concrete anchors with a 6 mm (1/4-inch) thick neoprene pad placed between the concrete and the base plate. The required concrete “J” bolts or concrete anchors, including their installation and the neoprene pads shall be considered as included with this item.

This work will be paid for at the contract unit price each for **BASE PLATE-SERIES 325 OR BASE PLATE-SERIES 218,** which work shall include furnishing and welding base plates to the posts and including the concrete "J" bolts, concrete anchors and neoprene pads, as required. Installation of the posts will be paid for under the pay item for SIGN POST- SERIES 325 OR SIGN POST-SERIES 218.

REMOVE EXISTING SIGNPOST

This work shall consist of removing an existing rest area signpost that is part of the post and panel sign system. The post, including any hardware not reused, shall become the property of the Contractor and the bid price shall reflect any salvage value.

This work will be paid for at the contract unit price each of **REMOVE EXISTING SIGNPOST**, which price shall include the complete removal of the signpost, including any concrete foundation and base plate, from the right-of-way. The cost of removing a sign and frame assembly from an existing signpost and relocating the sign and frame assembly to a new post(s) will not be paid for as a separate item but will be considered included in the contract and no additional compensation will be allowed.

TEMPORARY SIGN SUPPORT REPAIR

This work shall consist of making temporary repairs to an existing breakaway sign support(s) until the replacement sign support has been installed so an existing sign panel may remain in service.

The Contractor shall have the option of making repairs to the existing support, if that is feasible, temporarily installing a used steel breakaway support that matches dimensions of the existing stub post or temporarily installing a wood sign support.

If the existing sign support is repaired, repairs shall be in accordance with the provisions for SIGN SUPPORT REPAIR.

If a temporary wood sign support is installed, the wood sign support shall meet the provisions outlined under TEMPORARY WOOD POST

Any missing hardware shall be replaced by the Contractor and considered as included with the pay item. Replacement hardware shall meet the requirements of Article 727 of the Standard Specifications.

Care shall be taken to prevent damage or further damage to the sign. Any damage done, by the Contractor, to the existing sign shall be repaired by him, at no cost to the State.
The Contractor shall make the temporary sign support repairs within one week of notification.
This work will be paid for at the contract unit price each for **TEMPORARY SIGN SUPPORT REPAIR**. This price shall include the removal and/or, re-erection of the existing sign and providing the necessary traffic control.

REPAIR SIGN PANEL

This work shall consist of repairing a sign panel that has been damaged by vehicle impact where the sign has been damaged but not severe enough to require complete replacement of the sign panel. The Contractor shall be responsible for the removing all dirt and debris from the face of the sign prior to re-erecting the sign panel.

This work may require the assembly of extruded aluminum panels that have been pulled apart, the reattachment of any sign legend, shields, borders, overlay panels and end caps that may have come loose or fallen off the sign panel from vehicle impact. In some cases, the sign panel may have to be removed from the sign supports, repairs completed, and re-erected on the sign supports.

Extruded aluminum panels that have been pulled apart shall be re assembled using 3/8" stainless steel bolts installed at 24" spacing. Stainless steel bolts shall conform to ASTM A 276, Type 304. Stainless steel locking nuts shall be used conforming to ASTM A 194 Grade 8. Stainless steel washers shall conform to ASTM A 240, Type 304. Any loose or fallen off sign legend, shields, borders, and overlay panels shall be reattached by the same method as the existing undamaged sign panel.

This work will be paid for at the contract unit price each for **REPAIR SIGN PANEL**. This price shall include removing and re-erecting the sign panel, if necessary, to facilitate the repair of the sign panel, making all required repairs to the sign legend, shields, borders and overlay panels to restores the sign to a serviceable condition and providing the necessary traffic control.

REPLACE OVERHEAD SIGN WALKWAY

This work shall consist of removing the damaged portion of the existing walkway and replacing the damaged walkway with new walkway of the same type and material as the existing.

Materials shall meet the requirements of the sign structure detail sheets shown in the contract; conform to the dimensions shown on the details attached to the work order and the applicable requirements of Section 1094.

Fabrication of the walkway shall meet the requirements of the applicable portions of Section 733.

Any damaged lighting items in the damaged portion of the walkway shall be removed and become the property of the contractor.

The replacement or repair of any damaged handrail, light support channels, or hardware shall be included in the cost of replacing the overhead sign walkway.

The removed portions of walkway shall become the property of the Contractor and shall be removed completely from the right-of-way.

All damaged walkway support brackets shall be paid for under REPLACE WALKWAY SUPPORT BRACKET.

Shop drawings for the replacement walkway will be provided by the Contractor and approved in writing before any new materials are ordered.

The work will be measured for payment in feet of the overall length of the walkway installed, end-to-end.

This work will be paid for at the contract unit price per foot for **REPLACE OVERHEAD SIGN WALKWAY**, which price shall include removal of the damaged portion of the existing walkway, providing shop drawings, furnishing the required new walkway, replacing as required the handrail, light support channels, and hardware and removing the damaged walkway from the right-of-way. No electrical work will be required for this pay item.

SIGN SUPPORT BRACKET

Description: This work shall consist of furnishing, fabricating, and installing sign support extensions to attach additional sign panels to an existing sign panel.

Materials: Sign support extensions shall be aluminum according to Section 1006.29 of the Standard Specifications. The depth shall be 4 in. (100 mm) and the weight shall be a minimum of 1.79 lb./ft (2.60 kg/m).

Installation: 3 sign support extensions shall be used for sign panels with 3 existing posts or less. 4 sign support extensions shall be used for sign panels with 4 or more existing posts. Sign support extensions shall extend from 4 ft below the top of the existing signpost to the top of the new sign panel and shall be spaced as determined by the Engineer. Sign support extensions shall be clipped to the sign panels in accordance with Highway Standard 720021.

Method of Measurement: Sign support extensions will be measured for payment in each.

Basis of Payment: This work will be paid for at the contract unit price per EACH for **SIGN SUPPORT BRACKET.**

REMOVE AND REINSTALL SIGN PANEL

This work shall consist of removing an existing sign panel from temporary sign supports and reinstalling it on an overhead sign structure. Where the temporary posts were installed by others, this work shall also consist of removing the temporary posts which will then become the property of the Contractor.

This work will be paid for at the contract unit price per square meter (square foot) for **REMOVE AND REINSTALL SIGN PANEL**, which price shall include removing the existing sign panel from temporary supports, installing it on the overhead sign structure, furnishing all necessary mounting hardware to complete the installation and removing any temporary supports.

RE-ERECT SIGN PANEL

This work shall consist of re-erecting a new or existing sign panel on new or existing posts. The sign panel shall be provided by the Department at the site of installation or at the location specified on the work order. The Contractor shall be responsible for the removing all dirt and debris from the face of the sign prior to re-erecting the sign panel.

The replacement of any damaged or missing mounting hardware shall meet the requirements of Article 1090.03.

This work will be paid for at the contract unit price per square foot for **RE-ERECT SIGN PANEL**, which price shall include all necessary hardware, equipment, and labor required to complete the work order.

REPLACE AND TIGHTEN SIGN MOUNTING CLIPS PER EACH SIGN

This work shall consist of replacing missing post clips and post clip bolts or tightening loose post clip bolts on signs mounted on overhead sign structures. Stainless steel bolts, nuts and washers shall be used with aluminum post clips for all overhead - mounted signs.

Aluminum post clips shall conform to ASTM B 108, Alloy SG 70A-T 6. A flat washer shall be used under each nut to prevent gouging of the clip. Stainless steel bolts, nuts and washers for fastening extruded aluminum sign panels to supports shall conform to ASTM A 276, Type 304. Nuts shall conform to ASTM A 194 Grade 8 and be of the self - locking type. Washers shall conform to ASTM A 240, Type 304.

This work will be paid for at the contract unit price each per sign location for **REPLACE AND TIGHTEN SIGN MOUNTING CLIPS PER EACH SIGN**, which price shall include furnishing and installing post clips and post clip bolts complete with washers and tightening all loose sign clip bolts for each overhead sign location shown in the plans and providing all necessary traffic control.

REMOVE SIGN COMPLETE

This work shall consist of removing an existing ground-mounted sign and supports as shown in the work order. The removal items shall consist of the sign panel and exit panel, and the structural steel supports. The sign panel shall become the property of the State and shall be delivered to the District Sign Shop in the District in which the work is being performed. The supports, including hardware, shall become the property of the Contractor. The bid price shall reflect any salvage value for the supports and hardware.

Where the existing sign and supports are to be removed and be replaced by a new sign and new supports, the new sign shall be completely installed prior to the removal of the existing sign. However, duplicate signs are not to exist for periods in excess of 24 hours.

This work will be paid for at the contract unit price each for **REMOVE SIGN COMPLETE** and shall be payment in full for all labor and equipment necessary to remove the sign and supports as herein specified and no additional compensation will be allowed.

The removal of any concrete foundations will be paid for as REMOVE CONCRETE FOUNDATION-GROUND MOUNT.

INTERNAL TRUSS DAMPER

This work shall consist of furnishing and installing a truss damper on an aluminum overhead sign structure-span or cantilever. The damper shall be attached to the overhead sign structure as indicated on the attached details.

The damper design shall be like those shown in the plans. The Contractor shall submit shop drawings for the damper for approval prior to fabrication and before any materials are ordered.

This work will be paid for at the contract unit price each for **INTERNAL TRUSS DAMPER** price shall include providing the shop drawings, furnishing and installing the damper complete with all necessary hardware and providing the necessary traffic control.

INTERNAL MEMBER TRUSS CLAMP

This work shall consist of furnishing and installing stainless steel internal member truss clamp on an aluminum overhead sign structure - span or cantilever. The clamp shall be attached at the joint of an interior member with the main top or bottom chords where a partial fracture of an internal member has occurred.

The clamp design shall be like those shown in the plans. Shop drawings for the clamp shall be provided by the Contractor for approval prior to fabrication and before any materials are ordered.

This work will be paid for at the contract unit price each for **INTERNAL MEMBER TRUSS CLAMP**, which price shall include providing the shop drawings, fabricating the clamp, furnishing and installing the clamp complete with all necessary hardware and providing the necessary traffic control.

REMOVE OVERHEAD SIGN STRUCTURE – WALKWAY

This work shall consist of the complete removal and disposal of the overhead sign structure external walkway, handrail, and related mounting hardware according to the requirements of Section 736 of the Standard Specifications and as specified on the work order.

The removed overhead sign structure external walkway shall become the property of the Contractor and shall be completely disposed of off the right of way. Any salvage value of the elements to be removed shall be reflected in the Contractor’s bid for the removal of the overhead sign structure walkway.

This work will be paid for at the agreed unit price in feet for **REMOVE OVERHEAD SIGN STRUCTURE - WALKWAY** which price shall include all labor and equipment to complete this work.

STRUCTURAL REPAIR OF CONCRETE

Effective: March 15, 2006

Revised: August 29, 2014

Description. This work shall consist of structurally repairing concrete.

Materials. Materials shall be according to the following.

Item	Article/Section
(a)	Portland Cement Concrete (Note 1) 1020
(b)	R1 or R2 Concrete (Note 2)
(c)	Normal Weight Concrete (Notes 3 and 4)
(d)	Shotcrete (High Performance) (Notes 5 and 6)
(e)	Reinforcement Bars 1006.10
(f)	Anchor Bolts 1006.09
(g)	Water 1002
(h)	Curing Compound 1022.01
(I)	Cotton Mats 1022.02
(j)	Protective Coat 1023.01
(k)	Epoxy (Note 7) 1025
(l)	Mechanical Bar Splicers 508.06(c)

Note 1.The concrete shall be Class SI, except the cement factor shall be a minimum 6.65 cwt/cu yd (395 kg/cu m), the coarse aggregate shall be a CA 16, and the strength shall be a minimum 4000 psi (27,500 kPa) compressive or 675 psi (4650 kPa) flexural at 14 days. A high range water-reducing admixture shall be used to obtain a 5-7 in. (125-175 mm) slump, but a cement factor reduction according to Article 1020.05(b)(8) is prohibited. A self-consolidating concrete mixture is also acceptable per Article 1020.04, except the mix design requirements of this note regarding the cement factor, coarse aggregate, strength, and cement factor reduction shall apply.

Note 2.The R1 or R2 concrete shall be from the Department's approved list of Packaged, Dry, Rapid Hardening, Cementitious Materials for Concrete Repairs. The R1 or R2 concrete shall comply with the air content and strength requirements for Class SI concrete as indicated in Note 1. Mixing shall be per the manufacturer's recommendations, except the water/cement ratio shall not exceed the value specified for Class SI concrete as indicated in Note 1. A high range water-reducing admixture shall be used to obtain a 5-7 in. (125-175 mm) slump, and a retarder may be required to allow time to perform the required field tests. The admixtures shall be per the manufacturer's recommendation, and the Department's approved list of Concrete Admixtures shall not apply.

Note 3.The "high slump" packaged concrete mixture shall be from the Department's approved list of Packaged, Dry, Formed, Concrete Repair Mixtures. The materials and preparation of aggregate shall be according to ASTM C 387. The cement factor shall be 6.65 cwt/cu yd (395 kg/cu m) minimum to 7.05 cwt/cu yd (418 kg/cu m) maximum. Cement replacement with fly ash or ground granulated blast-furnace slag shall be according to Section 1020. The "high slump" packaged concrete mixture shall have a water-soluble chloride ion content of less than 0.40 lb./cu yd (0.24 kg/cu m). The test shall be performed according to ASTM C 1218, and the "high slump" packaged concrete mixture shall have an age of 28 to 42 days at the time of test. The ASTM C 1218 test shall be performed by an independent lab a minimum of once every two years, and the test results shall be provided to the Department. The coarse aggregate shall be a maximum size of 1/2 in. (12.5 mm). The packaged concrete mixture shall comply with the air content and strength requirements for Class SI concrete as indicated in Note 1. Mixing shall be per the manufacturer's recommendations, except the water/cement ratio shall not exceed the value specified for Class SI concrete as indicated in Note 1. A high range water-reducing admixture shall be used to obtain a 5-7 in. (125-175 mm) slump. The admixture shall be per the manufacturer's recommendation, and the Department's approved list of Concrete Admixtures shall not apply. A maximum slump of 10 in. (250 mm) may be permitted if no segregation is observed by the Engineer in a laboratory or field evaluation.

Note 4 The "self-consolidating concrete" packaged concrete mixture shall be from the Department's approved list of Packaged, Dry, Formed, Concrete Repair Mixtures. The materials and preparation of aggregate shall be according to ASTM C 387. The cement factor shall be 6.65 cwt/cu yd (395 kg/cu m) minimum to 7.05 cwt/cu yd (418 kg/cu m) maximum. Cement replacement with fly ash or ground granulated blast-furnace slag shall be according to Section 1020. The "self-consolidating concrete" packaged concrete mixture shall have a water-soluble chloride ion content of less than 0.40 lb./cu yd (0.24 kg/cu m). The test shall be performed according to ASTM C 1218, and the "self-consolidating concrete" packaged concrete mixture shall have an age of 28 to 42 days at the time of test. The ASTM C 1218 test shall be performed by an independent lab a minimum of once every two years, and the test results shall be provided to the Department. The concrete mixture should be uniformly graded, and the coarse aggregate shall be a maximum size of 1/2 in. (12.5 mm). The fine aggregate proportion shall be a maximum 50 percent by weight (mass) of the total aggregate used. The packaged concrete mixture shall comply with the air content and strength requirements for Class SI concrete as indicated in Note 1. Mixing shall be per the manufacturer's recommendations, except the water/cement ratio shall not exceed the value specified for Class SI concrete as indicated in Note 1. The admixtures used to produce self-consolidating concrete shall be per the manufacturer's recommendation, and the Department's approved list of Concrete Admixtures shall not apply. The packaged concrete mixture shall meet the following self-consolidating requirements:

- The slump flow range shall be 22 in. (560 mm) minimum to 28 in. (710 mm) maximum and tested according to Illinois Test Procedure SCC-2.
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- The visual stability index shall be a maximum of 1 and tested according to Illinois Test Procedure SCC-2.
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- The J-Ring value shall be a maximum of 2 in. (50 mm) and tested according to Illinois Test Procedure SCC-3. The L-Box blocking ratio shall be a minimum of 80 percent and tested according to Illinois Test Procedure SCC-4. The Manufacturer has the option to select either the J-Ring or L-Box test.
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- The hardened visual stability index shall be a maximum of 1 and tested according to Illinois Test Procedure SCC-6.

Note 5. Packaged shotcrete that includes aggregate shall be from the Department's approved list of Packaged High-Performance Shotcrete, and independent laboratory test results showing the product meets Department specifications will be needed. The product shall be a packaged, pre-blended, and dry combination of materials, for the wet-mix shotcrete method according to ASTM C 1480. A non-chloride accelerator may be used according to the shotcrete manufacturer's recommendations. The shotcrete shall be Type FA or CA, Grade FR, and Class I. The fibers shall be Type III synthetic according to ASTM C 1116.

The packaged shotcrete shall have a water-soluble chloride ion content of less than 0.40 lb./cu yd (0.24 kg/cu m). The test shall be performed according to ASTM C 1218, and the hardened shotcrete shall have an age of 28 to 42 days at the time of test. The ASTM C 1218 test shall be performed by an independent lab a minimum of once every two years, and the test results shall be provided to the Department.

Each individual aggregate used in the packaged shotcrete shall have either a maximum ASTM C 1260 expansion of 0.16 percent or a maximum ASTM C 1293 expansion of 0.040 percent. However, the ASTM C 1260 value may be increased to 0.27 percent for each individual aggregate if the cement total equivalent alkali content ($Na_2O + 0.658K_2O$) does not exceed 0.60 percent. As an alternative to these requirements, ASTM C 1567 testing which shows the packaged shotcrete has a maximum expansion of 0.16 percent may be submitted. The ASTM C 1260, C 1293, or C 1567 test shall be performed a minimum of once every two years.

The 7- and 28-day compressive strength requirements in ASTM C 1480 shall not apply. Instead the shotcrete shall obtain a minimum compressive strength of 4000 psi (27,500 kPa) at 14 days.

The packaged shotcrete shall be limited to the following proportions:

The Portland cement and finely divided minerals shall be 6.05 cwt/cu yd (360 kg/cu m) to 8.50 cwt/cu yd (505 kg/cu m) for Type FA and 6.05 cwt/cu yd (360 kg/cu. m) to 7.50 cwt/cu yd (445 kg/cu m) for Type CA. The portland cement shall not be below 4.70 cwt/cu yd (279 kg/cu m) for Type FA or CA.

The finely divided mineral(s) shall constitute a maximum of 35 percent of the total cement plus finely divided mineral(s).

Class F fly ash is optional, and the maximum shall be 20 percent by weight (mass) of cement.

Class C fly ash is optional, and the maximum shall be 25 percent by weight (mass) of cement.

Ground granulated blast-furnace slag is optional, and the maximum shall be 30 percent by weight (mass) of cement.

Microsilica is required and shall be a minimum of 5 percent by weight (mass) of cement, and a maximum of 10 percent. As an alternative to microsilica, high-reactivity metakaolin may be used at a minimum of 5 percent by weight (mass) of cement, and a maximum of 10 percent.

Fly ash shall not be used in combination with ground granulated blast-furnace slag. Class F fly ash shall not be used in combination with Class C fly ash. Microsilica shall not be used in combination with high-reactivity metakaolin. A finely divided mineral shall not be used in combination with a blended hydraulic cement, except for microsilica or high-reactivity metakaolin.

The water/cement ratio as defined in Article 1020.06 shall be a maximum of 0.42.

The air content as shot shall be 4.0 – 8.0 percent.

Note 6 Packaged shotcrete that does not include pre-blended aggregate shall be from the Department's approved list of Packaged High-Performance Shotcrete, and independent laboratory test results showing the product meets Department specifications will be needed. The shotcrete shall be according to Note 5, except the added aggregate shall be according to Articles 1003.02 and 1004.02 in addition to each individual aggregate meeting the maximum expansion requirements of Note 5. The aggregate gradation shall be according to the manufacturer. The shotcrete shall be batched and mixed with added aggregate according to the manufacturer.

Note 7. In addition, ASTM C 881, Type IV, Grade 2 or 3, Class A, B, or C may be used.

Equipment. Equipment shall be according to Article 503.03 and the following.

Chipping Hammer – The chipping hammer for removing concrete shall be a light-duty pneumatic or electric tool with a 15 lb. (7 kg) maximum class or less.

Blast Cleaning Equipment – Blast cleaning equipment for concrete surface preparation shall be the abrasive type, and the equipment shall have oil traps.

Hydrodemolition Equipment – Hydrodemolition equipment for removing concrete shall be calibrated and shall use water according to Section 1002.

High Performance Shotcrete Equipment – The batching, mixing, pumping, hose, nozzle, and auxiliary equipment shall be for the wet-mix shotcrete method and shall meet the requirements of ACI 506R.

Construction Requirements

General. The repair methods shall be either formed concrete repair or shotcrete. The repair method shall be selected by the Contractor with the following rules.

(a) Rule 1. For formed concrete repair, a subsequent patch to repair the placement point after initial concrete placement will not be allowed. As an example, this may occur in a vertical location located at the top of the repair.

(b) Rule 2. Formed concrete repair shall not be used for overhead applications.

(c) Rule 3. If formed concrete repair is used for locations that have reinforcement with less than 0.75 in. (19 mm) of concrete cover, the concrete mixture shall contain fly ash or ground granulated blast-furnace slag at the maximum cement replacement allowed.

(d) Rule 4. Shotcrete shall not be used for any repair greater than 6 in. (150 mm) in depth, except in horizontal applications, where the shotcrete may be placed from above in one lift.

(e) Rule 5. Shotcrete shall not be used for column repairs greater than 4 in. (100 mm) in depth, unless the shotcrete mixture contains 3/8 in. (9.5 mm) aggregate.

Temporary Shoring or Cribbing. When a temporary shoring or cribbing support system is required, the Contractor shall provide details and computations, prepared and sealed by an Illinois licensed Structural Engineer, to the Department for review and approval. Whenever possible the support system shall be installed prior to starting the associated concrete removal. If no system is specified, but during removal the need for temporary shoring or cribbing becomes clear or is directed by the Engineer due to a structural concern, the Contractor shall not go ahead with any further removal work until a proper and approved support system is installed.

Concrete Removal. The Contractor shall provide ladders or other appropriate equipment for the Engineer to mark the removal areas. Repair configurations will be kept simple, and squared corners will be preferred. The repair perimeter shall be sawed a depth of 1/2 in. (13 mm) or less, as required to avoid cutting the reinforcement. Any cut reinforcement shall be repaired or replaced at the expense of the Contractor. If the concrete is broken or removed beyond the limits of the initial saw cut, the new repair perimeter shall be recut. The areas to be repaired shall have all loose, unsound concrete removed completely using chipping hammers, hydrodemolition equipment, or other methods approved by the Engineer. The concrete removal shall extend along the reinforcement bar until the reinforcement is free of bond inhibiting corrosion. Reinforcement bar with 50 percent or more exposed shall be undercut to a depth of 3/4 in. (19 mm) or the diameter of the reinforcement bar, whichever is greater.

If sound concrete is encountered before existing reinforcement bars are exposed, further removal of concrete shall not be performed unless the minimum repair depth is not met.

The repair depth shall be a minimum of 1 in. (25 mm). The substrate profile shall be ± 1/16 in. (± 1.5 mm). The perimeter of the repair area shall have a vertical face.

If a repair is located at the ground line, any excavation required below the ground line to complete the repair shall be included in this work.

The Contractor shall have a maximum of 14 calendar days to complete each repair location with concrete or shotcrete, once concrete removal has started for the repair.

The Engineer shall be notified of concrete removal that exceeds 6 in. (150 mm) in depth, one fourth the cross section of a structural member, more than half the vertical column reinforcement is exposed in a cross section, more than 6 consecutive reinforcement bars are exposed in any direction, within 1.5 in. (38 mm) of a bearing area, or other structural concern. Excessive deterioration or removal may require further evaluation of the structure or installation of temporary shoring and cribbing support system.

Surface Preparation. Prior to placing the concrete or shotcrete, the Contractor shall prepare the repair area and exposed reinforcement by blast cleaning. The blast cleaning shall provide a surface that is free of oil, dirt, and loose material.

If a succeeding layer of shotcrete is to be applied, the initial shotcrete surface and remaining exposed reinforcement shall be free of curing compound, oil, dirt, loose material, rebound (i.e. shotcrete material leaner than the original mixture which ricochets off the receiving surface), and overspray. Preparation may be by lightly brushing or blast cleaning if the previous shotcrete surface is less than 36 hours old. If more than 36 hours old, the surface shall be prepared by blast cleaning.

The repair area and perimeter vertical face shall have a rough surface. Care shall be taken to ensure the sawcut face is roughened by blast cleaning. Just prior to concrete or shotcrete placement, saturate the repair area with water to a saturated surface-dry condition. Any standing water shall be removed.

Concrete or shotcrete placement shall be done within 3 calendar days of the surface preparation or the repair area shall be prepared again.

Reinforcement. Exposed reinforcement bars shall be cleaned of concrete and corrosion by blast cleaning. After cleaning, all exposed reinforcement shall be carefully evaluated to determine if replacement or additional reinforcement bars are required.

Reinforcing bars that have been cut or have lost 25 percent or more of their original cross-sectional area shall be supplemented by new in-kind reinforcement bars. New bars shall be lapped a minimum of 32 bar diameters to existing bars. A mechanical bar splicer shall be used when it is not feasible to provide the minimum bar lap. No welding of bars shall be performed.

Intersecting reinforcement bars shall be tightly secured to each other using 0.006 in. (1.6 mm) or heavier gauge tie wire and shall be adequately supported to minimize movement during concrete placement or application of shotcrete.

For reinforcement bar locations with less than 0.75 in. (19 mm) of cover, protective coat shall be applied to the completed repair. The application of the protective coat shall be according to Article 503.19, 2nd paragraph, except blast cleaning shall be performed to remove curing compound.

The Contractor shall anchor the new concrete to the existing concrete with 3/4 in. (19 mm) diameter hook bolts for all repair areas where the depth of concrete removal is greater than 8 in. (205 mm) and there is no existing reinforcement extending into the repair area. The hook bolts shall be spaced at 15 in. (380 mm) largest centers both vertically and horizontally and shall be a minimum of 12 in. (305 mm) away from the perimeter of the repair. The hook bolts shall be installed according to Section 584.

Repair Methods. All repair areas shall be inspected and approved by the Engineer prior to placement of the concrete or application of the shotcrete.

(a) Formed Concrete Repair. Falsework shall be according to Article 503.05. Forms shall be according to Article 503.06. Formwork shall provide a smooth and uniform concrete finish and shall approximately match the existing concrete structure. Formwork shall be mortar tight and closely fitted where they adjoin the existing concrete surface to prevent leakage. Air vents may be provided to reduce voids and improve surface appearance. The Contractor may use exterior mechanical vibration, as approved by the Engineer, to release air pockets that may be entrapped.

(b)

The concrete for formed concrete repair shall be a Class SI Concrete, or a packaged R1 or R2 Concrete with coarse aggregate added, or a packaged Normal Weight Concrete at the Contractor's option. The concrete shall be placed and consolidated according to Article 503.07. The concrete shall not be placed when frost is present on the surface of the repair area, or the surface temperature of the repair area is less than 40 °F (4 °C). All repaired members shall be restored as close as practicable to their original dimensions.

Curing shall be done according to Article 1020.13.

If temperatures below 45°F (7°C) are forecast during the curing period, protection methods shall be used. Protection Method I according to Article 1020.13(d)(1), or Protection Method II according to Article 1020.13(d)(2) shall be used during the curing period.

The surfaces of the completed repair shall be finished according to Article 503.15.

(c) Shotcrete. Shotcrete shall be tested by the Engineer for air content according to Illinois Modified AASHTO T 152. The sample shall be obtained from the discharge end of the nozzle by shooting a pile large enough to scoop a representative amount for filling the air meter measuring bowl. Shotcrete shall not be shot directly into the measuring bowl for testing.

(d)

For compressive strength of shotcrete, an 18 x 18 x 3.5 in. (457 x 457 x 89 mm) test panel shall be shot by the Contractor for testing by the Engineer. A steel form test panel shall have a minimum thickness of 3/16 in. (5 mm) for the bottom and sides. A wood form test panel shall have a minimum 3/4 in. (19 mm) thick bottom, and a minimum 1.5 in. (38 mm) thickness for the sides. The test panel shall be cured according to Article 1020.13 (a) (3) or (5) while stored at the jobsite and during delivery to the laboratory. After delivery to the laboratory for testing, curing and testing shall be according to ASTM C 1140.

The method of alignment control (i.e. ground wires, guide strips, depth gages, depth probes, and formwork) to ensure the specified shotcrete thickness and reinforcing bar cover is obtained shall be according to ACI 506R. Ground wires shall be removed after completion of cutting operations. Guide strips and formwork shall be of dimensions and a configuration that do not prevent proper application of shotcrete. Metal depth gauges shall be cut 1/4 in. (6 mm) below the finished surface. All repaired members shall be restored as close as practicable to their original dimensions.

For air temperature limits when applying shotcrete in cold weather, the first paragraph of Article 1020.14(b) shall apply. For hot weather, shotcrete shall not be applied when the air temperature is greater than 90°F (32°C). The applied shotcrete shall have a minimum temperature of 50°F (10°C) and a maximum temperature of 90°F (32°C). The shotcrete shall not be applied during periods of rain unless protective covers or enclosures are installed. The shotcrete shall not be applied when frost is present on the surface of the repair area, or the surface temperature of the repair area is less than 40°F (4°C). If necessary, lighting shall be provided to provide a clear view of the shooting area.

The shotcrete shall be applied according to ACI 506R and shall be done in a manner that does not result in cold joints, laminations, sandy areas, voids, sags, or separations. In addition, the shotcrete shall be applied in a manner that results in maximum densification of the shotcrete. Shotcrete which is identified as being unacceptable while still plastic shall be removed and re-applied.

The nozzle shall normally be at a distance of 2 to 5 ft. (0.6 to 1.5 m) from the receiving surface and shall be oriented at right angles to the receiving surface. Exceptions to this requirement will be permitted to fill corners, encase large diameter reinforcing bars, or as approved by the Engineer. For any exception, the nozzle shall never be oriented more than 45 degrees from the surface. Care shall be taken to keep the front face of the reinforcement bar clean during shooting operations. Shotcrete shall be built up from behind the reinforcement bar. Accumulations of rebound and overspray shall be continuously removed prior to application of new shotcrete. Rebound material shall not be incorporated in the work.

Whenever possible, shotcrete shall be applied to the full thickness in a single layer. The maximum thickness shall be according to Rules 4 and 5 under Construction Requirements, General. When two or more layers are required, the minimum number shall be used and shall be done in a manner without sagging or separation. A flash coat (i.e. a thin layer of up to 1/4 in. (6 mm) applied shotcrete) may be used as the final lift for overhead applications.

Prior to application of a succeeding layer of shotcrete, the initial layer of shotcrete shall be prepared according to the surface preparation and reinforcement bar cleaning requirements. Upon completion of the surface preparation and reinforcement bar treatment, water shall be applied according to the surface preparation requirements unless the surface is moist. The second layer of shotcrete shall then be applied within 30 minutes.

Shotcrete shall be cut back to line and grade using trowels, cutting rods, screeds or other suitable devices. The shotcrete shall be allowed to stiffen sufficiently before cutting. Cutting shall not cause cracks or delaminations in the shotcrete. For depressions, cut material may be used for small areas. Rebound material shall not be incorporated in the work. For the final finish, a wood float shall be used to approximately match the existing concrete texture. A manufacturer approved finishing aid may be used. Water shall not be used as a finishing aid. All repaired members shall be restored as close as practicable to their original dimensions.

Contractor operations for curing shall be continuous with shotcrete placement and finishing operations. Curing shall be accomplished using wetted cotton mats, membrane curing, or a combination of both. Cotton mats shall be applied according to Article 1020.13(a)(5) except the exposed layer of shotcrete shall be covered within 10 minutes after finishing, and wet curing shall begin immediately. Curing compound shall be applied according to Article 1020.13(a)(4), except the curing compound shall be applied as soon as the shotcrete has hardened sufficiently to prevent marring the surface, and each of the two separate applications shall be applied in opposite directions to ensure coverage. The curing compound shall be according to Article 1022.01. Note 5 of the Index Table in Article 1020.13 shall apply to the membrane curing method.

When a shotcrete layer is to be covered by a succeeding shotcrete layer within 36 hours, the repair area shall be protected with intermittent hand fogging, or wet curing with either burlap or cotton mats shall begin within 10 minutes. Intermittent hand fogging may be used only for the first hour. Thereafter, wet curing with burlap or cotton mats shall be used until the succeeding shotcrete layer is applied. Intermittent hand fogging may be extended to the first hour and a half if the succeeding shotcrete layer is applied by the end of this time.

The curing period shall be for 7 days, except when there is a succeeding layer of shotcrete. In this instance, the initial shotcrete layer shall be cured until the surface preparation and reinforcement bar treatment is started.

If temperatures below 45°F (7°C) are forecast during the curing period, protection methods shall be used. Protection Method I according to Article 1020.13(d)(1), or Protection Method II according to Article 1020.13(d)(2) shall be used during the curing period

Inspection of Completed Work. The Contractor shall provide ladders or other appropriate equipment for the Engineer to inspect the repaired areas. After curing but no sooner than 28 days after placement of concrete or shooting of shotcrete, the repair shall be examined for conformance with original dimensions, cracks, voids, and delaminations. Sounding for delaminations will be done with a hammer or by other methods determined by the Engineer.

The acceptable tolerance for conformance of a repaired area shall be within 1/4 in. (6 mm) of the original dimensions. A repaired area not in dimensional conformance or with delaminations shall be removed and replaced.

A repaired area with cracks or voids shall be considered as nonconforming. Exceeding one or more of the following crack and void criteria shall be cause for removal and replacement of a repaired area.

1. The presence of a single surface crack greater than 0.01 in. (0.25 mm) in width and greater than 12 in. (300 mm) in length.
2. The presence of two or more surface cracks greater than 0.01 in. (0.25 mm) in width that total greater than 24 in. (600 mm) in length.
3. The presence of map cracking in one or more regions totaling 15 percent or more of the gross surface area of the repair.
4. The presence of two or more surface voids with least dimension 3/4 in. (19 mm) each.

A repaired area with cracks or voids that do not exceed any of the above criteria may remain in place, as determined by the Engineer.

If a nonconforming repair can remain in place, cracks greater than 0.007 in. (0.2 mm) in width shall be repaired with epoxy according to Section 590. For cracks less than or equal to 0.007 in. (0.2 mm) in width, the epoxy may be applied to the surface of the crack. Voids shall be repaired according to Article 503.15.

Publications and Personnel Requirements. The Contractor shall provide a current copy of ACI 506R to the Engineer a minimum of one week prior to start of construction.

The shotcrete personnel who perform the work shall have current American Concrete Institute (ACI) nozzlemen certification for vertical wet and overhead wet applications, except one individual may be in training. This individual shall be adequately supervised by a certified ACI nozzlemen as determined by the Engineer. A copy of the nozzlemen certificate(s) shall be given to the Engineer.

Method of Measurement. This work will be measured for payment in place and the area computed in square feet (square meters). For a repair at a corner, both sides will be measured.

Basis of Payment. This work will be paid for at the contract unit price per square foot (square meter) for STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 IN. (125 MM), STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN. (125 MM).

When not specified to be paid for elsewhere, the work to design, install, and remove the temporary shoring and cribbing will be paid for according to Article 109.04.

Except for reinforcement damaged by the Contractor during removal, the furnishing and installation of supplemental reinforcement bars, mechanical bar splicers, hook bolts, and protective coat will be paid according to Article 109.04.

DRILL WEEP HOLE

This work shall consist of drilling weep holes as described in the work order, using a ¼ inch drill bit mounted on a portable electric drill.
The work will be paid for at the agreed unit price each for **DRILL WEEP HOLE**, which price shall include all equipment and labor necessary to safely drill any hole described in the work order.

REMOVAL OF SIGN LIGHTING, NO SALVAGE

This item shall consist of disconnecting, completely removing and disposing of existing sign lighting as specified herein. This pay item shall also include removal of the associated conduit, wire and disconnect switch from the sign structure
.
Luminaire removal shall be in accordance with Section 842, the cleaning and painting of sign structure caused by the removal of sign lighting and associated conduit shall be in accordance with section 506 of the Standard Specifications for Road and Bridge Construction, current version.

The Contractor shall coordinate any electrical work with the Department's Electrical Maintenance Contractor (EMC) prior to any work.

Prior to the removal of any equipment, the Contractor shall notify the Engineer to obtain the approval for equipment removal. No removal work shall be permitted until approved by the Engineer.

The removal of sign luminaires shall include all associated conduit, wire up to the handhole on the sign structure, if existing otherwise up to the nearest feed to the sign lighting (Junction Box or Light Pole), disconnect switch and hardware. All appurtenances shall become the property of the contractor and shall be disposed of according to the Article 202.03.

This work will be paid for at the agreed unit price each for **REMOVE EXISTING SIGN LIGHTING UNIT, NO SALVAGE** which price shall include all labor and equipment to complete the work described herein.

METAL SCREEN

This work shall consist of cleaning and installing stainless steel screen wire to enclose the void between the sign support base plates and the foundation.

The stainless steel mesh shall meet the requirements of Section 733 and be installed as shown in the details of Overhead Sign Structures Support Frame Base Sheet OS-A-6A.

The work will be paid for at the agreed unit price each for **METAL SCREEN**, which price shall include cleaning and installing the screen wire around each sign support base plate.

OVERHEAD SIGN STRUCTURE – TRUSS ONLY

This work shall consist of furnishing and installing a Type IA or IIA overhead sign structure-truss on or existing end supports at the location shown in the plans.

The Contractor shall be responsible for field verifying the existing dimensions for the end supports to assure the proper fit for the replacement truss on the existing end supports.

This work shall include all labor, material, and equipment necessary for proper execution and completion of the work as shown on the plans and as herein specified. It shall include all work not specifically included in the contract documents which is reasonably and properly inferable and necessary for proper completion of the improvement.

Materials shall meet the requirements of the sign structure detail sheets shown in the contract, conforming to the dimensions shown on the details included in the contract, and the applicable requirements of Section 1094.

The replacement overhead sign structure-span shall include the fabrication and installation of truss grating, to facilitate inspections, the entire length of the span conforming to the details shown in the contract.

The cost of fabricating and installing the truss grating and the truss damper shall be included in the cost of fabricating and installing the replacement overhead sign structure-span.

Due to the downsizing of the overhead sign structures a retrofit for the support frame at those locations where the existing end supports will be used is required. The retrofit for the existing end supports shall meet the requirements shown on the "OVERHEAD SIGN STRUCTURES EXISTING SUPPORT FRAME RETROFIT FOR ALUMINUM TRUSS" as shown on detail sheet OS-A-12 RETROFIT. The cost of the retrofit shall be included in the cost of fabricating and installing the replacement overhead sign structure-truss.

This work shall be done in accordance with Section 733, including providing all necessary mounting hardware and as specified herein.

Shop drawings for the new structure will be provided by the Contractor and approved in writing before any new materials are ordered or fabrication is begun.

Before starting work, the Contractor shall provide an erection plan to the Engineer detailing the method of erection proposed to be followed and the amount and type of equipment proposed to be used. The plan shall be subject to the approval of the Engineer. The approval of the Engineer shall not be considered as relieving the Contractor of the responsibility for the safety of the Contractor's method or equipment or from carrying out the work in full.

Traffic control and protection shall be included under this pay item. It shall be understood that the freeway will be closed a maximum of 15 minutes to remove and re-erect the sign structure and the time of the week allowed for closure will be as directed by the Engineer.

Basis of Payment: This work will be paid for at the contract unit price per foot for **OVERHEAD SIGN STRUCTURE- TRUSS ONLY** Type Specified which price shall include providing all necessary traffic control.

TIGHTEN SUPPORT ANCHOR BOLTS

This work shall consist of tightening the anchor bolts for an overhead sign structure support. For existing gaps between the base plate and the anchor bolt nuts less than 1/4 inch, the anchor bolt nut shall be firmly seated against the base plate of the overhead sign structure support to the satisfaction of the Engineer.

For existing gaps between the base plate and the anchor bolt nuts equal to or greater than 1/4 inch, the threads above the nut shall be cleaned to allow raising of the nut approximately 1/4 inch. A U-shaped galvanized steel shim(s) of adequate thickness shall be inserted between the base plate and existing washer, and the anchor bolt nut shall be firmly seated against the shim(s) and base plate of the overhead sign structure support to the satisfaction of the Engineer.

After seating, the anchor nut shall be final torqued to the following specifications:

Anchor Bolt Threaded Diameter (inches)	Anchor Nut Torque (ft-lb)
1	380
1 1/8	540
1 1/4	760
1 1/2	1330
1 3/4	2100
2	3150
2 1/4	4610
2 1/2	6300

Any damage to anchor bolts or failure to reach the specified torque shall immediately be reported to the Engineer.

This work will be paid for at the contract unit price each for TIGHTEN SUPPORT ANCHOR BOLTS, which price shall be payment in full for tightening all bolts for an overhead sign structure support, supplying and inserting the necessary shim(s), and providing all necessary traffic control.

TIGHTEN U-BOLT

This work shall consist of tightening existing U-bolts at the locations shown in the plans.

The U-bolts shall be tightened enough to bring the U-bolt against the tube and leave nuts/washers with less than 1/8-inch gap to the support or as directed by the Engineer.

U-bolts that cannot be tightened but are loose shall be replaced. Replacement U-bolts shall be either 8 mm or 20 mm (5/16” or 3/4”) stainless steel U-bolts of the appropriate dimensions, two stainless steel washers and two hexagon lock-nuts per bolt.

The 8 mm (5/16 inch) U-bolts are located at the connection of the walkway support and sign brackets to the truss and the 20 mm (3/4 inch) U-bolts are located at the connection of the overhead sign structure to the end support. The U-bolt, washers, and lock-nuts shall meet the requirements of Section 733 and the Overhead Sign Structure Base Sheet OS-A-1. All U-bolts shall be of sufficient length to fully engage the lock-nut.

The Contractor shall field verifying dimensions prior to ordering any material.

This work will be paid for at the contract unit price each for TIGHTEN U-BOLT, which price shall be payment in full for properly tightening loose U-bolts, replacing any U-bolts that cannot be tightened and providing all necessary traffic control.

FIBER WRAP

Description. This work shall consist of furnishing all materials, labor, equipment and supervision necessary for the installation of externally bonded Fiber Reinforced Polymer (FRP) reinforcement, field applied at the locations shown in the plans and as directed by the Engineer.

Materials. The FRP composite system shall be a proprietary system consisting of all associated fiber reinforcement and polymer adhesives/resins. FRP composites consisting of fiber reinforcement and polymers provided by more than one Manufacturer are not allowed. The system shall be from one of the following companies:

Master Builders, Inc.	SIKA Corporation	R.J. Watson, Inc.
23700 Chagrin Blvd.	201 Polito Ave.	P.O. Box 85
Cleveland OH 44122	Lyndhurst NJ 07071	East Amherst NY 14051

The fabric for the FRP composite system shall be continuous filament woven fabric. Primary fibers for the fabric shall be electrical (E) glass fibers or Carbon. Acceptable fabrics are:

Master Builders, Inc.	SIKA Corporation	R.J. Watson, Inc.
MBRACE CF 530	HEX 103C	SCH-41S
MBRACE EG 900	HEX 100G	SHE-51

The epoxy shall be supplied by the manufacturer as a part of the system designed for use with the selected fabric. Polyester resin shall not be allowed as a substitute for epoxy resin.

Submittals. The Contractor shall submit the following to the Department at least three weeks prior to beginning installation the following information for approval:

Manufacturer's product data sheets indicating physical, mechanical and chemical characteristics of all materials used in the FRP system. Information should include manufacturer's name and product number for all materials. Information shall include dry fabric thickness and minimum effective composite thickness per layer. For epoxy resins it shall include mix ratio by weight and volume, pot life, shelf life, resin gel time at proposed cure temperatures, mixing and application instructions & temperature ranges, and storage requirements. For paint it shall include mixing instructions, application method, application temperature ranges and storage requirements.

Tensile properties of the composite material as determined by tensile testing in accordance with ASTM D 3039. Ultimate tensile strength and rupture strain values shall be determined by subtracting three standard deviations from the average values of twenty or more tensile tests.

Manufacturer's installation instructions, maintenance instructions and general recommendations regarding each material to be used. Installation instructions shall include curing procedures for the composite system if required.

Manufacturer's Material Safety Data Sheets (MSDS) for all materials to be used.

The material supplier's name, address, and phone number, and the name, telephone and fax number of a contact person employed by that company.

Complete, step-by-step procedures and specifications for repairs of any defects. Procedure shall specify that if a defective composite area is greater than 50 square inches, the defective area shall be repaired by removing and reapplying.

Complete, step-by-step procedures for repairs of any future defects or damage. Including recommendations for any periodic maintenance or inspections, if required. Also include recommended materials and procedures for future repainting including surface preparation.

Qualifications. The Manufacturer/Supplier must approve the Applicator. A field representative who has completed the course of instruction (supported by the Manufacturer / Supplier) in the installation of the products specified in this section must be present on site during installation of the FRP system.

Delivery, Storage, and Handling. The products shall be delivered and stored in original, unopened containers. Containers must be clearly marked with legible and intact labels listing the Manufacturer's name, brand name, product identification and batch number.

Storage of fiber reinforcement and epoxies must be in areas protected from dust, moisture, and chemical exposure. Epoxies must be stored in areas with an ambient temperature between 50 and 75 degrees F and away from direct sunlight, flame sources or other hazards. Epoxy resins must be stored separately from hardeners.

The fiber reinforcement must not be handled roughly. For specific hazards of resin components consult the Manufacturer's MSDS.

CONSTRUCTION DETAILS

Surface Preparation

The surface shall be free from fins, sharp edges, and protrusions that will cause voids behind the casing or that, in the opinion of the Engineer, will damage the fiber.

The surfaces to receive the composite wrap shall be smooth and free of voids or undulations that would prevent full contact between the concrete and the wrap.

The contact surfaces shall be clean, free from oil, dirt, salt, etc., completely dry at the time of application of the composite. High pressure cleaning that would damage the surface will not be allowed. Newly repaired or patched surfaces that have set, and cured a minimum of 7 days, shall be coated with water-based epoxy paint or other approved sealer.

Application

The ambient temperature and the temperature of the epoxy resin components shall be between 55° F and 95° F at the time of mixing. Care shall be taken to ensure that the surface temperature of the concrete that the FRP system is being applied to is within the appropriate range for the epoxy resins. The composite shall be applied when the relative humidity is less than 85% and the surface temperature is more than 5° F above the dew point. Applications shall begin within one hour after the batch has been mixed.

The components of the epoxy resin shall be mixed with a mechanical mixer for a minimum of 5 minutes and applied uniformly to the fiber at a rate that shall insure complete saturation of the fabric.

A primer of epoxy shall be applied to the surface to be wrapped.

The FRP composite shall be applied to the prepared surface by wrapping using methods that produce a uniform force that is distributed across the entire width of the fabric. The primary fibers of the fabric shall not deviate from a vertical line more than 1/2 inch per foot, and the transverse fibers shall be perpendicular to the primary. Entrapped air shall be released or rolled over before the epoxy sets.

Beam repairs called for in this project shall consist of a single layer of fabric with any necessary splice overlap installed with the primary fibers oriented at a right angle to the longitudinal axis of the beam, providing shear reinforcement. If additional layers are required by the Engineer or recommended by the Manufacturer, successive layers of composite materials shall be placed before polymerization of the previous layer of epoxy is too complete to achieve complete bond between layers. If polymerization does occur between layers the surface must be roughened using a light abrasive that will not damage the fiber.

After the last layer of fabric is installed a final layer of epoxy shall be applied with care to insure coating of all edges and seams.

The individual supervising the installation of the fiber wrap shall be the same individual noted in the approved Information and Installation Manual. This individual shall be on site full time when fiber wrap is being installed. This individual shall not be removed or reassigned from the project without the written permission of the Engineer.

The Contractor shall maintain a Wrapping Log. The Wrapping Log shall be available for review by the Engineer at all times, and upon completion of all wrapping the Engineer shall be given a copy. The log shall provide material traceability and records for the wrapping of each beam. As a minimum the Wrapping Log shall contain:

Project name, contract number and bridge number.

Material information including product description, date of manufacturer and lot or batch numbers and location that products are installed.

Daily fabrication, inspection and verification data for the day’s construction. Include as a minimum the locations, composite thickness measurements, ambient temperature and humidity readings at the beginning, middle and end of each shift (or at the beginning and end of installation), documentation of any required curing process, thickness of any paint or protective coating applied, location of any damaged areas that are repaired.

Coating System Application

A final coating is required to protect the fibers from the elements, specifically UV radiation and to give the final aesthetic effect.

After 96 hours from final application of epoxy, if the final epoxy coat is completely polymerized, the exterior surface of the composite wrap shall be cleaned and roughened by a light abrasive. Care should be taken during the roughening process so that the fibers are not damaged. All cleaned and roughened surfaces shall be dry before painting.

The area to be painted shall receive a total dry film thickness of not less than 4 mils.

Laboratory Testing. The Contractor shall prepare and furnish to the Department one 12" x 12" sample of the cured composite system for each separate repair.

The Department will randomly test the samples at their discretion and will furnish the Contractor results of all tests made. The Department will precondition the samples at 140°F for 48 hours. Five 3/4" x 9" coupons will be cut from each sample and tested in accordance with ASTM D3039. Test results will include ultimate tensile strength, tensile modules, and percent elongation.

If the average of the five coupons fails to meet the specified requirements, two additional coupons will be taken from the same sample. If the average of the seven samples also fails, the Department will test the sample made prior to the failed sample and the sample made after the failed sample. This process will continue until the limits of the defective work are identified.
After the defective area is identified the Contractor shall reapply the entire composite system to the defective area.

Field Inspection. The Engineer will inspect the cured composite system for defects consisting of external abrasions or blemishes, delaminations, voids, external cracks, chips, cuts, loose fibers, foreign inclusions, depressible raised areas or fabric wrinkles. The following repair criteria shall apply.

All defects greater than 1" long or a defective area greater than one square inch shall be repaired in accordance with the approved Information and Installation Manual.

If the number of defects of any size within an individual repair exceeds 10, the repair shall either be repaired or replaced as directed by the Engineer.

Method of Measurement

This work will be measured for payment in place and the area computed in square feet.

Basis of Payment.

This work will be paid for at the contract unit price per square foot for **FIBER WRAP**.

FURNISH AND INSTALL SADDLE SHIM BLOCK

This work shall consist of furnishing and installing new saddle shim blocks with 3 mm (1/8”) fabric or neoprene pad, new truss to end support U-bolts, washers and lock-nuts.

The saddle shim block shall be either ASTM B-26 Alloy 356-F or ASTM B-209 Alloy 6061-T651 made to match the chords outside diameter and original shim block thickness. The replacement saddle shim block shall be of a width and length as shown on the **saddle shim detail** in the plans with 4 holes drilled to match the existing U-bolt hole locations.

The horizontal chord shall be lifted just enough to slide the saddle shim and neoprene or fabric pad in place. Extreme care shall be taken when making this lift, and jacks with radiused contact faces or softeners shall be used to distribute loads evenly and not permanently deform the chords.

This work will be paid for at the contract unit price each for FURNISH AND INSTALL SADDLE SHIM BLOCK, which price includes providing the U-bolts and all necessary traffic control.

REPLACE HANDRAIL SUPPORT

This work shall consist of replacing a damaged or deteriorated handrail support.

The handrail support shall be fabricated in accordance with the requirements of Section 733 and Overhead Sign Structures Aluminum Handrail Details Base Sheet OS-A-11.

Shop drawings for the replacement handrail supports will be provided by the Contractor and approved in writing before ordering any materials.

This work will be paid for at the contract unit price each for REPLACE HANDRAIL SUPPORT, which price shall include furnishing all materials, providing shop drawings, fabricating, and erecting the handrail support and providing the necessary traffic control.

REPAIR HANDRAIL LOCKING PIN CONNECTION

This work shall consist of reaming the existing handrail locking pin hole to obtain the proper alignment for the installation of the locking pin and installing an oversized stainless steel locking pin. The locking pin with attached safety chain shall meet the material requirements of the details shown on Overhead Sign Structures Base Sheet OS-A-11. The Contractor shall attach the locking pin safety chain to the angle of the handrail post hinge with a stainless steel screw in lieu of welding the locking pin safety chain to the handrail post hinge pin.
This work will be paid for at the contract unit price each for REPAIR HANDRAIL LOCKING PIN CONNECTION, which price includes providing all necessary traffic control.

FURNISH & INSTALL HANDRAIL

This work shall consist of furnishing and installing new or replacement handrail on an overhead sign structure. The length required will be as shown on the plans and shall be verified by the Contractor before ordering any material.

Materials shall meet the requirements of Section 733 of the Standard Specifications.

Shop drawings for the handrail will be provided by the Contractor and approved in writing before ordering any materials.

The work shall be performed and measured in accordance with Section 733.

This work will be paid for at the contract unit price per lineal foot for FURNISH AND INSTALL HANDRAIL, which price includes providing all necessary traffic control.

TIGHTEN CANTILEVER CONNECTION

This work shall consist of tightening all the mounting bolts of the top collar and the bottom mounting plate for the connections of the cantilever support and the aluminum overhead sign structure at the locations shown in the plans. **This procedure is not specifically intended to close existing gaps between mounting plates but to tighten those bolts that are loose.**

All bolts used to assemble the top collar and the bottom mounting plate shall be systematically tightened in accordance with the applicable requirements of Section 733 of the Standard Specifications or as directed by the Engineer. Bolts that cannot be tightened, but are loose, shall be replaced with bolts meeting the applicable requirements of Section 733 of the Standard Specifications.

If a gap exists, between the bottom mounting plate on the support and the truss plate, an aluminum or stainless steel shim of geometry approved by the Engineer, shall be inserted to fill the gap between the mounting plate and the truss plate to avoid bending of the mounting plates when tightening the bolts.

The Contractor shall loosen the bolts in the bottom mounting plate and the top collar prior to installing the shims. The Contractor shall raise the truss slightly (approximately 1/4”) by use of a crane or jacks (procedures similar to those outlined in the Special Provision for Relocate Saddle Shim Block to avoid damage to chords), insert the shims, and lower the truss. After shimming, the bolts shall be systematically tightened in accordance with the applicable requirements of Section 733 of the Standard Specifications or as directed by the Engineer. Bolts that are damaged and cannot be reused shall be replaced with bolts meeting the applicable requirements of Article 1006.08 of the Standard Specifications.

This work will be paid for at the contract unit price each for TIGHTEN CANTILEVER CONNECTION, which price shall include tightening all bolts, replacing those bolts which cannot be tightened but are loose, furnishing and installing aluminum or stainless steel shims for those locations that have gaps between the bottom mounting plate and the truss plate, and providing the necessary traffic control. Each cantilever shall be considered as having two connections.

TIGHTEN END SUPPORT CONNECTION

This work shall consist of tightening all the mounting bolts of the top and the bottom connections of the end support for a Vierendeel overhead sign structure at the locations shown in the plans.

All bolts used to assemble the top and bottom connections of the end supports for a Vierendeel overhead sign structure shall be systemically tightened in accordance with the applicable requirements of Section 733 of the Standard Specifications or as directed by the Engineer. Bolts that cannot be tightened but are loose, shall be replaced.

The replacement bolts shall be of the appropriate diameter, high strength, with two washers and a lock-nut. The bolts shall be of sufficient length to fully engage the lock-nut. Replacement bolts, nuts and washers shall meet the applicable requirements of Article 1006.08, except that all hardware shall be hot dipped galvanized according to ASSHTO M 111.

This work will be paid for at the contract unit price each for TIGHTEN END SUPPORT CONNECTION, which price shall include tightening all bolts, replacing those bolts which cannot be tightened but are loose, and providing the necessary traffic control.

OVERHEAD SIGN SUPPORT GROUT REPAIR

This work shall consist of removing essentially all grout, between the base plates and the foundation, cleaning and painting the exposed anchor bolts, and installing a stainless steel screen wire to enclose the void between the sign support base plates and the foundation. The stainless steel mesh shall meet the requirements of Section 733 and be installed as shown on the details Overhead Sign Structures Support Frame Base Sheet OS-A-6A.

The exposed part of the anchor bolts shall be cleaned and painted with one coat of primer. The primer shall meet the requirements of Section 4 and 5 of SSPC-PT25 for red iron oxide, zinc oxide, raw linseed oil, and alkyd primer.

All debris resulting from this operation shall be removed from the right-of-way.

Basis of Payment: This work will be paid for at the contract unit price each for OVERHEAD SIGN SUPPORT GROUT REPAIR, which price includes providing the necessary traffic control.

FURNISH AND INSTALL WALKWAY TIE DOWN BOLTS

This work shall consist of furnishing and installing missing walkway tie down bolts, field drilling any necessary holes in the walkway for the installation of the bolts and tightening loose bolts at the locations shown in the plans. The size and number of the tie down bolts shall be as shown on Overhead Sign Structures Base Sheet OS-A-10 or as shown on the shop fabrication drawings for each overhead sign structure available from the district office.

Walkway tie down bolts not of sufficient length to fully engage the lock-nut shall be replaced whenever possible with longer bolts of sufficient length to fully engage the lock-nut. Walkway tie down bolts that cannot be tightened shall be replaced.

All bolts, nuts, washers used to attach the walkway to the sign structures shall be stainless steel. The stainless steel bolts, nuts, and washers shall meet the applicable requirements of Section 733. All bolts shall be of sufficient length to fully engage the lock-nut.

This work will be paid for at the contract unit price for each overhead sign structure location for FURNISH AND INSTALL WALKWAY TIE DOWN BOLTS, which price includes tightening loose bolts, replacing damaged bolts and providing all necessary traffic control.

REPLACE WALKWAY SUPPORT BRACKET BOLT

This work shall consist of replacing the existing deteriorated walkway support bracket bolts for a Vierendeel overhead sign structure at the locations shown in the plans. The bolts furnished shall be ½" diameter, high strength, with 2 washers and a lock-nut. The bolts shall be of sufficient length to fully engage the lock-nut.

Replacement bolts, nuts, washers shall meet be according to Article 1006.08, except that all hardware shall be hot dipped galvanized according to AASHTO M 111. Samples of the bolts, washers and nuts shall be submitted to the Bureau of Materials and Physical Research for approval prior to installation.

This work will be paid for at the contract unit price each for REPLACE WALKWAY SUPPORT BRACKET BOLT, which price shall include furnishing and installing the galvanized bolt complete with washers and lock-nuts and providing all necessary traffic control.

SAFETY CHAIN

This work shall consist of removing a defective existing safety chain from the walkway, if one is present, and furnishing and installing a new one

The chain shall be 3/16" diameter, Type 304L Stainless Steel, with approximately 12 links per foot. The safety chain shall be furnished and installed on the walkway and walkway support bracket as shown on the Overhead Sign Structures Aluminum Handrail Details Base Sheet OS-A-11

For those locations where the chain must be attached to the walkway support bracket and the walkway support bracket is located behind the sign the "Alternate Safety Chain Attachment" method shall be used.

This work will be paid for at the contract unit price each for SAFETY CHAIN, which price shall include providing the alternate safety chain attachment bracket, when required, and providing all necessary traffic control.

REPLACE U-BOLT

This work shall consist of replacing missing or damaged U-bolts. Replacement U-bolts shall be either 8 mm or 20 mm (5/16" or 3/4") stainless steel U-bolts of the appropriate dimensions, two stainless steel washers and two hexagon locknuts per bolt. This work may also include field drilling any holes necessary in the appropriate members for the installation of the U-bolts.

The 8 mm (5/16 inch) U-bolts are located at the connection of the walkway support and sign brackets to the truss and the 20 mm (3/4 inch) U-bolts are located at the connection of the overhead sign structure to the end support. The U-bolt, washers, and locknuts shall meet the requirements of Section 733 and the Overhead Sign Structure Base Sheet OS-A-1. All U-bolts shall be of sufficient length to fully engage the locknut.

The Contractor shall field verify dimensions prior to ordering any material.

This work will be paid for at the contract unit price each for REPLACE U-BOLT, which price includes providing all necessary traffic control.

RELOCATE SADDLE SHIM BLOCK

This work shall consist of loosening or removing the two U-bolts on the lower horizontal chord and saddle shim as necessary, lifting the lower horizontal chord if required, relocating the saddle shim and neoprene or fabric pad to its proper alignment, and retightening the U-bolt lock nuts as necessary to secure the truss in place.

The horizontal chord shall be lifted just enough to slide the saddle shim and neoprene or fabric pads back in place. Extreme care shall be taken when making this lift, and jacks with radiused contact faces or softeners shall be used to distribute loads evenly and not permanently deform the chords.

If missing, a replacement 3 mm (1/8 inch) neoprene pad will be provided by the Contractor and placed between the saddle shim and lower horizontal chord.

If the existing U-bolt is damaged and cannot be reused, it shall be replaced and paid for in accordance with REPLACE U-BOLT located within these special provisions.

This work will be paid for at the contract unit price each for RELOCATE SADDLE SHIM BLOCK, which price shall include loosening or removing the existing U-bolts, lifting the lower horizontal chord, moving the saddle shim and pad into place, inserting a new pad if necessary, tightening the U-bolt lock nuts and providing all necessary traffic control.

REPLACE HAND-HOLE COVER BOLT

This work shall consist of replacing a missing or damaged hand-hole cover mounting bolt at the locations shown in the plans and as directed by the Engineer. All damaged bolts shall be drilled out and the hole re-tapped.

The replacement hand-hole cover mounting bolt shall be in accordance with the requirements of Section 733 and Highway Standard OS-A-6, “Overhead Sign Structures Support Frame for Aluminum Truss Detail”.

This work will be paid for at the contract unit price each for REPLACE HANDHOLE COVER BOLT, which price shall include furnishing, installing the bolt and providing the necessary traffic control.

REPLACE HANDHOLE COVER

This work shall consist of replacing a missing handhole cover at the locations shown in the plans and as directed by the Engineer. Any missing or damaged mounting bolts, that are not salvageable, shall be replaced. All broken bolts shall be drilled out and the hole re-tapped.
The handhole cover and mounting hardware shall be fabricated in accordance with the requirements of Section 733 and Highway Standard OS-A-6, “Overhead Sign Structures Support Frame for Aluminum Truss Detail”.

This work will be paid for at the contract unit price each for REPLACE HANDHOLE COVER. Which price shall include furnishing all materials, providing necessary drawings, fabricating, and installing the handhole cover and providing the necessary traffic control.

REPLACE SPLICE FLANGE BOLT

This work shall consist of furnishing and installing a missing or replacing an undersized stainless steel splice flange bolt complete with stainless steel washers and lock nut for an aluminum overhead sign structure or a galvanized bolt complete with nut and lock washer for a Vierendeel painted steel overhead sign structure

The size of the bolt shall be as shown on the shop fabrication drawings for the overhead sign structure available from the district office.

This work will be paid for at the contract unit price each for REPLACE SPLICE FLANGE BOLT, which price includes furnishing and installing the stainless steel bolt complete with washers and lock nut or the galvanized bolt complete with nut and lock washer and providing all necessary traffic control.

REMOVE ELECTRIC SERVICE

Description: This work shall consist of the disconnections, removal, and disposal of the existing electric connection to the sign lighting. Removal of the existing sign luminaires and other electrical components are included under the various pay items. This work shall also consist of reconnecting the electrical circuit to keep all highway lighting operational.

Disconnection and removal of the existing sign luminaires and other electrical components shall meet the requirements of Section 845 of the Standard Specifications. All lights and other electrical components removed shall become the property of the Contractor and salvaged or disposed of off right-of-way in a manner approved by the engineer.

The Contractor must disconnect the existing power feed to the sign lighting units and remove the wiring back to the nearest location where the sign lighting is spliced to the roadway lighting circuit. The Contractor must provide all materials and labor required to maintain operation of the existing lighting circuit.

Abandoned underground electric cables shall be removed with conduit and duct to a depth of 1 foot below ground level and the hole shall be backfilled. Cables in unit duct may be removed from the duct and become property of the Contractor. The empty duct shall be removed to a depth of 1 foot below ground level and the hole backfilled.

When a sign truss location is wired in series between light poles and the existing sign truss foundation will be removed, new Unit Duct will be required and paid for between the light poles according to Section 816 to maintain operation of the existing lighting circuit. Removal of the old electric cables and duct between each light pole and the old truss foundation will be as specified herein.

When a sign truss location is wired in series between light poles and the existing sign truss foundation will be re-used to set the new overhead sign structure, the Contractor may use the new end supports as a handhole/junction box to maintain operation of the existing lighting circuit.

Although lighting is not to be provided on the new trusses at this time, the Contractor shall be required to install all conduit and ground rods during construction of the new foundations as detailed on the base sheets for the support frames, end columns, and foundations.

Any open conduit stubs in the end supports shall be capped by the contractor after removal of the existing electrical components.

Method of Measurement: Disconnection, removal, and disposal of the existing electric connection to the sign lighting and reconnecting the electrical circuit to keep all highway lighting operational will be measured for payment as each. This work in its entirety at each sign truss location will be considered one (1) each.

Basis of Payment: This work will be paid at the contract unit price per each for REMOVE ELECTRIC SERVICE which price shall be payment in full for completing the work described above.

RELOCATE ELECTRIC SERVICE

This work shall consist of disconnecting, reconnecting and relocating electrical service to the sign lighting for an overhead sign structure to be relocated. The Contractor shall disconnect the electric cable to the sign lighting, pull and coil the cable so it will not be damaged during removal of the overhead sign structure, the removal of the end supports and the removal of the existing concrete foundations.

Once the new concrete foundation has been constructed and the new end supports for the overhead sign structure has been erected the electric cable for the sign lighting shall be relocated and extended from the existing foundation to the new foundation. If may be necessary to extend or relocate the existing conduit and cable to the new concrete foundation. The splicing of conduit will be permitted if necessary, for extending the conduit to the relocated concrete foundation. If the existing cable is of insufficient length to reach the new concrete foundation, it may be necessary to replace a section of the existing cable. No underground splicing of cable will be permitted. After all connections have been completed to the satisfaction of the Engineer, electric service shall be restored to the overhead sign structure and tested for proper operation.

Basis of Payment: This work will be paid for at the contract lump sum price for RELOCATE ELECTRIC SERVICE, which price shall be payment in full for completing the work described above and providing all necessary traffic control.

COMPENSABLE DELAY COSTS (BDE)

Effective: June 2, 2017 Revised: April 1, 2019

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

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

(1) Minor Delay. A minor delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two hours, but not to exceed two weeks.

(2) Major Delay. A major delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two weeks.

(3) Reduced Rate of Production Delay. A reduced rate of production delay occurs when the rate of production on the work in conflict with the utility in an unanticipated location decreases by more than 25 percent and lasts longer than seven calendar days."

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

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

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

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

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

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

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

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

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

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

(1) When adverse weather prevents work on the controlling item.

(2) When job conditions due to recent weather prevent work on the controlling item.

(3) When conduct or lack of conduct by the Department or its consultants, representatives, officers, agents, or employees; delay by the Department in making the site available; or delay in furnishing any items required to be furnished to the Contractor by the Department prevents work on the controlling item.

(4) When delays caused by utility or railroad adjustments prevent work on the controlling item.

(5) When strikes, lock-outs, extraordinary delays in transportation, or inability to procure critical materials prevent work on the controlling item, as long as these delays are not due to any fault of the Contractor.

(6) When any condition over which the Contractor has no control prevents work on the controlling item."

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

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

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

Add the following to Section 109 of the Standard Specifications.

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

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

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

(a) Escalated Material and/or Labor Costs. When the delay causes work, which would have otherwise been completed, to be done after material and/or labor costs have increased, such increases will be paid. Payment for escalated material costs will be limited to the increased costs substantiated by documentation furnished by the Contractor. Payment for escalated labor costs will be limited to those items in Article 109.04(b)(1) and (2), except the 35 percent and 10 percent additives will not be permitted.

(b) Extended Project Overhead. For the duration of the delay, payment for extended project overhead will be paid as follows.

(1) Direct Jobsite and Offsite Overhead. Payment for documented direct jobsite overhead and documented direct offsite overhead, including onsite supervisory and administrative personnel, will be allowed according to the following table.

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

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

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

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

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

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)

Effective: September 1, 2000 Revised: 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 **0.00%** of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will only award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set for in this Special Provision:

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

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

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

BIDDING PROCEDURES. Compliance with this Special Provision is a material bidding requirement and failure of the bidder to comply will render the bid not responsive.

The bidder shall submit a DBE Utilization Plan (form SBE 2026), and a DBE Participation Statement (form SBE 2025) for each DBE company proposed for the performance of work to achieve the contract goal, with the bid. If the Utilization Plan indicates the contract goal will not be met, documentation of good faith efforts shall also be submitted. The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor is selected over a DBE for work on the contract. The required forms and documentation must be submitted as a single .pdf file using the "Integrated Contractor Exchange (iCX)" application within the Department's "EBids System".

The Department will not accept a Utilization Plan if it does not meet the bidding procedures set forth herein and the bid will be declared not responsive. In the event the bid is declared not responsive, the Department may elect to cause the forfeiture of the penal sum of the bidder's proposal guaranty and may deny authorization to bid the project if re-advertised for bids.

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

(a) The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases and will be considered by the Department.

(1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.

(2) Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the Contractor might otherwise prefer to perform these work items with its own forces.

(3) Providing interested DBE companies with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

(4) a. Negotiating in good faith with interested DBE companies. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBE companies that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBE companies to perform the work.

b. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidders are not, however, required to accept higher quotes from DBE companies if the price difference is excessive or unreasonable. In accordance with the above Bidding Procedures, the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.

(5) Not rejecting DBE companies as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.

(6) Making efforts to assist interested DBE companies in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.

(7) Making efforts to assist interested DBE companies in obtaining necessary equipment, supplies, materials, or related assistance or services.

(8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE companies.

(b) If the Department determines the bidder has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided it is otherwise eligible for award. If the Department determines the bidder has failed to meet the requirements of this Special Provision or that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification will also include a statement of reasons for the adverse determination. If the Utilization Plan is not approved because it is deficient as a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no more than a five calendar day period to cure the deficiency.

(c) The bidder may request administrative reconsideration of an adverse determination by emailing the Department at "DOT.DBE.UP@illinois.gov" within the five calendar days after the receipt of the notification of the determination. The determination shall become final if a request is not made on or before the fifth calendar day. A request may provide additional written documentation or argument concerning the issues raised in the determination statement of reasons, provided the documentation and arguments address efforts made prior to submitting the bid. The request will be reviewed by the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person to consider all issues of documentation and whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten working days after receipt of the request for reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

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

(a) DBE as the Contractor: 100 percent goal credit for that portion of the work performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontracts to a non-DBE does not count toward the DBE goals.

(b) DBE as a joint venture Contractor: 100 percent goal credit for that portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work performed by the DBE's own forces.

(c) DBE as a subcontractor: 100 percent goal credit for the work of the subcontract performed by the DBE's own forces, including the cost of materials and supplies, excluding the purchase of materials and supplies or the lease of equipment by the DBE subcontractor from the Contractor or its affiliates. Work that a DBE subcontractor in turn subcontracts to a non-DBE does not count toward the DBE goal.

(d) DBE as a trucker: 100 percent goal credit for trucking participation provided the DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible. At least one truck owned, operated, licensed, and insured by the DBE must be used on the contract. Credit will be given for the following:

(1) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.

(2) The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission is receives as a result of the lease arrangement.

(e) DBE as a material supplier:

(1) 60 percent goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.

(2) 100 percent goal credit for the cost of materials of supplies obtained from a DBE manufacturer.

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

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

(a) NO AMENDMENT. No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be emailed to the Department at DOT.DBE.UP@illinois.gov.

(b) CHANGES TO WORK. Any deviation from the DBE condition-of-award or contract plans, specifications, or special provisions must be approved, in writing, by the Department as provided elsewhere in the Contract. The Contractor shall notify affected DBEs in writing of any changes in the scope of work which result in a reduction in the dollar amount condition-of-award to the contract. Where the revision includes work committed to a new DBE subcontractor, not previously involved in the project, then a Request for Approval of Subcontractor, Department form BC 260A or AER 260A, must be signed and submitted. If the commitment of work is in the form of additional tasks assigned to an existing subcontract, a new Request for Approval of Subcontractor will not be required. However, the Contractor must document efforts to assure the existing DBE subcontractor is capable of performing the additional work and has agreed in writing to the change.

(c) SUBCONTRACT. The Contractor must provide copies of DBE subcontracts to the Department upon request. Subcontractors shall ensure that all lower tier subcontracts or agreements with DBEs to supply labor or materials be performed in accordance with this Special Provision.

(d) ALTERNATIVE WORK METHODS. In addition to the above requirements for reductions in the condition of award, additional requirements apply to the two cases of Contractor-initiated work substitution proposals. Where the contract allows alternate work methods which serve to delete or create underruns in condition of award DBE work, and the Contractor selects that alternate method or, where the Contractor proposes a substitute work method or material that serves to diminish or delete work committed to a DBE and replace it with other work, then the Contractor must demonstrate one of the following:

(1) The replacement work will be performed by the same DBE (as long as the DBE is certified in the respective item of work) in a modification of the condition of award; or

(2) The DBE is aware its work will be deleted or will experience underruns and has agreed in writing to the change. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so; or

(3) The DBE is not capable of performing the replacement work or has declined to perform the work at a reasonable competitive price. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so.

(e) TERMINATION AND REPLACEMENT PROCEDURES. The Contractor shall not terminate or replace a DBE listed on the approved Utilization Plan, or perform with other forces work designated for a listed DBE except as provided in this Special Provision. The Contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the Contractor obtains the Department's written consent as provided in subsection (a) of this part. Unless Department consent is provided for termination of a DBE subcontractor, the Contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the DBE in the Utilization Plan.

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

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

(1) The listed DBE subcontractor fails or refuses to execute a written contract;

(2) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the Contractor;

(3) The listed DBE subcontractor fails or refuses to meet the Contractor's reasonable, nondiscriminatory bond requirements;

(4) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;

(5) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1200 or applicable state law.

(6) The Contractor has determined the listed DBE subcontractor is not a responsible contractor;

(7) The listed DBE subcontractor voluntarily withdraws from the projects and provides written notice to the Contractor of its withdrawal;

(8) The listed DBE is ineligible to receive DBE credit for the type of work required;

(9) A DBE owner dies or becomes disabled with the result that the listed DBE subcontractor is unable to complete its work on the contract;

(10) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the Contractor can self-perform the work for which the DBE contractor was engaged or so that the Contractor can substitute another DBE or non-DBE contractor after contract award.

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

(f) FINAL PAYMENT. After the performance of the final item of work or delivery of material by a DBE and final payment therefore to the DBE by the Contractor, but not later than 30 calendar days after payment has been made by the Department to the Contractor for such work or material, the Contractor shall submit a DBE Payment Agreement on Department form SBE 2115 to the Resident Engineer. If full and final payment has not been made to the DBE, the DBE Payment Agreement shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes the work has not been satisfactorily completed. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the DBE companies indicated in the Utilization Plan and after good faith efforts are reviewed, the Department may deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages. The Contractor may request an administrative reconsideration of any amount deducted as damages pursuant to subsection (h) of this part.

(g) ENFORCEMENT. The Department reserves the right to withhold payment to the Contractor to enforce the provisions of this Special Provision. Final payment shall not be made on the contract until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.

(h) RECONSIDERATION. Notwithstanding any other provision of the contract, including but not limited to Article 109.09 of the Standard Specifications, the Contractor may request administrative reconsideration of a decision to deduct the amount of the goal not achieved as liquidated damages. A request to reconsider shall be delivered to the Contract Compliance Section and shall be handled and considered in the same manner as set forth in paragraph (c) of “Good Faith Effort Procedures” of this Special Provision, except a final decision that a good faith effort was not made during contract performance to achieve the goal agreed to in the Utilization Plan shall be the final administrative decision of the Department. The result of the reconsideration process is not administratively appealable to the U.S. Department of Transportation.

DISPOSAL FEES (BDE)
Effective: November 1, 2018

Replace Articles 109.04(b)(5) – 109.04(b)(8) of the Standard Specifications with the following:

"(5) Disposal Fees. When the extra work performed includes paying for disposal fees at a clean construction and demolition debris facility, an uncontaminated soil fill operation or a landfill, the Contractor shall receive, as administrative costs, an amount equal to five percent of the first $10,000 and one percent of any amount over $10,000 of the total approved costs of such fees.

(6) Miscellaneous. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.

(7) Statements. No payment will be made for work performed on a force account basis until the Contractor has furnished the Engineer with itemized statements of the cost of such force account work. Statements shall be accompanied and supported by invoices for all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the invoices, the Contractor shall furnish an affidavit certifying that such materials were taken from his/her stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

Itemized statements at the cost of force account work shall be detailed as follows.

a. Name, classification, date, daily hours, total hours, rate, and extension for each laborer and foreman. Payrolls shall be submitted to substantiate actual wages paid if so requested by the Engineer.

b. Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.

c. Quantities of materials, prices and extensions.

d. Transportation of materials.

e. Cost of property damage, liability and workmen's compensation insurance premiums, unemployment insurance contributions, and social security tax.

(8) Work Performed by an Approved Subcontractor. When extra work is performed by an approved subcontractor, the Contractor shall receive, as administrative costs, an amount equal to five percent of the total approved costs of such work with the minimum payment being $100.

(9) All statements of the cost of force account work shall be furnished to the Engineer not later than 60 days after receipt of the Central Bureau of Construction form "Extra Work Daily Report". If the statement is not received within the specified time frame, all demands for payment for the extra work are waived and the Department is released from any and all such demands. It is the responsibility of the Contractor to ensure that all statements are received within the specified time regardless of the manner or method of delivery."

EQUIPMENT PARKING AND STORAGE (BDE)
Effective: November 1, 2017

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

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

(a) When the project has adequate right-of-way, vehicles, materials, and equipment shall be located a minimum of 30 ft (9 m) from the pavement.

(b) When adequate right-of-way does not exist, vehicles, materials, and equipment shall be located a minimum of 15 ft (4.5 m) from the edge of any pavement open to traffic.

(c) Behind temporary concrete barrier, vehicles, materials, and equipment shall be located a minimum of 24 in. (600 mm) behind free standing barrier or a minimum of 6 in. (150 mm) behind barrier that is either pinned or restrained according to Article 704.04. The 24 in. or 6 in. measurement shall be from the base of the non-traffic side of the barrier.

(d) Behind other man-made or natural barriers meeting the approval of the Engineer."

MOBILIZATION (BDE)

Effective: April 1, 2020

Replace Articles 671.02(a), (b), and (c) of the Standard Specifications with the following:

"(a) Upon execution of the contract, 90 percent of the pay item will be paid.

(b) When 90 percent of the adjusted contract value is earned, the remaining ten percent of the pay item will be paid along with any amount bid in excess of six percent of the original contract amount."

PORTLAND CEMENT CONCRETE (BDE)
Effective: November 1, 2017

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

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

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

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

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES (BDE)

Effective: January 1, 2019 Revised: January 1, 2020

Revise Section 669 of the Standard Specifications to read:

"**SECTION 669. REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES**

669.01 Description. This work shall consist of the transportation and proper disposal of regulated substances. This work shall also consist of the removal, transportation, and proper disposal of underground storage tanks (UST), their contents and associated underground piping to the point where the piping is above the ground, including determining the content types and estimated quantities.

669.02 Equipment. The Contractor shall notify the Engineer of the delivery of all excavation, storage, and transportation equipment to a work area location. The equipment shall comply with OSHA and American Petroleum Institute (API) guidelines and shall be furnished in a clean condition. Clean condition means the equipment does not contain any residual material classified as a non-special waste, non-hazardous special waste, or hazardous waste. Residual materials include, but are not limited to, petroleum products, chemical products, sludges, or any other material present in or on equipment.

Before beginning any associated soil or groundwater management activity, the Contractor shall provide the Engineer with the opportunity to visually inspect and approve the equipment. If the equipment contains any contaminated residual material, decontamination shall be performed on the equipment as appropriate to the regulated substance and degree of contamination present according to OSHA and API guidelines. All cleaning fluids used shall be treated as the contaminant unless laboratory testing proves otherwise.

669.03 Pre-Construction Submittals and Qualifications. Prior to beginning this work, or working in areas with regulated substances, the Contractor shall submit a "Regulated Substances Pre-Construction Plan (RSPCP)" to the Engineer for review and approval using form BDE 2730. The form shall be signed by an Illinois licensed Professional Engineer or Professional Geologist.

As part of the RSPCP, the Contractor(s) or firm(s) performing the work shall meet the following qualifications.

(a) Regulated Substances Monitoring. Qualification for environmental observation and field screening of regulated substances work and environmental observation of UST removal shall require either pre-qualification in Hazardous Waste by the Department or demonstration of acceptable project experience in remediation and operations for contaminated sites in accordance with applicable Federal, State, or local regulatory requirements using BDE 2730.

Qualification for each individual performing regulated substances monitoring shall require a minimum of one-year of experience in similar activities as those required for the project.

(b) Underground Storage Tank Removal. Qualification for underground storage tank (UST) removal work shall require licensing and certification with the Office of the State Fire Marshall (OSFM) and possession of all permits required to perform the work. A copy of the permit shall be provided to the Engineer prior to tank removal.

The qualified Contractor(s) or firm(s) shall also document it does not have any current or former ties with any of the properties contained within, adjoining, or potentially affecting the work.

The Engineer will require up to 21 calendar days for review of the RSPCP. The review may involve rejection or revision and resubmittal; in which case, an additional 21 days will be required for each subsequent review. Work shall not commence until the RSPCP has been approved by the Engineer. After approval, the RSPCP shall be revised as necessary to reflect changed conditions in the field and documented using BDE 2730A "Regulated Substances Pre-Construction Plan (RSPCP) Addendum" and submitted to the Engineer for approval.

CONSTRUCTION REQUIREMENTS

669.04 Regulated Substances Monitoring. Regulated substances monitoring includes environmental observation and field screening during regulated substances management activities at the contract specific work areas. As part of the regulated substances monitoring, the monitoring personnel shall perform and document the applicable duties listed on form BDE 2732 "Regulated Substances Monitoring Daily Record (RSMDR)".

(a) Environmental Observation. Prior to beginning excavation, the Contractor shall mark the limits of the contract specific work areas. Once work begins, the monitoring personnel shall be present on-site continuously during the excavation and loading of material.

(b) Field Screening. Field screening shall be performed during the excavation and loading of material from the contract specific work areas, except for material classified according to Article 669.05(b)(1) or 669.05(c) where field screening is not required.

Field screening shall be performed with either a photoionization detector (PID) (minimum 10.6eV lamp) or a flame ionization detector (FID), and other equipment as appropriate, to monitor for potential contaminants associated with regulated substances. The PID or FID shall be calibrated on-site, and background level readings taken and recorded daily, and as field and weather conditions change. Field screen readings on the PID or FID in excess of background levels indicates the potential presence of regulated substances requiring handling as a non-special waste, special waste, or hazardous waste. PID or FID readings may be used as the basis of increasing the limits of removal with the approval of the Engineer but shall in no case be used to decrease the limits.

669.05 Regulated Substances Management and Disposal. The management and disposal of soil and/or groundwater containing regulated substances shall be according to the following:

(a) Soil Analytical Results Exceed Most Stringent MAC. When the soil analytical results indicate detected levels exceed the most stringent maximum allowable concentration (MAC) for chemical constituents in soil established pursuant to Subpart F of 35 Ill. Adm. Code 1100.605, the soil shall be managed as follows:

(1) When analytical results indicate inorganic chemical constituents exceed the most stringent MAC, but still considered within area background levels by the Engineer, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable. If the soils cannot be utilized within the right-of-way, they shall be managed and disposed of at a landfill as a non-special waste.

(2) When analytical results indicate inorganic chemical constituents exceed the most stringent MAC but do not exceed the MAC for a Metropolitan Statistical Area (MSA) County identified in 35 Ill. Admin. Code 742 Appendix A. Table G, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable, or managed and disposed of at a clean construction and demolition debris (CCDD) facility or an uncontaminated soil fill operation (USFO) within an MSA County provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.

(3) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, or the MAC within the Chicago corporate limits, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable, or managed and disposed of off-site at a CCDD facility or an USFO within an MSA County excluding Chicago or within the Chicago corporate limits provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.

(4) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable, or managed and disposed of off-site at a CCDD facility or an USFO within an MSA County excluding Chicago provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.

(5) When the Engineer determines soil cannot be managed according to Articles 669.05(a)(1) through (a)(4) above and the materials do not contain special waste or hazardous waste, as determined by the Engineer, the soil shall be managed and disposed of at a landfill as a non-special waste.

(6) When analytical results indicate soil is hazardous by characteristic or listing pursuant to 35 Ill. Admin. Code 721, contains radiological constituents, or the Engineer otherwise determines the soil cannot be managed according to Articles 669.05(a)(1) through (a)(5) above, the soil shall be managed and disposed of off-site as a special waste or hazardous waste as applicable.

(b) Soil Analytical Results Do Not Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels do not exceed the most stringent MAC, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable, or managed and disposed of off-site according to Article 202.03. However, the excavated soil cannot be taken to a CCDD facility or an USFO for any of the following reasons.

(1) The pH of the soil is less than 6.25 or greater than 9.0.

(2) The soil exhibited PID or FID readings in excess of background levels.

(c) Soil Analytical Results Exceed Most Stringent MAC but Do Not Exceed Tiered Approach to Corrective Action Objectives (TACO) Residential. When the soil analytical results indicate that detected levels exceed the most stringent MAC but do not exceed TACO Tier 1 Soil Remediation Objectives for Residential Properties pursuant to 35 Ill. Admin. Code 742 Appendix B Table A, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable, or managed and disposed of off-site according to Article 202.03. However, the excavated soil cannot be taken to a CCDD facility or an USFO.

(d) Groundwater. When groundwater analytical results indicate the detected levels are above Appendix B, Table E of 35 Ill. Admin. Code 742, the most stringent Tier 1 Groundwater Remediation Objectives for Groundwater Component of the Groundwater Ingestion Route for Class 1 groundwater, the groundwater shall be managed off-site as a special waste or hazardous waste as applicable. Special waste groundwater shall be containerized and trucked to an off-site treatment facility, or may be discharged to a sanitary sewer or combined sewer when permitted by the local sewer authority. Groundwater discharged to a sanitary sewer or combined sewer shall be pre-treated to remove particulates and measured with a calibrated flow meter to comply with applicable discharge limits. A copy of the permit shall be provided to the Engineer prior to discharging groundwater to the sanitary sewer or combined sewer.

Groundwater encountered within trenches may be managed within the trench and allowed to infiltrate back into the ground. If the groundwater cannot be managed within the trench, it may be discharged to a sanitary sewer or combined sewer when permitted by the local sewer authority, or it shall be containerized and trucked to an off-site treatment facility as a special waste or hazardous waste. The Contractor is prohibited from discharging groundwater within the trench through a storm sewer. The Contractor shall install backfill plugs within the area of groundwater contamination.

One backfill plug shall be placed down gradient to the area of groundwater contamination. Backfill plugs shall be installed at intervals not to exceed 50 ft (15 m). Backfill plugs are to be 4 ft (1.2 m) long, measured parallel to the trench, full trench width and depth. Backfill plugs shall not have any fine aggregate bedding or backfill, but shall be entirely cohesive soil or any class of concrete. The Contractor shall provide test data that the material has a permeability of less than 10^{-7} cm/sec according to ASTM D 5084, Method A or per another test method approved by the Engineer.

The Contractor shall use due care when transferring contaminated material from the area of origin to the transporter. Should releases of contaminated material to the environment occur (i.e., spillage onto the ground, etc.), the Contractor shall clean-up spilled material and place in the appropriate storage containers as previously specified. Clean-up shall include, but not be limited to, sampling beneath the material staging area to determine complete removal of the spilled material.

The Contractor shall provide engineered barriers, when required, and shall include materials sufficient to completely line excavation surfaces, including sloped surfaces, bottoms, and sidewall faces, within the areas designated for protection.

The Contractor shall obtain all documentation including any permits and/or licenses required to transport the material containing regulated substances to the disposal facility. The Contractor shall coordinate with the Engineer on the completion of all documentation. The Contractor shall make all arrangements for collection and analysis of landfill acceptance testing. The Contractor shall coordinate waste disposal approvals with the disposal facility.

The Contractor shall provide the Engineer with all transport-related documentation within two days of transport or receipt of said document(s). For management of special or hazardous waste, the Contractor shall provide the Engineer with documentation that the Contractor is operating with a valid Illinois special waste transporter permit at least two weeks before transporting the first load of contaminated material.

Transportation and disposal of material classified according to Article 669.05(a)(5) or 669.05(a)(6) shall be completed each day so that none of the material remains on-site by the close of business, except when temporary staging has been approved.

Any waste generated as a special or hazardous waste from a non-fixed facility shall be manifested off-site using the Department's county generator number provided by the Bureau of Design and Environment. An authorized representative of the Department shall sign all manifests for the disposal of the contaminated material and confirm the Contractor's transported volume. Any waste generated as a non-special waste may be managed off-site without a manifest, a special waste transporter, or a generator number.

The Contractor shall select a landfill permitted for disposal of the contaminant within the State of Illinois. The Department will review and approve or reject the facility proposed by the Contractor to use as a landfill. The Contractor shall verify whether the selected disposal facility is compliant with those applicable standards as mandated by their permit and whether the disposal facility is presently, has previously been, or has never been, on the United States Environmental Protection Agency (U.S. EPA) National Priorities List or the Resource Conservation and Recovery Act (RCRA) List of Violating Facilities. The use of a Contractor selected landfill shall in no manner delay the construction schedule or alter the Contractor's responsibilities as set forth.

669.06 Non-Special Waste Certification. An authorized representative of the Department shall sign and date all non-special waste certifications. The Contractor shall be responsible for providing the Engineer with the required information that will allow the Engineer to certify the waste is not a special waste.

(a) Definition. A waste is considered a non-special waste as long as it is not:

(1) a potentially infectious medical waste;

(2) a hazardous waste as defined in 35 Ill. Admin. Code 721;

(3) an industrial process waste or pollution control waste that contains liquids, as determined using the paint filter test set forth in subdivision (3)(A) of subsection (m) of 35 Ill. Admin. Code 811.107;

(4) a regulated asbestos-containing waste material, as defined under the National Emission Standards for Hazardous Air Pollutants in 40 CFR Part 61.141;

(5) a material containing polychlorinated biphenyls (PCB's) regulated pursuant to 40 CFR Part 761;

(6) a material subject to the waste analysis and recordkeeping requirements of 35 Ill. Admin. Code 728.107 under land disposal restrictions of 35 Ill. Admin. Code 728;

(7) a waste material generated by processing recyclable metals by shredding and required to be managed as a special waste under Section 22.29 of the Environmental Protection Act; or

(8) an empty portable device or container in which a special or hazardous waste has been stored, transported, treated, disposed of, or otherwise handled.

(b) Certification Information. All information used to determine the waste is not a special waste shall be attached to the certification. The information shall include but not be limited to:

(1) the means by which the generator has determined the waste is not a hazardous waste;

(2) the means by which the generator has determined the waste is not a liquid;

(3) if the waste undergoes testing, the analytic results obtained from testing, signed and dated by the person responsible for completing the analysis;

(4) if the waste does not undergo testing, an explanation as to why no testing is needed;

(5) a description of the process generating the waste; and

(6) relevant material safety data sheets.

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

Temporary staging shall be accomplished within the right-of-way and the Contractor's means and methods shall be described in the approved or amended RSPCP. Staging areas shall not be located within 200 feet (61 m) of a public or private water supply well; nor within 100 feet (30 m) of sensitive environmental receptor areas, including wetlands, rivers, streams, lakes, or designated habitat zones.

The method of staging shall consist of containerization or stockpiling as applicable for the type, classification, and physical state (i.e., liquid, solid, semisolid) of the material. Materials of different classifications shall be staged separately with no mixing or co-mingling.

When containers are used, the containers and their contents shall remain intact and inaccessible to unauthorized persons until the manner of disposal is determined. The Contractor shall be responsible for all activities associated with the storage containers including, but not limited to, the procurement, transport, and labeling of the containers. The Contractor shall not use a storage container if visual inspection of the container reveals the presence of free liquids or other substances that could cause the waste to be reclassified as a hazardous or special waste.

When stockpiles are used, they shall be covered with a minimum 20-mil plastic sheeting or tarps secured using weights or tie-downs. Perimeter berms or diversionary trenches shall be provided to contain and collect for disposal any water that drains from the soil. Stockpiles shall be managed to prevent or reduce potential dust generation.

When staging non-special waste, special waste, or hazardous waste, the following additional requirements shall apply:

(a) Non-Special Waste. When stockpiling soil classified according to Article 669.05(a)(1) or 669.05(a)(5), an impermeable surface barrier between the materials and the ground surface shall be installed. The impermeable barrier shall consist of a minimum 20-mil plastic liner material and the surface of the stockpile area shall be clean and free of debris prior to placement of the liner. Measures shall also be taken to limit or discourage access to the staging area.

(b) Special Waste and Hazardous Waste. Soil classified according to Article 669.05(a)(6) shall not be stockpiled but shall be containerized immediately upon generation in containers, tanks or containment buildings as defined by RCRA, Toxic Substances Control Act (TSCA), and other applicable State or local regulations and requirements, including 35 Ill. Admin. Code Part 722, Standards Applicable to Generators of Hazardous Waste.

The staging area(s) shall be enclosed (by a fence or other structure) to restrict direct access to the area, and all required regulatory identification signs applicable to a staging area containing special waste or hazardous waste shall be deployed.

Storage containers shall be placed on an all-weather gravel-packed, asphalt, or concrete surface. Containers shall be in good condition and free of leaks, large dents, or severe rusting, which may compromise containment integrity. Containers must be constructed of, or lined with, materials that will not react or be otherwise incompatible with the hazardous or special waste contents. Containers used to store liquids shall not be filled more than 80 percent of the rated capacity. Incompatible wastes shall not be placed in the same container or comingled.

All containers shall be legibly labeled and marked using pre-printed labels and permanent marker in accordance with applicable regulations, clearly showing the date of waste generation, location and/or area of waste generation, and type of waste. The Contractor shall place these identifying markings on an exterior side surface of the container.

Storage containers shall be kept closed, and storage pads covered, except when access is needed by authorized personnel.

Special waste and hazardous waste shall be transported and disposed within 90 days from the date of generation.

669.08 Underground Storage Tank Removal. For the purposes of this section, an underground storage tank (UST) includes the underground storage tank, piping, electrical controls, pump island, vent pipes and appurtenances.

Prior to removing an UST, the Engineer shall determine whether the Department is considered an "owner" or "operator" of the UST as defined by the UST regulations (41 Ill. Adm. Code Part 176). Ownership of the UST refers to the Department's owning title to the UST during storage, use or dispensing of regulated substances. The Department may be considered an "operator" of the UST if it has control of, or has responsibility for, the daily operation of the UST. The Department may however voluntarily undertake actions to remove an UST from the ground without being deemed an "operator" of the UST.

In the event the Department is deemed not to be the "owner" or "operator" of the UST, the OSFM removal permit shall reflect who was the past "owner" or "operator" of the UST. If the "owner" or "operator" cannot be determined from past UST registration documents from OSFM, then the OSFM removal permit will state the "owner" or "operator" of the UST is the Department. The Department’s Office of Chief Counsel (OCC) will review all UST removal permits prior to submitting any removal permit to the OSFM. If the Department is not the “owner” or “operator” of the UST then it will not register the UST or pay any registration fee.

The Contractor shall be responsible for obtaining permits required for removing the UST, notification to the OSFM, using an OSFM certified tank contractor, removal and disposal of the UST and its contents, and preparation and submittal of the OSFM Site Assessment Report in accordance with 41 Ill. Admin. Code Part 176.330.

The Contractor shall contact the Engineer and the OSFM's office at least 72 hours prior to removal to confirm the OSFM inspector's presence during the UST removal. Removal, transport, and disposal of the UST shall be according to the applicable portions of the latest revision of the "American Petroleum Institute (API) Recommended Practice 1604".

The Contractor shall collect and analyze tank content (sludge) for disposal purposes. The Contractor shall remove as much of the regulated substance from the UST system as necessary to prevent further release into the environment. All contents within the tank shall be removed, transported and disposed of, or recycled. The tank shall be removed and rendered empty according to IEPA definition.

The Contractor shall collect soil samples from the bottom and sidewalls of the excavated area in accordance with 35 Ill. Admin. Code Part 734.210(h) after the required backfill has been removed during the initial response action, to determine the level of contamination remaining in the ground, regardless if a release is confirmed or not by the OSFM on-site inspector.

In the event the UST is designated a leaking underground storage tank (LUST) by the OSFM’s inspector, or confirmation by analytical results, the Contractor shall notify the Engineer and the District Environmental Studies Unit (DESU). Upon confirmation of a release of contaminants and notifications to the Engineer and DESU, the Contractor shall report the release to the Illinois Emergency Management Agency (IEMA) (e.g., by telephone or electronic mail) and provide them with whatever information is available (“owner” or “operator” shall be stated as the past registered “owner” or “operator”, or the IDOT District in which the tank is located and the DESU Manager).

The Contractor shall perform the following initial response actions if a release is indicated by the OSFM inspector:

(a) Take immediate action to prevent any further release of the regulated substance to the environment, which may include removing, at the Engineer's discretion, and disposing of up to 4 ft (1.2 m) of the contaminated material, as measured from the outside dimension of the tank;

(b) Identify and mitigate fire, explosion and vapor hazards;

(c) Visually inspect any above ground releases or exposed below ground releases and prevent further migration of the released substance into surrounding soils and groundwater; and

(d) Continue to monitor and mitigate any additional fire and safety hazards posed by vapors and free product that have migrated from the tank excavation zone and entered into subsurface structures (such as sewers or basements).

The tank excavation shall be backfilled according to applicable portions of Sections 205, 208, and 550 with a material that will compact and develop stability. All uncontaminated concrete and soil removed during tank extraction may be used to backfill the excavation, at the discretion of the Engineer.

After backfilling the excavation, the site shall be graded and cleaned.

669.09 Regulated Substances Final Construction Report. Not later than 90 days after completing this work, the Contractor shall submit a "Regulated Substances Final Construction Report (RSFCR)" to the Engineer using form BDE 2733 and required attachments. The form shall be signed by an Illinois licensed Professional Engineer or Professional Geologist.

669.10 Method of Measurement. Non-special waste, special waste, and hazardous waste soil will be measured for payment according to Article 202.07(b) when performing earth excavation, Article 502.12(b) when excavating for structures, or by computing the volume of the trench using the maximum trench width permitted and the actual depth of the trench.

Groundwater containerized and transported off-site for management, storage, and disposal will be measured for payment in gallons (liters).

Backfill plugs will be measured in cubic yards (cubic meters) in place, except the quantity for which payment will be made shall not exceed the volume of the trench, as computed by using the maximum width of trench permitted by the Specifications and the actual depth of the trench, with a deduction for the volume of the pipe.

Engineered Barriers will be measured for payment in square yards (square meters).

669.11 Basis of Payment. The work of preparing, submitting and administering a Regulated Substances Pre-Construction Plan will be paid for at the contract lump sum price for REGULATED SUBSTANCES PRE-CONSTRUCTION PLAN.

Regulated substances monitoring, including completion of form BDE 2732 for each day of work, will be paid for at the contract unit price per calendar day, or fraction thereof to the nearest 0.5 calendar day, for REGULATED SUBSTANCES MONITORING.

The installation of engineered barriers will be paid for at the contract unit price per square yard (square meter) for ENGINEERED BARRIER.

The work of UST removal, soil excavation, soil and content sampling, the management of excavated soil and UST content, and UST disposal, will be paid for at the contract unit price per each for UNDERGROUND STORAGE TANK REMOVAL.

The transportation and disposal of soil and other materials from an excavation determined to be contaminated will be paid for at the contract unit price per cubic yard (cubic meter) for NON-SPECIAL WASTE DISPOSAL, SPECIAL WASTE DISPOSAL, or HAZARDOUS WASTE DISPOSAL.

The transportation and disposal of groundwater from an excavation determined to be contaminated will be paid for at the contract unit price per gallon (liter) for SPECIAL WASTE GROUNDWATER DISPOSAL or HAZARDOUS WASTE GROUNDWATER DISPOSAL. When groundwater is discharged to a sanitary or combined sewer by permit, the cost will be paid for according to Article 109.05.

Backfill plugs will be paid for at the contract unit price per cubic yard (cubic meter) for BACKFILL PLUGS.

Payment for temporary staging of soil classified according to Articles 669.05(a)(1), (a)(3), (a)(4), (a)(5), (a)(6), or (b)(2) will be paid for according to Article 109.04. The Department will not be responsible for any additional costs incurred, if mismanagement of the staging area, storage containers, or their contents by the Contractor results in excess cost expenditure for disposal or other material management requirements.

Payment for accumulated stormwater removal and disposal will be according to Article 109.04. Payment will only be allowed if appropriate stormwater and erosion control methods were used.

Payment for decontamination, labor, material, and equipment for monitoring areas beyond the specified areas, with the Engineer's prior written approval, will be according to Article 109.04.

When the waste material for disposal requires sampling for landfill disposal acceptance, the samples shall be analyzed for TCLP VOCs, SVOCs, RCRA metals, pH, ignitability, and paint filter test. The analysis will be paid for at the contract unit price per each for SOIL DISPOSAL ANALYSIS using EPA Methods 1311 (extraction), 8260B for VOCs, 8270C for SVOCs, 6010B and 7470A for RCRA metals, 9045C for pH, 1030 for ignitability, and 9095A for paint filter.

The work of preparing, submitting and administering a Regulated Substances Final Construction Report will be paid for at the contract lump sum price REGULATED SUBSTANCES FINAL CONSTRUCTION REPORT."

SPEED DISPLAY TRAILER (BDE)
Effective: April 2, 2014 Revised: January 1, 2017

Revise the third paragraph of Article 701.11 of the Standard Specifications to read:

"When not being utilized to inform and direct traffic, sign trailers, speed display trailers, arrow boards, and portable changeable message boards shall be treated as nonoperating equipment."

Add the following to Article 701.15 of the Standard Specifications:

"(m) Speed Display Trailer. A speed display trailer is used to enhance safety of the traveling public and workers in work zones by alerting drivers of their speed, thus deterring them from driving above the posted work zone speed limit."

Add the following to Article 701.20 of the Standard Specifications:

"(k) When speed display trailers are shown on the Standard, this work will not be paid for separately but shall be considered as included in the cost of the Standard.

For all other speed display trailers, this work will be paid for at the contract unit price per calendar month or fraction thereof for each trailer as SPEED DISPLAY TRAILER."

Add the following to Article 1106.02 of the Standard Specifications:

"(o) Speed Display Trailer. The speed display trailer shall consist of a LED speed indicator display with self-contained, one-direction radar mounted on an orange see-through trailer. The height of the display and radar shall be such that it will function and be visible when located behind concrete barrier.

The speed measurement shall be by radar and provide a minimum detection distance of 1000 ft (300 m). The radar shall have an accuracy of ±1 mile per hour.

The speed indicator display shall face approaching traffic and shall have a sign legend of "YOUR SPEED" immediately above or below the speed display. The sign letters shall be between 5 and 8 in. (125 and 200 mm) in height. The digital speed display shall show two digits (00 to 99) in mph. The color of the changeable message legend shall be a yellow legend on a black background. The minimum height of the numerals shall be 18 in. (450 mm), and the nominal legibility distance shall be at least 750 ft (250 m).

The speed indicator display shall be equipped with a violation alert that flashes the displayed detected speed when the work zone posted speed limit is exceeded. The speed indicator shall have a maximum speed cutoff. On roadway facilities with a normal posted speed limit greater than or equal to 45 mph, the detected speeds of vehicles traveling more than 25 mph over the work zone speed limit shall not be displayed. On facilities with normal posted speed limit of less than 45 mph, the detected speeds of vehicles traveling more than 15 mph over the work zone speeds limit shall not be displayed. On any roadway facility if detected speeds are less than 25 mph, they shall not be displayed. The display shall include automatic dimming for nighttime operation.

The speed indicator measurement and display functions shall be equipped with the power supply capable of providing 24 hours of uninterrupted service."

STEEL COST ADJUSTMENT (BDE)

Effective: April 2, 2004 Revised: August 1, 2017

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

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

Metal Piling (excluding temporary sheet piling)
Structural Steel
Reinforcing Steel

Other steel materials such as dowel bars, tie bars, mesh reinforcement, guardrail, steel traffic signal and light poles, towers and mast arms, metal railings (excluding wire fence), and frames and grates will be subject to a steel cost adjustment when the pay items they are used in have a contract value of $10,000 or greater.

The adjustments shall apply to the above items when they are part of the original proposed construction, or added as extra work and paid for by agreed unit prices. The adjustments shall not apply when the item is added as extra work and paid for at a lump sum price or by force account.

Documentation. Sufficient documentation shall be furnished to the Engineer to verify the following:

(a) The dates and quantity of steel, in lb (kg), shipped from the mill to the fabricator.

(b) The quantity of steel, in lb (kg), incorporated into the various items of work covered by this special provision. The Department reserves the right to verify submitted quantities.

Method of Adjustment. Steel cost adjustments will be computed as follows:

SCA = Q X 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:

Percent Difference = $\{(MPI_L - MPI_M) \div MPI_L\} \times 100$

Steel cost adjustments will be calculated by the Engineer and will be paid or deducted when all other contract requirements for the items of work are satisfied. Adjustments will only be made for fluctuations in the cost of the steel as described herein. No adjustment will be made for changes in the cost of manufacturing, fabrication, shipping, storage, etc.

The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

Attachment

Item	Unit Mass (Weight)
Metal Piling (excluding temporary sheet piling)	
Furnishing Metal Pile Shells 12 in. (305 mm), 0.179 in. (3.80 mm) wall thickness)	23 lb/ft (34 kg/m)
Furnishing Metal Pile Shells 12 in. (305 mm), 0.250 in. (6.35 mm) wall thickness)	32 lb/ft (48 kg/m)
Furnishing Metal Pile Shells 14 in. (356 mm), 0.250 in. (6.35 mm) wall thickness)	37 lb/ft (55 kg/m)
Other piling	See plans
Structural Steel	See plans for weights (masses)
Reinforcing Steel	See plans for weights (masses)
Dowel Bars and Tie Bars	6 lb (3 kg) each
Mesh Reinforcement	63 lb/100 sq ft (310 kg/sq m)
Guardrail	
Steel Plate Beam Guardrail, Type A w/steel posts	20 lb/ft (30 kg/m)
Steel Plate Beam Guardrail, Type B w/steel posts	30 lb/ft (45 kg/m)
Steel Plate Beam Guardrail, Types A and B w/wood posts	8 lb/ft (12 kg/m)
Steel Plate Beam Guardrail, Type 2	305 lb (140 kg) each
Steel Plate Beam Guardrail, Type 6	1260 lb (570 kg) each
Traffic Barrier Terminal, Type 1 Special (Tangent)	730 lb (330 kg) each
Traffic Barrier Terminal, Type 1 Special (Flared)	410 lb (185 kg) each
Steel Traffic Signal and Light Poles, Towers and Mast Arms	
Traffic Signal Post	11 lb/ft (16 kg/m)
Light Pole, Tenon Mount and Twin Mount, 30 - 40 ft (9 – 12 m)	14 lb/ft (21 kg/m)
Light Pole, Tenon Mount and Twin Mount, 45 - 55 ft (13.5 – 16.5 m)	21 lb/ft (31 kg/m)
Light Pole w/Mast Arm, 30 - 50 ft (9 – 15.2 m)	13 lb/ft (19 kg/m)
Light Pole w/Mast Arm, 55 - 60 ft (16.5 – 18 m)	19 lb/ft (28 kg/m)
Light Tower w/Luminaire Mount, 80 - 110 ft (24 – 33.5 m)	31 lb/ft (46 kg/m)
Light Tower w/Luminaire Mount, 120 - 140 ft (36.5 – 42.5 m)	65 lb/ft (97 kg/m)
Light Tower w/Luminaire Mount, 150 - 160 ft (45.5 – 48.5 m)	80 lb/ft (119 kg/m)
Metal Railings (excluding wire fence)	
Steel Railing, Type SM	64 lb/ft (95 kg/m)
Steel Railing, Type S-1	39 lb/ft (58 kg/m)
Steel Railing, Type T-1	53 lb/ft (79 kg/m)
Steel Bridge Rail	52 lb/ft (77 kg/m)
Frames and Grates	
Frame	250 lb (115 kg)
Lids and Grates	150 lb (70 kg)

SUBCONTRACTOR AND DBE PAYMENT REPORTING (BDE)
Effective: April 2, 2018

Add the following to Section 109 of the Standard Specifications.

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

(a) first tier subcontractors;

(b) lower tier subcontractors affecting disadvantaged business enterprise (DBE) goal credit;

(c) material suppliers or trucking firms that are part of the Contractor's submitted DBE utilization plan.

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

SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)

Effective: November 2, 2017
Revised: April 1, 2019

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

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

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

TRAFFIC CONTROL DEVICES - CONES (BDE)
Effective: January 1, 2019

Revise Article 701.15(a) of the Standard Specifications to read:

"(a) Cones. Cones are used to channelize traffic. Cones used to channelize traffic at night shall be reflectorized; however, cones shall not be used in nighttime lane closure tapers or nighttime lane shifts."

Revise Article 1106.02(b) of the Standard Specifications to read:

"(b) Cones. Cones shall be predominantly orange. Cones used at night that are 28 to 36 in. (700 to 900 mm) in height shall have two white circumferential stripes. If non-reflective spaces are left between the stripes, the spaces shall be no more than 2 in. (50mm) in width. Cones used at night that are taller than 36 in. (900 mm) shall have a minimum of two white and two fluorescent orange alternating, circumferential stripes with the top stripe being fluorescent orange. If non-reflective spaces are left between the stripes, the spaces shall be no more than 3 in. (75 mm) in width.

The minimum weights for the various cone heights shall be 4 lb for 18 in. (2 kg for 450 mm), 7 lb for 28 in. (3 kg for 700 mm), and 10 lb for 36 in. (5 kg for 900 mm) with a minimum of 60 percent of the total weight in the base. Cones taller than 36 in. shall be weighted per the manufacturer's specifications such that they are not moved by wind or passing traffic."

TRAFFIC SPOTTERS (BDE)
Effective: January 1, 2019

Revise Article 701.13 of the Standard Specifications to read:

"**701.13 Flaggers and Spotters.** Flaggers shall be certified by an agency approved by the Department. While on the job site, each flagger shall have in his/her possession a current driver's license and a current flagger certification I.D. card. For non-drivers, the Illinois Identification Card issued by the Secretary of State will meet the requirement for a current driver's license. This certification requirement may be waived by the Engineer for emergency situations that arise due to actions beyond the Contractor's control where flagging is needed to maintain safe traffic control on a temporary basis. Spotters are defined as certified flaggers that provide support to workers by monitoring traffic.

Flaggers and spotters shall be stationed to the satisfaction of the Engineer and be equipped with a fluorescent orange, fluorescent yellow/green, or a combination of fluorescent orange and fluorescent yellow/green vest meeting the requirements of ANSI/ISEA 107-2004 or ANSI/ISEA 107-2010 for Conspicuity Class 2 garments. Flaggers shall be equipped with a stop/slow traffic control sign. Spotters shall be equipped with a loud warning device. The warning sound shall be identifiable by workers so they can take evasive action when necessary. Other types of garments may be substituted for the vest as long as the garments have a manufacturer's tag identifying them as meeting the ANSI Class 2 requirement. The longitudinal placement of the flagger may be increased up to 100 ft (30 m) from that shown on the plans to improve the visibility of the flagger. Flaggers shall not encroach on the open lane of traffic unless traffic has been stopped. Spotters shall not encroach on the open lane of traffic, nor interact with or control the flow of traffic.

For nighttime flagging, flaggers shall be illuminated by an overhead light source providing a minimum vertical illuminance of 10 fc (108 lux) measured 1 ft (300 mm) out from the flagger's chest. The bottom of any luminaire shall be a minimum of 10 ft (3 m) above the pavement. Luminaire(s) shall be shielded to minimize glare to approaching traffic and trespass light to adjoining properties. Nighttime flaggers shall be equipped with fluorescent orange or fluorescent orange and fluorescent yellow/green apparel meeting the requirements of ANSI/ISEA 107-2004 or ANSI/ISEA 107-2010 for Conspicuity Class 3 garments.

Flaggers and spotters shall be provided per the traffic control plan and as follows.

(a) Two-Lane Highways. Two flaggers will be required for each separate operation where two-way traffic is maintained over one lane of pavement. Work operations controlled by flaggers shall be no more than 1 mile (1600 m) in length. Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies.

The Engineer will determine when a side road or entrance shall be closed to traffic. A flagger will be required at each side road or entrance remaining open to traffic within the operation where two-way traffic is maintained on one lane of pavement. The flagger shall be positioned as shown on the plans or as directed by the Engineer.

(b) Multi-Lane Highways. At all times where traffic is restricted to less than the normal number of lanes on a multilane pavement with a posted speed limit greater than 40 mph and the workers are present, but not separated from the traffic by physical barriers, a flagger or spotter shall be furnished as shown on the plans. Flaggers shall warn and direct traffic. Spotters shall monitor traffic conditions and warn workers of errant approaching vehicles or other hazardous conditions as they occur. One flagger will be required for each separate activity of an operation that requires frequent encroachment in a lane open to traffic. One spotter will be required for each separate activity with workers near the edge of the open lane or with their backs facing traffic.

Flaggers will not be required when no work is being performed, unless there is a lane closure on two-lane, two-way pavement."

WEEKLY DBE TRUCKING REPORTS (BDE)

Effective: June 2, 2012 Revised: April 2, 2015

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

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

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

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:

" **1106.02Devices.** 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."

REVISIONS TO THE ILLINOIS PREVAILING WAGE RATES

The Prevailing rates of wages are included in the Contract proposals which are subject to Check Sheet #5 of the Supplemental Specifications and Recurring Special Provisions. The rates have been ascertained and certified by the Illinois Department of Labor for the locality in which the work is to be performed and for each craft or type of work or mechanic needed to execute the work of the Contract. As required by Prevailing Wage Act (820 ILCS 130/0.01, et seq.) and Check Sheet #5 of the Contract, not less than the rates of wages ascertained by the Illinois Department of Labor and as revised during the performance of a Contract shall be paid to all laborers, workers and mechanics performing work under the Contract. Post the scale of wages in a prominent and easily accessible place at the site of work.

If the Illinois Department of Labor revises the prevailing rates of wages to be paid as listed in the specification of rates, the contractor shall post the revised rates of wages and shall pay not less than the revised rates of wages. Current wage rate information shall be obtained by visiting the Illinois Department of Labor web site at http://www.state.il.us/agency/idol/ or by calling 312-793-2814. It is the responsibility of the contractor to review the rates applicable to the work of the contract at regular intervals in order to insure the timely payment of current rates. Provision of this information to the contractor by means of the Illinois Department of Labor web site satisfies the notification of revisions by the Department to the contractor pursuant to the Act, and the contractor agrees that no additional notice is required. The contractor shall notify each of its subcontractors of the revised rates of wages.