

RETURN WITH BID



Illinois Department of Transportation

Local Public Agency Formal Contract Proposal

PROPOSAL SUBMITTED BY		
Contractor's Name		
Street		P.O. Box
City	State	Zip Code

STATE OF ILLINOIS

COUNTY OF LAKE

(Name of City, Village, Town or Road District)

FOR THE IMPROVEMENT OF

STREET NAME OR ROUTE NO. ROLLINS ROAD

SECTION NO. 16-00080-61-RS

TYPES OF FUNDS MT

SPECIFICATIONS (required)

PLANS (required)

For Municipal Projects
Submitted/Approved/Passed
Not Applicable

Mayor President of Board of Trustees Municipal Official

Date

Department of Transportation
 Released for bid based on limited review
Not Applicable

Regional Engineer

County Engineer on behalf of IDOT pursuant to Agreement of Understanding dated January 18, 2013

Date

For County and Road District Projects
Submitted/Approved
Not Applicable

Highway Commissioner

Date

Submitted/Approved
Paula Tigg
County Engineer/Superintendent of Highways
Sept 20, 2016
Date

Note: All proposal documents, including Proposal Guaranty Checks or Proposal Bid Bonds, should be stapled together to prevent loss when bids are processed.

RETURN WITH BID

BLR 12200 (01/08/14)

RETURN WITH BID

NOTICE TO BIDDERS

County LAKE
Local Public Agency LCDOT
Section Number 16-00080-61-RS
Route CH 31

Sealed proposals for the improvement described below will be received at the office of The County Engineer of Lake County, 600 West Winchester Road, Libertyville, IL 60048 until 10:00 A.M. on October 18, 2016

Sealed proposals will be opened and read publicly at the office of The County Engineer of Lake County 600 West Winchester Road, Libertyville, IL 60048 at 10:00 A.M. on October 18, 2016

DESCRIPTION OF WORK

Name Microsurfacing 2016 - Rollins Road Length: 17994.00 feet (3.41 miles)
Location Rollins Road (Hook Drive to IL Route 132)
Proposed Improvement Light crack sealing with fiber asphalt, longitudinal lane line HMA patching, removal of thermoplastic pavement markings, two-pass microsurfacing wearing course, temporary and permanent pavement markings, related items.

1. Plans and proposal forms will be available online at http://www.lakecountyil.gov/648/Bids---Roadwork or at the office of the Lake County Division of Transportation, 600 West Winchester Road, Libertyville, IL 60048

2. [X] Prequalification
If checked, each bidder shall include a completed "Affidavit of Availability" (Form BC 57), in their proposal, showing all uncompleted contracts awarded to them and all low bids pending award for Federal, State, County, Municipal and private work.

3. The Awarding Authority reserves the right to waive technicalities and to reject any or all proposals as provided in BLRS Special Provision for Bidding Requirements and Conditions for Contract Proposals.

- 4. The following Forms shall be returned by the bidder to the Awarding Authority (not required if crossed out):
a. BLR 12200: Local Public Agency Formal Contract Proposal (includes BLR 12200a Schedule of Prices)
b. BC 57: Affidavit of Availability
c. BC 261: Substance Abuse Prevention Program Certification
d. BLR 12230: Proposal Bid Bond
e. BLR 12325: Apprenticeship or Training Program Certification
f. BLR 12326: Affidavit of Illinois Business Office
g. LCDOT - CBID Printout

5. The quantities appearing in the bid schedule are approximate and are prepared for the comparison of bids. Payment to the Contractor will be made only for the actual quantities of work performed and accepted or materials furnished according to the contract. The scheduled quantities of work to be done and materials to be furnished may be increased, decreased or omitted as hereinafter provided.

6. Submission of a bid shall be conclusive assurance and warranty the bidder has examined the plans and understands all requirements for the performance of work. The bidder will be responsible for all errors in the proposal resulting from failure or neglect to conduct an in depth examination. The Awarding Authority will, in no case be responsible for any costs, expenses, losses or changes in anticipated profits resulting from such failure or neglect of the bidder.

7. The bidder shall take no advantage of any error or omission in the proposal and advertised contract.

8. If a special envelope is supplied by the Awarding Authority, each proposal should be submitted in that envelope furnished by the Awarding Agency and the blank spaces on the envelope shall be filled in correctly to clearly indicate its contents. When an envelope other than the special one furnished by the Awarding Authority is used, it shall be marked to clearly indicate its contents. When sent by mail, the sealed proposal shall be addressed to the Awarding Authority at the address and in care of the official in whose office the bids are to be received. All proposals shall be filed prior to the time and at the place specified in the Notice to Bidders. Proposals received after the time specified will be returned to the bidder unopened.

9. Permission will be given to a bidder to withdraw a proposal if the bidder makes the request in writing or in person before the time for opening proposals.

RETURN WITH BID

PROPOSAL

County LAKE
Local Public Agency LCDOT
Section Number 16-00080-61-RS
Route CH 31

1. Proposal of _____

for the improvement of the above section by the construction of Light crack sealing with fiber asphalt, longitudinal lane line HMA patching, removal of thermoplastic pavement markings, applying a two-pass microsurfacing wearing course, temporary and permanent pavement markings, and other related items. Traffic control and protection is required.

a total distance of 18083.80 feet, of which a distance of 17994.00 feet, (3.41 miles) are to be improved.

2. The plans for the proposed work are those prepared by Lake County Division of Transportation and approved by the Department of Transportation* on September 20, 2016

* County Engineer on behalf of IDOT pursuant to Agreement of Understanding dated January 18, 2013.

3. The specifications referred to herein are those prepared by the Department of Transportation and designated as "Standard Specifications for Road and Bridge Construction" and the "Supplemental Specifications and Recurring Special Provisions" thereto, adopted and in effect on the date of invitation for bids.

4. The undersigned agrees to accept, as part of the contract, the applicable Special Provisions indicated on the "Check Sheet for Recurring Special Provisions" contained in this proposal.

5. The undersigned agrees to complete the work within 39 working days or by XXXXXXXXXXXXXXXXXXXX unless additional time is granted in accordance with the specifications.

6. A proposal guaranty in the proper amount, as specified in BLRS Special Provision for Bidding Requirements and Conditions for Contract Proposals, will be required. Bid Bonds will be allowed as a proposal guaranty. Accompanying this proposal is either a bid bond if allowed, on Department form BLR 12230 or a proposal guaranty check, complying with the specifications, made payable to:

Treasurer of LAKE COUNTY

The amount of the check is the same as the amount of the BID BOND (_____).

7. In the event that one proposal guaranty check is intended to cover two or more proposals, the amount must be equal to the sum of the proposal guaranties, which would be required for each individual proposal. If the proposal guaranty check is placed in another proposal, it will be found in the proposal for: Section Number _____.

8. The successful bidder at the time of execution of the contract will be required to deposit a contract bond for the full amount of the award. When a contract bond is not required, the proposal guaranty check will be held in lieu thereof. If this proposal is accepted and the undersigned fails to execute a contract and contract bond as required, it is hereby agreed that the Bid Bond or check shall be forfeited to the Awarding Authority.

9. Each pay item should have a unit price and a total price. If no total price is shown or if there is a discrepancy between the product of the unit price multiplied by the quantity, the unit price shall govern. If a unit price is omitted, the total price will be divided by the quantity in order to establish a unit price.

10. A bid will be declared unacceptable if neither a unit price nor a total price is shown.

11. The undersigned submits herewith the schedule of prices on BLR-12200a the LCDOT CBID printout covering the work to be performed under this contract.

12. The undersigned further agrees that if awarded the contract for the sections contained in the combinations on BLR-12200a the LCDOT CBID printout, the work shall be in accordance with the requirements of each individual proposal for the multiple bid specified in the Schedule for Multiple Bids below.

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CONTRACTOR CERTIFICATIONS

County	<u>LAKE</u>
Local Public Agency	<u>LCDOT</u>
Section Number	<u>16-00080-61-RS</u>
Route	<u>CH 31</u>

The certifications hereinafter made by the bidder are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder.

- Debt Delinquency.** The bidder or contractor or subcontractor, respectively, certifies that it is not delinquent in the payment of any tax administered by the Department of Revenue unless the individual or other entity is contesting, in accordance with the procedures established by the appropriate revenue Act, its liability for the tax or the amount of tax. Making a false statement voids the contract and allows the Department to recover all amounts paid to the individual or entity under the contract in a civil action.
- Bid-Rigging or Bid Rotating.** The bidder or contractor or subcontractor, respectively, certifies that it is not barred from contracting with the Department by reason of a violation of either 720 ILCS 5/33E-3 or 720 ILCS 5/33E-4.

A violation of Section 33E-3 would be represented by a conviction of the crime of bid-rigging which, in addition to Class 3 felony sentencing, provides that any person convicted of this offense or any similar offense of any state or the United States which contains the same elements as this offense shall be barred for 5 years from the date of conviction from contracting with any unit of State or local government. No corporation shall be barred from contracting with any unit of State or local government as a result of a conviction under this Section of any employee or agent of such corporation if the employee so convicted is no longer employed by the corporation and: (1) it has been finally adjudicated not guilty or (2) if it demonstrates to the governmental entity with which it seeks to contract and that entity finds that the commission of the offense was neither authorized, requested, commanded, nor performed by a director, officer or a high managerial agent in behalf of the corporation.

A violation of Section 33E-4 would be represented by a conviction of the crime of bid-rotating which, in addition to Class 2 felony sentencing, provides that any person convicted of this offense or any similar offense of any state or the United States which contains the same elements as this offense shall be permanently barred from contracting with any unit of State or local government. No corporation shall be barred from contracting with any unit of State or local government as a result of a conviction under this Section of any employee or agent of such corporation if the employee so convicted is no longer employed by the corporation and: (1) it has been finally adjudicated not guilty or (2) if it demonstrates to the governmental entity with which it seeks to contract and that entity finds that the commission of the offense was neither authorized, requested, commanded, nor performed by a director, officer or a high managerial agent in behalf of the corporation.

- Bribery.** The bidder or contractor or subcontractor, respectively, certifies that it has not been convicted of bribery or attempting to bribe an officer or employee of the State of Illinois or any unit of local government, nor has the firm made an admission of guilt of such conduct which is a matter of record, nor has an official, agent, or employee of the firm committed bribery or attempted bribery on behalf of the firm and pursuant to the direction or authorization of a responsible official of the firm.
- Interim Suspension or Suspension.** The bidder or contractor or subcontractor, respectively, certifies that it is not currently under a suspension as defined in Subpart I of Title 44 Subtitle A Chapter III Part 6 of the Illinois Administrative Code. Furthermore, if suspended prior to completion of this work, the contract or contracts executed for the completion of this work may be cancelled.

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SIGNATURES

County LAKE
Local Public Agency LCDOT
Section Number 16-00080-61-RS
Route CH 31

(If an individual)

Signature of Bidder

Business Address

(If a partnership)

Firm Name

Signed By

Business Address

Inset Names and Addressed of All Partners



(If a corporation)

Corporate Name

Signed By

President

Business Address

Inset Names of Officers



President

Secretary

Treasurer

Attest: Secretary



Illinois Department of Transportation

Bureau of Construction
2300 South Dirksen Parkway/Room 322
Springfield, Illinois 62764

Affidavit of Availability For the Letting of October 18, 2016

Instructions: Complete this form by either typing or using black ink. "Authorization to Bid" will not be issued unless both sides of this form are completed in detail. Use additional forms as needed to list all work.

Part I. Work Under Contract

List below all work you have under contract as either a prime contractor or a subcontractor. It is required to include all pending low bids not yet awarded or rejected. In a joint venture, list only that portion of the work which is the responsibility of your company. The uncompleted dollar value is to be based upon the most recent engineer's or owners estimate, and must include work subcontracted to others. If no work is contracted, show **NONE**.

	1	2	3	4	Awards Pending	
Contract Number						
Contract With						
Estimated Completion Date						
Total Contract Price						Accumulated Totals
Uncompleted Dollar Value if Firm is the Prime Contractor						
Uncompleted Dollar Value if Firm is the Subcontractor						
					Total Value of All Work	

Part II. Awards Pending and Uncompleted Work to be done with your own forces.

List below the uncompleted dollar value of work for each contract and awards pending to be completed with your own forces. All work subcontracted to others will be listed on the reverse of this form. In a joint venture, list only that portion of the work to be done by your company. If no work is contracted, show **NONE**.

						Accumulated Totals
Earthwork						
Portland Cement Concrete Paving						
HMA Plant Mix						
HMA Paving						
Clean & Seal Cracks/Joints						
Aggregate Bases & Surfaces						
Highway, R.R. and Waterway Structures						
Drainage						
Electrical						
Cover and Seal Coats						
Concrete Construction						
Landscaping						
Fencing						
Guardrail						
Painting						
Signing						
Cold Milling, Planning & Rotomilling						
Demolition						
Pavement Markings (Paint)						
Other Construction (List)						
Totals						

Disclosure of this information is **REQUIRED** to accomplish the statutory purpose as outlined in the "Illinois Procurement Code." Failure to comply will result in non-issuance of an "Authorization To Bid." This form has been approved by the State Forms Management Center.

Part III. Work Subcontracted to Others.

For each contract described in Part I, list all the work you have subcontracted to others.

	1	2	3	4	Awards Pending
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Total Uncompleted					

I, being duly sworn, do hereby declare that this affidavit is a true and correct statement relating to ALL uncompleted contracts of the undersigned for Federal, State, County, City and private work, including ALL subcontract work, ALL pending low bids not yet awarded or rejected and ALL estimated completion dates.

Subscribed and sworn to before me
 this _____ day of _____, _____ Type or Print Name _____
 Officer or Director _____ Title _____

 Notary Public

Signed _____

My commission expires _____

(Notary Seal)

Company _____

Address _____



Letting Date: October 18, 2016 Item No.: _____

Contract No.: _____

Route: CH 31

Section: 16-00080-61-RS

Job No.: _____

County: LAKE

The Substance Abuse Prevention on Public Works Act, Public Act 95-0635, prohibits the use of drugs and alcohol, as defined in the Act, by employees of the Contractor and by employees of all approved Subcontractors while performing work on a public works project. The Contractor/Subcontractor herewith certifies that it has a superseding collective bargaining agreement or makes the public filing of its written substance abuse prevention program for the prevention of substance abuse among its employees who are not covered by a collective bargaining agreement dealing with the subject as mandated by the Act.

A. The undersigned representative of the Contractor/Subcontractor certifies that the contracting entity has signed collective bargaining agreements that are in effect for all of its employees, and that deal with the subject matter of Public Act 95-0635.

Contractor/Subcontractor

Name of Authorized Representative (type or print)

Title of Authorized Representative (type or print)

Signature of Authorized Representative

Date

B. The undersigned representative of the Contractor/Subcontractor certifies that the contracting entity has in place for all of its employees not covered by a collective bargaining agreement that deals with the subject of the Act, the attached substance abuse prevention program that meets or exceeds the requirements of Public Act 95-0635.

Contractor/Subcontractor

Name of Authorized Representative (type or print)

Title of Authorized Representative (type or print)

Signature of Authorized Representative

Date



Local Agency Proposal Bid Bond

Route CH 31
County LAKE
Local Agency LCDOT
Section 16-00080-61-RS

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PAPER BID BOND

WE _____ as PRINCIPAL,
and _____ as SURETY,
are held jointly, severally and firmly bound unto the above Local Agency (hereafter referred to as "LA") in the penal sum of 5% of the total bid price, or for the amount specified in the proposal documents in effect on the date of invitation for bids whichever is the lesser sum. We bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly pay to the LA this sum under the conditions of this instrument.

WHEREAS THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH that, the said PRINCIPAL is submitting a written proposal to the LA acting through its awarding authority for the construction of the work designated as the above section.

THEREFORE if the proposal is accepted and a contract awarded to the PRINCIPAL by the LA for the above designated section and the PRINCIPAL shall within fifteen (15) days after award enter into a formal contract, furnish surety guaranteeing the faithful performance of the work, and furnish evidence of the required insurance coverage, all as provided in the "Standard Specifications for Road and Bridge Construction" and applicable Supplemental Specifications, then this obligation shall become void; otherwise it shall remain in full force and effect.

IN THE EVENT the LA determines the PRINCIPAL has failed to enter into a formal contract in compliance with any requirements set forth in the preceding paragraph, then the LA acting through its awarding authority shall immediately be entitled to recover the full penal sum set out above, together with all court costs, all attorney fees, and any other expense of recovery.

IN TESTIMONY WHEREOF, the said PRINCIPAL and the said SURETY have caused this instrument to be signed by their respective officers this _____ day of _____

Principal

(Company Name)
By: _____ (Signature and Title)

(If PRINCIPLE is a joint venture of two or more contractors, the company names, and authorized signatures of each contractor must be affixed.)

Surety

(Name of Surety)
By: _____ (Signature of Attorney-in-Fact)

STATE OF ILLINOIS,
COUNTY OF _____

I, _____, a Notary Public in and for said county, do hereby certify that _____

(Insert names of individuals signing on behalf of PRINCIPAL & SURETY)

who are each personally known to me to be the same persons whose names are subscribed to the foregoing instrument on behalf of PRINCIPAL and SURETY, appeared before me this day in person and acknowledged respectively, that they signed and delivered said instruments as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this _____ day of _____

My commission expires _____ (Notary Public)

ELECTRONIC BID BOND

[] Electronic bid bond is allowed (box must be checked by LA if electronic bid bond is allowed)
The Principal may submit an electronic bid bond, in lieu of completing the above section of the Proposal Bid Bond Form. By providing an electronic bid bond ID code and signing below, the Principal is ensuring the identified electronic bid bond has been executed and the Principal and Surety are firmly bound unto the LA under the conditions of the bid bond as shown above. (If PRINCIPAL is a joint venture of two or more contractors, an electronic bid bond ID code, company/Bidder name title and date must be affixed for each contractor in the venture.)

Electronic Bid Bond ID Code

(Company/Bidder Name)
(Signature and Title) Date

CONTRACTOR

**PLEASE REPLACE
WITH YOUR
COMPLETED
LCDOT CBID
PRINTOUT**

SPECIAL PROVISION
TABLE OF CONTENTS

LOCATION OF IMPROVEMENT.....1

DESCRIPTION OF IMPROVEMENT.....1

DIVISION 100. GENERAL REQUIREMENTS AND COVENANTS

SECTION 102 ADVERTISEMENT, BIDDING, AWARD AND CONTRACT EXECUTION.....2

ARTICLE 105.03(c) ENVIRONMENTAL PERMITTING AGENCIES.....4

ARTICLE 105.09 SURVEY CONTROL POINTS.....4

ARTICLE 106.03 SAMPLES, TESTS, AND CITED SPECIFICATIONS5

PROTECTION OF EXISTING DRAINAGE FACILITIES DURING CONSTRUCTION6

ARTICLE 107.09 PUBLIC CONVENIENCE AND SAFETY7

ARTICLE 107.20 PROTECTION AND RESTORATION OF PROPERTY9

**ARTICLE 107.23 PROTECTION OF STREAMS, LAKES, RESERVOIRS, NATURAL AREAS,
WETLANDS, PRAIRIE AREA, SAVANNAHS, AND ENDANGERED AND THREATENED SPECIES9**

ARTICLE 107.25 PROTECTION AND RESTORATION OF TRAFFIC SIGNS10

ARTICLE 107.27 INSURANCE11

ARTICLE 107.29 OPENING OF SECTION OF HIGHWAY TO TRAFFIC.....12

SECTION 108 PROSECUTION AND PROGRESS13

ARTICLE 108.06 LABOR, METHODS, AND EQUIPMENT.....13

**DIVISION 200. EARTHWORK, LANDSCAPING,
AND EROSION CONTROL**

**ARTICLE 202.03 REMOVAL AND DISPOSAL OF SURPLUS, UNSTABLE, AND UNSUITABLE
MATERIALS AND ORGANIC WASTE14**

**DIVISION 700. WORK ZONE TRAFFIC CONTROL AND PROTECTION,
SIGNING, AND PAVEMENT MARKING**

SECTION 703 WORK ZONE PAVEMENT MARKING15

78300200 RAISED REFLECTIVE PAVEMENT MARKER REMOVAL.....16

LAKE COUNTY PAY ITEMS

LC400202 SEAL COAT.....17
LC400205 MICRO-SURFACING, TWO PASSES19
LC600200 INSTALL SURVEY MONUMENTS31
LC78002X GROOVED THERMOPLASTIC PAVEMENT MARKINGS.....33

IDOT DESIGN TEMPORARY PAY ITEMS

X3200001 BUMP REMOVAL.....36
X4400196 HOT-MIX ASPHALT SURFACE REMOVAL, SPECIAL.....37
X7810300 RECESSED REFLECTIVE PAVEMENT MARKER.....38

**IDOT SPECIAL PAY ITEMS FOR ROAD AND BRIDGE
CONSTRUCTION**

Z0004005 FIBER ASPHALT.....39

IDOT LOCAL ROADS PAY ITEMS

LR400300 BLOTTER AGGREGATE.....42

LAKE COUNTY TRAFFIC CONTROL AND PROTECTION

TRAFFIC CONTROL PLAN43
TRAFFIC CONTROL AND PROTECTION (SPECIAL)44

EMPLOYMENT PRACTICES

STANDARD COUNTY INSERT53
LRS11 SPECIAL PROVISION FOR EMPLOYMENT PRACTICES54
PREVAILING WAGE RATES.....56

IDOT RECURRING SPECIAL PROVISIONS

INDEX OF CHECK SHEETS.....63

IDOT BDE SPECIAL PROVISIONS

BDE 80071 WORKING DAYS.....65
BDE 80364 ERRATA FOR THE 2016 STANDARD SPECIFICATIONS.....66
BDE 80371 PAVEMENT MARKING REMOVAL70

IDOT DISTRICT ONE SPECIAL PROVISIONS

FRICTION AGGREGATE71
HMA MIXTURE DESIGN REQUIREMENTS74
RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES.....81

CONSTRUCTION DEBRIS

SPECIAL PROVISION FOR CONSTRUCTION DEBRIS.....93
CONSTRUCTION DEBRIS MANIFEST94

INTENTIONALLY

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STATE OF ILLINOIS SPECIAL PROVISIONS

The following Special Provisions supplement the specifications listed in the table below, which apply to and govern the proposed improvement designated as Lake County Section **16-00080-61-RS**, and in case of conflict with any part or parts of said specifications, the said Special Provisions shall take precedence and govern.

SPECIFICATION	ADOPTED/DATED
Standard Specifications for Road and Bridge Construction	April 1, 2016
Manual on Uniform Traffic Control Devices for Streets and Highways Illinois Supplement	2009 Edition June 2014 Revision
Supplemental Specifications and Recurring Special Provisions (indicated on the Check Sheet included herein)	April 1, 2016
Standard Specifications for Water and Sewer Construction in Illinois	7 th Edition, 2014

This Project Does Include a Separate Set of Plans.

LOCATION OF IMPROVEMENT

The project is located on Rollins Road, from approximately 600 feet west of Hook Drive to IL Route 132 (Grand Avenue). Within the project limits, Rollins Road travels through the Villages of Round Lake Beach, Grayslake, Third Lake, and Gurnee.

DESCRIPTION OF IMPROVEMENT

The improvement consists of the application of a microsurfacing treatment to approximately 15,000 feet (2.84 miles) of roadway. Work includes light crack sealing with fiber asphalt, longitudinal lane line HMA patching, removal of thermoplastic pavement markings, applying a two-pass microsurfacing wearing course, applying short term and permanent pavement markings, traffic control and protection, and other related items.

DIVISION 100. GENERAL REQUIREMENTS AND COVENANTS

SECTION 102 ADVERTISEMENT, BIDDING, AWARD AND CONTRACT EXECUTION (LCDOT)

Effective: January 1, 2007
Revised: March 20, 2015

Award and execution of contract shall be in accordance with Section 102 of the “Standard Specifications” and the following:

Insurance certificates shall be received within five (5) days after the contract has been mailed to the bidder. Contract performance and payment bond shall be received within ten (10) days after the contract has been mailed to the bidder. The contract shall be executed by the successful bidder and returned within fifteen (15) days after the contract has been mailed to the bidder.

CONTRACTORS and SUBCONTRACTORS holding a 5 – HMA Paving IDOT prequalification shall be limited to paving on contracts with 1200 total tons or less. The 1200 ton limit does not include HMA sidewalk, driveways, medians, paved shoulder behind curb, and/or patching.

In order to limit bid proposal math errors, all bids for this project **shall** be submitted using the CBID spreadsheet. The Contractor shall include in their bid proposal a hardcopy CBID printout. Proposals submitted without a hardcopy CBID printout will be rejected as nonresponsive and returned to the Contractor unread. Proposals submitted with a handwritten schedule of items will be rejected as nonresponsive and returned to the Contractor unread. A maximum of five pay items may have legible pen and ink entries/revisions to the unit and extended prices on the CBID printout to accommodate last minute supplier and subcontractor quotes. A legible pen and ink entry/revision to the project total bid will also be allowed.

To decrease LCDOT bid processing time, for projects with 25 or more pay items the Contractor shall include in their sealed bid envelope a CD with a copy of the completed CBID. The hardcopy CBID printout will serve as the bid submission, while the CD is only provided to aid in tabulating the bids. In the event that there is a difference between the hardcopy CBID printout and the electronic copy provided on the CD, the hardcopy CBID printout shall take precedence and be used to complete the bid tabulation.

If the Contractor is bidding on more than one project for which the CD copy of the CBID is required, the Contractor may include all the CBIDs on a single CD. The CD shall be clearly labeled with the Contractor’s name and the project CBIDs included. The single CD shall be submitted in the sealed bid envelope of one of the projects the Contractor is bidding on.

Shared Services: Under the authority of 30 ILCS 525, the Governmental Joint Purchasing Act the unit prices included in the proposal may be offered to other governmental units according to the following:

The purchase of goods and services pursuant to the terms of this Contract shall also be offered for purchases to be made by other governmental units, as authorized by the Governmental Joint Purchasing Act, 30 ILCS 525/0.01, et seq. (the “Act”). All purchases and payments made under the Act shall be made directly by and between each governmental unit and the successful bidder. The bidder agrees that Lake County shall not be responsible in any way for purchase orders or payments made by the other governmental units. The bidder further agrees that all terms and conditions of this Contract shall continue in full force and effect as to the other governmental units during extended terms. The credit or liability of each governmental unit shall remain separate and distinct. Disputes between bidders and governmental units shall be resolved between the immediate parties.

The bidder and the other governmental units may negotiate such other and further terms and conditions to this Contract (“Other Terms”) as individual projects may require. To be effective, Other Terms shall be reduced to writing and signed by a duly authorized representative of both the successful bidder and the other governmental unit.

The bidder shall provide the other governmental units with all required documentation set forth in the solicitation including but not limited to: performance and payment bonds, Certificates of Insurance naming the respective governmental unit as an additional insured and certified payrolls to the other governmental unit as required.

ARTICLE 105.03(e) ENVIRONMENTAL PERMITTING AGENCIES

Effective: December 22, 2014

Revised: February 26, 2016

Add the following paragraph to Article 105.03 of the “Standard Specifications”

- (e) Permitting Agency Deduction: Any monetary payment required from a permitting agency related to improper erosion and sediment control may be passed along to the Contractor as a deduction from future pay estimates. Monetary payments will include fees and violations attributable to the Contractor’s actions or inaction resulting in improper erosion and sediment control. The deduction will be applied to monies due or that might become due to the Contractor. Permitting agencies include the Lake County Stormwater Management Commission, the Illinois Environmental Protection Agency, the Army Corps of Engineers, and other regulatory agencies.

ARTICLE 105.09 SURVEY CONTROL POINTS (LCDOT)

Effective: January 1, 2007

Revised: June 6, 2014

The Contractor shall furnish the Engineer with the materials required to establish survey control points according to Article 105.09 of the “Standard Specifications” and the following:

Paint: *The Contractor shall furnish, at their expense, white, pink or purple pavement marking paint in aerosol cans, for use by the Engineer. The quality of the marking paint shall be as manufactured by Aervoe-Pacific Co. (distributed by Municipal Marking Distributors, Inc., Dundee, IL) or approved equal.*

The Contractor and subcontractors shall only use white, pink or purple colors for their own markings. At no time will the Contractor use any of the J.U.L.I.E. utility colors listed in Article 107.31 of the “Standard Specifications”.

Hubs: *The Contractor shall furnish, at their expense, hubs for use by the Engineer according to the following:*

- 1. Shall be 1 3/8” x 7/8” x 18” (actual dimension).*
- 2. Shall be furnished in securely banded (on each end) bundles of 25 pieces.*
- 3. The material shall be kiln dried Douglas fir, oak or maple and surfaced on the 2 larger sides and without splits, pitch pockets, wane, knots or decayed wood.*
- 4. The tapered end on each hub shall be pencil point tapered.*

Lath: *The Contractor shall furnish, at their expense, lath for use by the Engineer according to the following:*

1. *Shall be 1 1/8" x 1/2" x 48" (actual dimension).*
2. *Shall be furnished in securely banded (on each end) bundles of 50 pieces.*
3. *The material shall be kiln dried Douglas fir, oak or maple and surfaced on the 2 larger sides and without splits, pitch pockets, wane, knots or decayed wood.*
4. *The tapered end may be saw-cut tapered or pencil tapered.*

ARTICLE 106.03 SAMPLES, TESTS, AND CITED SPECIFICATIONS (LCDOT)

Effective: October 1, 2012

Revised: May 19, 2014

Hot-Mix Asphalt and Concrete Placements:

The Contractor shall notify the Engineer of proposed Hot-Mix Asphalt (HMA) and/or concrete placements according to the following:

1. By 2 p.m., the Contractor shall notify the Engineer, in person or by phone, of HMA and/or concrete placements proposed for the next working day. Upon receiving the Engineer's approval, the Contractor may schedule the HMA and/or concrete for placement. Requests for HMA and/or concrete placements called in after 2 p.m., cannot be placed for payment and should not be scheduled by the Contractor.
2. The Contractor's notification shall provide the following:
 - a. A firm start time.
 - b. The plant source of material.
 - c. The pay items included.
 - d. The project name and location - be specific on large projects.
 - e. The estimated quantity of HMA and/or concrete to be used.
 - f. The duration of the work.
3. In the event that the Engineer cannot be reached, the Contractor can meet the notification requirement by calling the LCDOT Materials Lab at (847) 377-7493 and leaving the notification message prior to 2 p.m. LCDOT will call the Contractor back and give approval for the next day's work. The Contractor must receive approval prior to scheduling the work for payment.
4. Cancellations due to weather or other good, unforeseen reasons need to be relayed to the Engineer and the LCDOT Materials Lab at (847) 377-7493, ASAP! Repeated cancellations without sufficient notice and/or for no good reason, in the opinion of the Engineer, will lead to a deduction for any incurred County Material Consultant costs from future pay estimates.

Concrete Test Cylinders:

The Contractor shall not transport concrete cylinders until a minimum of 8 hours have elapsed after the final set. Concrete cylinders shall be transported prior to 48 hours for standard curing. The cylinders will be transported within the above time frame, regardless of what day of the week the cylinders were cast.

A sufficient quantity of cylinders shall be cast to provide for an additional break beyond the specified break requirements. Until QC & QA (LCDOT) have confirmed that proper strength has been obtained for the specified break, QC will retain at least two additional 6" x 12" cylinders or three 4" x 8" cylinders for average strength. In the event the cylinder breaks fail to reach the required strength, according to Article 1020 of the "Standard Specifications", the two additional 6" x 12" cylinders or three 4" x 8" cylinders will be broken at a later date determined by LCDOT.

PROTECTION OF EXISTING DRAINAGE FACILITIES DURING CONSTRUCTION (LCDOT)

Effective: May 19, 2014

All existing drainage structures shall be kept free of debris resulting from construction operations. All work and material necessary to prevent accumulation of debris in the drainage structures will be considered as included in the unit bid prices of the inlet protection, inlet filters and other temporary erosion control measures. Any debris in the drainage structures resulting from construction operations shall be removed at the Contractor's own expense, and no extra compensation will be allowed.

Should reconstruction or adjustment of a drainage structure be required by the Engineer in the field, the necessary work and payment shall be done according to Section 602 and Article 104.02 respectively of the "Standard Specifications".

During construction, if the Contractor's forces encounter or otherwise becomes aware of any sewers, underdrains or field drains within the right-of-way other than those shown on the plans, they shall inform the Engineer. The Engineer shall direct the work necessary to maintain or replace the facilities in service, and to protect them from damage during construction if maintained. Existing facilities to be maintained that are damaged because of non-compliance with this provision shall be replaced at the Contractor's own expense. Should the Engineer direct the replacement of a facility, the necessary work and payment shall be done in accordance with Section 550, Section 601 and Article 104.02 respectively of the "Standard Specifications".

ARTICLE 107.09 PUBLIC CONVENIENCE AND SAFETY (LCDOT)

Effective: January 1, 2007

Revised: March 20, 2015

The Contractor shall limit public inconveniences and safety conflicts according to Article 107.09 of the “Standard Specifications” and the following:

Keeping Roads Open to Traffic:

For this project the Contractor shall maintain traffic according to the Maintenance of Traffic Plan shown on the plans. The Contractor shall limit flagging operations affecting the open lanes i.e. flagging for vehicles entering or leaving the construction site etc..., to the following times:

Affecting Both Directions Simultaneously:

<i>Monday - Friday</i>	<i>9:00 am</i>	<i>to</i>	<i>3:00 pm</i>
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Affecting Eastbound Lanes Only:

<i>Monday - Friday</i>	<i>9:00 am</i>	<i>to</i>	<i>6:00 pm</i>
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Affecting Westbound Lanes Only:

<i>Monday - Friday</i>	<i>7:00 am</i>	<i>to</i>	<i>3:00 pm</i>
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At all other times, including periods of no construction activity, the Contractor shall maintain the available traffic lanes.

If local and/or area conditions warrant the above times may be adjusted (i.e. lengthened or shortened) by the Engineer. To request a change the Contractor shall submit to the Engineer a plan including the revised start and end time a minimum of 48 hours prior to the proposed revision. The Engineer will notify the Contractor 24 hours in advance with an approval or disapproval.

If the Contractor fails to provide a plan and/or the Contractor disregards the decision by of the Engineer the Traffic Control Deficiency Charge will be applied as stated in the Special Provisions for Traffic Control and Protection.

Safety and Convenience: *The Contractor shall maintain entrances along the proposed improvement. Interference with traffic movements and inconvenience to owners of abutting property and the public shall be kept to a minimum. Any delays or inconveniences caused by the Contractor, by complying with these requirements shall be considered as included in the unit bid prices of the contract and no additional compensation will be allowed.*

Contractors shall plan their work so that there will be no open holes in the pavement and that all barricades will be removed from the roadway during non-working hours, except where required for public safety.

Steel road plates may be used as temporary cover over excavations. Anytime steel road plates are in the roadway these requirements apply:

- *The steel road plate shall sit flat on the pavement and be free of defects and warping*
- *It shall be shimmed with a non-asphaltic material to prevent vertical movement*
- *If the steel road plate is not under constant surveillance, it shall be pinned to prevent horizontal movement by a minimum of 6 pins; 4 pins predrilled into the corners of the plates and 1 pin predrilled into each side parallel to the trench. Pins shall be drilled 3 inches into the pavement and not protrude above the pavement surface*
- *The steel road plate shall be at least 1 inch thick and large enough to allow a minimum of 1 foot of bearing on each side of the trench*
- *A one foot wide HMA surface course ramp shall be placed around the perimeter of the plate*
- *Multiple steel road plates shall be tack welded together to prevent separation if they are not under constant surveillance*
- *Appropriate advanced warning signs (W8-24 “STEEL PLATE AHEAD” and W8-1 “BUMP”) are required*

Steel road plates may be left in place overnight, in emergency situations and with the concurrence of the Engineer. Steel road plates left in place overnight shall be attached to the roadway by a minimum of 6 pins; 4 pins predrilled into the corners of the plates and 1 pin predrilled into each side parallel to the trench. Pins shall be drilled 3 inches into the pavement and not protrude above the pavement surface.

Steel road plates left in-place for more than 72 hours, shall also be:

- *Recessed into the street surface the thickness of the steel road plate with no difference in elevation with the existing surface*
- *Secured in-place to prevent horizontal movement with HMA surface course between the existing pavement vertical edge and the steel road plate*

Road plates shall not be used from November 15th to April 15th without approval from the Engineer.

ARTICLE 107.20 PROTECTION AND RESTORATION OF PROPERTY (LCDOT)

Effective: January 1, 2007

Revised: May 19, 2014

The Contractor shall protect and restore property according to Article 107.20 of the “Standard Specifications” and the following:

Trees and Shrubs: *Extra care shall be exercised when operating equipment around trees or shrubs. Injured branches or roots shall be pruned in a manner satisfactory to the Engineer and shall be painted where the cut was made. Roots exposed during excavating operations shall be neatly pruned and covered with topsoil. This work shall be done as soon as possible and shall be considered as included in the unit bid price(s) of the various excavation (e.g. Earth Excavation, Excavating and Grading Existing Shoulder, Structure Excavation, Furnished Excavation etc...) and excavation related (e.g. Storm Sewers, Grading and Shaping Ditches, Concrete Foundations, etc...) work items shown in the Summary of Quantities. No additional compensation will be allowed this work.*

ARTICLE 107.23 PROTECTION OF STREAMS, LAKES, RESERVOIRS, NATURAL AREAS, WETLANDS, PRAIRIE AREAS, SAVANNAHS, AND ENDANGERED AND THREATENED SPECIES (LCDOT)

Effective: April 1, 2008

Revised: May 19, 2014

CONCRETE WASHOUT FACILITY

Description: The Contractor shall take sufficient precautions to prevent pollution of streams, lakes, reservoirs, and wetlands with fuels, oils, bitumens, calcium chloride, or other harmful materials according to Article 107.23 of the “Standard Specifications”.

General: *To prevent pollution by residual concrete and/or the by product of washing out the concrete trucks, concrete washout facilities shall be constructed and maintained on any project which includes cast-in-place concrete items. The concrete washout shall be constructed, maintained, and removed according to this special provision and LCDOT standard LC4202 included in these plans. Concrete washout facilities shall be required on all projects regardless of the need for NPDES permitting. On projects requiring NPDES permitting, concrete washout facilities shall also be addressed in the Storm Water Pollution Prevention Plan.*

The concrete washout facility shall be constructed on the job site according to LC4202. The Contractor may elect to use a pre-fabricated portable concrete washout structure. The Contractor shall submit a plan for the concrete washout facility, to the Engineer for approval, a minimum of 10 calendar days before the first concrete pour. The working concrete washout facility shall be in place before any delivery of concrete to the site. The Contractor shall ensure that all concrete washout activities are limited to the designated area.

The concrete washout facility shall be located no closer than 50 feet from any environmentally sensitive areas, such as water bodies, wetlands, and/or other areas indicated on the plans. Adequate signage shall be placed at the washout facility and elsewhere as necessary to clearly indicate the location of the concrete washout facility to the operators of concrete trucks.

The concrete washout facility shall be adequately sized to fully contain the concrete washout needs of the project. The contents of the concrete washout facility shall not exceed 75% of the facility capacity. Once the 75% capacity is reached, concrete placement shall be discontinued until the facility is cleaned out. Hardened concrete shall be removed and properly disposed of outside the right-of-way. Slurry shall be allowed to evaporate, or shall be removed and properly disposed of outside the right-of-way. The Contractor shall immediately replace damaged basin liners or other washout facility components to prevent leakage of concrete waste from the washout facility. Concrete washout facilities shall be inspected by the Contractor after each use. Any and all spills shall be reported to the Engineer and cleaned up immediately. The Contractor shall remove the concrete washout facility when it is no longer needed.

Basis of Payment: This work will not be paid for separately, but shall be included in unit bid prices of the various concrete work items (e.g. portland cement concrete pavement; portland cement concrete sidewalk, and combination concrete curb and gutter etc...), shown in the Summary of Quantities.

ARTICLE 107.25 PROTECTION AND RESTORATION OF TRAFFIC SIGNS (LCDOT)

Effective: January 1, 2007

Revised: May 19, 2014

The Contractor shall protect and restore traffic signs within the limits of the project according to Article 107.25 of the "Standard Specifications" and the following:

- 1. All signs removed shall be reinstalled 16 feet to 18 feet off the edge of pavement where possible. In curb sections this will vary and will be determined by the Lake County Division of Transportation.*
- 2. All single sign installations shall be installed with the bottom of the sign 5 feet above edge of pavement in rural districts, and 7 feet above the edge of pavement in business, commercial or residential districts. On installations having two or more signs, the bottom of the lowest sign shall be 4 feet above edge of pavement.*
- 3. All signs replaced will be erected using new "Telespar" system metal bases cut 42" long from 2¼" square material. They are to be driven into solid ground using a pneumatic driver. This work will not be paid for separately but shall be included in the lump sum cost of TRAFFIC CONTROL AND PROTECTION (SPECIAL).*

ARTICLE 107.27 INSURANCE (LCDOT)

Effective: January 1, 2007

Revised: May 19, 2014

The Contractor shall obtain and thereafter keep in force insurance according to Article 107.27 of the “Standard Specifications” and the following:

The minimum Employers Liability limits listed in paragraph 107.27(a)(2) shall be increased to the following limits:

- (2) Employers Liability
 - a. Each Accident \$1,000,000
 - b. Disease-policy limit \$1,000,000
 - c. Disease-each employee \$1,000,000

The minimum Commercial General Liability limits listed in paragraph 107.27(b) shall be increased to the following limits along with the addition of a Personal and Advertising Injury Limit:

- (1) General Aggregate Limit \$4,000,000
- (2) Products-Completed Operations Aggregate Limit \$4,000,000
- (3) Personal and Advertising Injury Limit \$1,000,000
- (4) Each Occurrence Limit \$2,000,000

The minimum Commercial Automobile Liability limit listed in paragraph 107.27(c) shall remain at:

Bodily Injury & Property Damage
Liability Limit Each Occurrence \$1,000,000

In addition to the Department, its officers, and employees, coverage shall be provided for Lake County, its agents, officers and employees, named as additional insured under ISO (Insurance Services Office) additional insured endorsement CG 20 26, edition date 07/04 or its equivalent. Coverage shall be provided for Lake County, its officers, agents and employees, all members of Boards, Commissions, Committees, Trustees and Organizations of the County, all volunteers and members of volunteer organizations and other non-paid personnel, including college and high school interns, while acting on behalf of the County. The Contractor's insurance shall be primary and non-contributory.

The contractual liability insurance coverage shall be broad enough to respond to the liability assumed by the Contractor in the following Hold Harmless Clause:

Hold Harmless Clause

The Provider agrees to indemnify, save harmless and defend the County of Lake, its agents, servants, and employees and each of them against and hold it and them harmless from any and all lawsuits, claims, demands, liabilities, losses and expenses, including court costs and attorney's fees, for or on account of any injury to any person, or any death at any time resulting from such injury, or any damage to property, which may arise or which may be alleged to have arisen out of or in connection with the work covered by this contract. The foregoing indemnity shall apply except if such injury, death or damage is caused directly by the willful and wanton conduct of the County of Lake, its agents, servants, or employees or any other person indemnified hereunder.

In the event the Contractor fails to obtain or maintain any insurance coverage required under this agreement, Lake County may purchase such insurance coverage and charge the expense thereof to the Contractor.

ARTICLE 107.29 OPENING OF SECTION OF HIGHWAY TO TRAFFIC (LCDOT)

Effective: January 1, 2007

Revised: May 19, 2014

Work under construction shall be opened to traffic according to Article 107.29 of the "Standard Specifications" and the following:

The Contractor shall work expeditiously to open traffic lanes closed due to roadwork. The Engineer shall be the sole judge of when a lane is ready to be opened to traffic. The opening of a lane to traffic shall be in accordance to Section 107.29 of the "Standard Specifications".

Roadwork requiring a closure of a lane, which has been opened previously to traffic, will be allowed at the discretion of the Engineer and under the following conditions:

- 1. The lane closure shall only be in effect while workers are present in or near the closed lane.*
- 2. The closed lane will be reopened to traffic at the end of the workday.*
- 3. All traffic control devices pertaining to the lane closure shall be removed from the roadway at the end of the workday.*

SECTION 108 PROSECUTION AND PROGRESS (LCDOT)

Effective January 1, 2007

Revised: May 19, 2014

It is the intent of the County that this project be constructed in an orderly and timely manner. Toward this end, the Contractor shall take special note of the provisions of Article 105.06, Article 108.01 paragraph 2, and Article 108.02 of the “Standard Specifications” which shall be adhered to.

The Contractor shall coordinate all work between their forces and subcontractors to enable completion within the allotted working days.

ARTICLE 108.06 LABOR, METHODS, AND EQUIPMENT

Effective: May 29, 2015

The Contractor and each subcontractor shall meet the requirements of LRS12, Special Provision for Wages of Employees on Public Works except as follows:

The certified payroll(s) submitted by the Contractor and each subcontractor shall be submitted electronically in a PDF format. The accompanying statement signed by the Contractor or subcontractor may be scanned or contain an electronic signature. The documents shall be submitted via e-mailed to the Engineer.

DIVISION 200. EARTHWORK, LANDSCAPING, AND EROSION CONTROL

ARTICLE 202.03 REMOVAL AND DISPOSAL OF SURPLUS, UNSTABLE, AND UNSUITABLE MATERIALS AND ORGANIC WASTE

Effective: February 18, 2013

Revised: May 19, 2014

Definitions:

Clean construction or demolition debris (CCDD): CCDD is uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, or reclaimed asphalt pavement generated from construction or demolition activities. CCDD material may include small incidental quantities of soil that are comingled as part of the removal process. When uncontaminated soil is mixed with any of these materials, the uncontaminated soil is also considered CCDD. Uncontaminated soil that is not mixed with other CCDD materials is not CCDD.

Uncontaminated Soil: What constitutes "uncontaminated soil" for purposes of CCDD and uncontaminated soil fill operations is defined in 35 Ill. Adm. Code 1100. Uncontaminated soil means soil that does not contain contaminants in concentrations that pose a threat to human health and safety and the environment.

General: Removed pavement and/or aggregate with minimal incidental soil are considered to be CCDD and may be taken to CCDD sites for disposal. IEPA forms 662 and/or 663 are not required for this construction material.

No excess soil is anticipated to be generated by this project.

DIVISION 700. WORK ZONE TRAFFIC CONTROL AND PROTECTION, SIGNING, AND PAVEMENT MARKING

SECTION 703 WORK ZONE PAVEMENT MARKING

This work shall be performed according to Section 703 of the “Standard Specifications” and the following:

It shall be the Contractor’s responsibility to work with the condition of water emerging from the setting micro-surface mix in getting the temporary markings to adhere.

Paint shall not be used for temporary pavement markings on the finish coat of micro-surfacing.

Temporary centerline markings shall be placed near the actual centerline, but not directly on any crack-sealant material. Temporary centerline markings must be maintained throughout the various remaining stages of work. Temporary centerline marks that are placed on the finish coat of micro-surfacing must be Type III Tape (not paint) so that they can be removed without grinding after the permanent pavement markings are placed.

Work Zone Marking Application Schedule (Microsurfacing Areas):

Applications of Short Term Pavement Markings shall be as follows:

- i. After longitudinal patching/removal of thermoplastic pavement markings*
- ii. After preparation of existing pavement/tack coat (if necessary)*
- iii. After first micro-surfacing pass (if necessary)*

Application of Pavement Marking Tape, Type III shall be as follows:

- i. After final micro-surfacing pass, prior to permanent pavement markings*

Work Zone Marking Application Schedule (Microsurfacing Omission Area):

Application of Pavement Marking Tape, Type III shall be as follows:

- i. After existing pavement markings are removed as part of grooving operations for proposed grooved thermoplastic pavement markings.*

Temporary Pavement Markings are included as a contingency item.

78300200 RAISED REFLECTIVE PAVEMENT MARKER REMOVAL (LCDOT)

Effective: January 1, 2007

Revised: May 21, 2014

Description: This work shall consist of removing existing raised reflective pavement markers.

General: The work shall be performed according to Section 783 of the “Standard Specifications” and the following:

The work shall include the removal of the raised reflective pavement marker and patching the resulting hole with hot-mix asphalt leveling binder. The leveling binder shall be compacted and leveled to the same elevation as the surrounding existing pavement surface.

Basis of Payment: This work will be paid for at the contract unit price per each for RAISED REFLECTIVE PAVEMENT MARKER REMOVAL. *The unit price shall include all equipment, materials and labor required to remove the existing raised reflective pavement marker and place the leveling binder.*

LAKE COUNTY PAY ITEMS

LC400202 SEAL COAT (LCDOT)

Description: This work shall consist of seal coating existing HMA pavement.

PART 1 – GENERAL

1.01 SUMMARY

- A. Includes But Not Limited To:
1. Furnish and install emulsion sealer on existing asphaltic concrete paving as described in Contract Documents.

1.02 REFERENCE

- A. American Society For Testing And Materials:
1. ASTM D 977-03, “Standard Specification for Emulsion Asphalt.”
 2. ASTM D 2397-02, “Standard Specification for Cationic Emulsified Asphalt.”

PART 2 - PRODUCTS 2.01 MATERIALS

- A. Sealer
1. Asphalt Emulsion: Meet the requirements of Section 1032 of the “Standard Specifications” and ASTM D 977, Grade SS-1h or ASTM D 2397, Grade CSS-1h.
 2. Weight per Gallon Liter: 10 lbs One kg minimum.
 3. Residual Asphalt: 20 percent minimum by weight.
 4. Mineral inert Fillers: 35 percent maximum by weight.
 5. Water: 40 percent maximum by weight.
 6. Latex Additive: Add at plant a rate of 2.0 parts latex to 100 parts asphalt emulsion.
- B. Aggregate:
1. Clean sand free of silt, clay, salts, and organic matter, and meeting following grading requirements:

a.

Sieve	Percent of Weight Passing
No. 16	100
No. 30	15-85
No. 50	2-10
No. 100	0-2

b.

Sieve	Percent of Weight Passing
No. 30	100
No. 40	0-15
No. 100	0-2

PART 3 - EXECUTION

3.01 PREPARATION

- A. Protection: Protect signs, posts, street lamp posts, trees, shrubs, and tops of curb and gutters from being discolored by splashing asphaltic material.
- B. Surface Preparation:
 - 1. Plane or grind off existing painted lines, grease or oil patches, and spillage of any material that has adhered to pavement.
 - 2. Remove debris, sand, dirt, and dust from pavement using power brush, power vacuum sweeper, and 15 hp minimum blower as necessary.
 - 3. Seal areas damaged by oil or grease in accordance with Manufacturer's recommendations.
 - 4. Trim or remove vegetation that interferes with seal coat process.

3.02 APPLICATION

- A. Follow Sealer Manufacturer's recommendations in regard to fogging of substrate, priming of substrate, and dilution of sealer.
- B. Apply sealer using power driven machine that continually mixes sealer, water, and sand.
- C. Apply two coats minimum. Apply addition coats if necessary to attain manufacturer's recommended coverage. Allow 24 hours between coats.
 - 1. First coat shall contain minimum aggregate recommended by Manufacture for substrate with 2 lb aggregate/gal minimum.
 - 2. Do not add aggregate to second and subsequent coats.
- D. Application Rate: 0.35 gal per sq yd 2L per sq m minimum.

3.03 PROTECTION

- A. Keep traffic off freshly applied sealer for 24 hours minimum.

Method of Measurement: Seal Coat will be measured in place for the area seal coated and the total area calculated in square yards. No additional area will be calculated for the second application of the seal coat.

Basis of Payment: This work will be paid for at the contract unit price per square yard for SEAL COAT. No additional compensation will be allowed for the second coat of seal coat. *The unit price shall include all equipment, materials, and labor required to perform the operations contained in this special provision.*

LC400205 MICRO-SURFACING, TWO PASSES

Description: This work shall consist of micro-surfacing hot-mix asphalt (HMA) surfaces.

Materials: Materials shall be according to the following Articles/Sections of the “Standard Specifications”.

Item	Article/Section
(1) Mineral Filler (Note 1)	1001
(2) Water	1002
(3) Coarse Aggregate (Notes 2 & 5)	1004.03
(4) Bituminous Material (Tack Coat)	1032.06
(5) Latex-Modified Emulsified Asphalt (Notes 3 & 5)	
(6) Additives (Note 4)	

Note 1: The mineral filler shall be Type 1 Portland Cement.

Note 2: The coarse aggregate material shall be selected from the table in Article 1004.03(a) of the “Standard Specifications” based upon the friction aggregate mixture specified. The quality of the aggregate shall be Class B and the gradation shall be as shown in the table below.

Sieve Size	Type II % Passing	Type III % Passing ^{1/}
3/8 in. (9.5 mm)	100	100
#4 (4.75 mm)	95 ± 5	80 ± 10
#8 (2.36 mm)	77 ± 13	57 ± 13
#16 (1.18 mm)	57 ± 13	39 ± 11
#30 (600 µm)	35 ± 10	26 ± 8
#50 (330 µm)	19 ± 6	18 ± 7
#100 (150 µm)	15 ± 6	12 ± 6
#200 (75 µm)	10 ± 5	10 ± 5

1/ Rut filling mixes shall be constructed using a Type III gradation.
 All surface mixes shall be constructed using a Type II gradation.

The aggregates for the surface lift of micro-surfacing shall meet the friction aggregate requirements for Mixture “D” in Article 1004.03(a) of the “Standard Specifications” and shall be approved by the Engineer before full-scale procurement. Blast furnace slag will not be allowed for use as an aggregate.

To assure the material is totally crushed, 100 percent of the parent aggregate shall be larger than the largest stone in the gradation to be used.

The blending, alternate use, and/or substitutions of aggregates from different sources for use in this work will not be permitted without the approval of the Engineer. Any blending shall be by interlocked mechanical feeders. The blending shall be uniform, compatible with the other components of the mix, and the equipment shall be approved by the Engineer. If blending aggregates, the blend shall have a washed gradation performed every other day with minimum of three tests conducted per week. Testing shall be completed before the aggregate receives final acceptance for use in the mix. All gradation tests shall be conducted according to the aggregate gradation control system (AGCS).

Aggregates shall be screened at the stockpile prior to delivery to the paving machine to remove oversized material or contaminants.

Note 3: CSS-1h Latex Modified Emulsified Asphalt. The emulsified asphalt shall be a quick-traffic latex modified asphalt emulsion containing a minimum of 3.0 percent latex solids by weight of asphalt binder. The latex shall be milled or blended into the emulsifier solution prior to the emulsification process. The CSS-1h latex modified emulsified asphalt shall meet the requirements of the following:

Test (AASHTO T 59)	Result
Viscosity, Saybolt Furol, 77°F (25°C), SFS	20-100
Storage Stability Test, 24 hours, %	1 max.
Particle Charge Test	Positive
Sieve Test, No. 20 (850 µm), retained on sieve, %	0.10 max.
Distillation Test, Residue from distillation test to 347 ± 9°F (175 ± 5°C), %	62 min.

Tests on residue from distillation	Result
Penetration, 77°F (25°C), 100 grams, 5 seconds, (AASHTO T 49), dmm	40-90
Ductility, 77°F (25°C), 50 mm/minute, (AASHTO T 51), mm	400 min.
Solubility in trichloroethylene, (AASHTO T 44), %	97.5 min.

Softening Point, (AASHTO T 53), °F (°C)	135 (57) min.
Absolute Viscosity, 140°F (60°C), (AASHTO T 202), Poises (Pa · sec)	8,000 (800) min.

Note 4: Additives may be added to the emulsion mix or any of the component materials to provide the control of the quick-traffic properties. They shall be included as part of the mix design and be compatible with the other components of the mix.

Note 5: The Contractor shall provide samples of the latex-modified emulsified asphalt and the aggregate for testing by the Engineer. The source and material type for aggregate and latex-modified emulsified asphalt shall be approved by the Engineer in advance of the work.

The Contractor shall provide the Engineer with letters of certification from each supplier that all materials used in the project comply with the “Standard Specifications” and the special provisions contained herein. Final payment will not be made until all letters of certification have been received.

Equipment: Equipment shall be according to the following:

- (1) Micro-Surfacing Mixing Machine: The machine shall be either a continuous (self-loading) machine or a non-continuous (self-contained) machine depending on the size of the project as described below. Both types of machines shall have sufficient storage capacity for aggregate, emulsified asphalt, mineral filler, control additive and water to maintain an adequate supply to the proportioning controls. The mixing unit shall be able to accurately deliver and proportion the aggregate, emulsified asphalt, mineral filler, control setting additive, and water to a revolving multi-blade, double-shafted mixer.

Machines that are the continuous (self-loading) type shall be an automatic-sequenced, self-propelled, continuous-flow mixing unit able to discharge the mixed product on a continuous-flow basis. The machine shall be equipped to allow the operator to have full control of the forward and reverse speeds during applications of the material and be equipped with opposite-side driver stations to assist in alignment.

Non-continuous (self-contained) machines will be allowed on projects with a length of 2 lane-miles (3.2 lane-km) or less. For mainline paving, the Contractor shall have at least three self-contained machines in continuous operation to ensure appropriate production rates. Self-contained machines will also be allowed on shoulders, ramps, short applications such as bridge decks, or where the material can be placed in a single loading capacity of the machine.

Each mixing unit to be used in the performance of the work shall be calibrated in the presence of the Engineer prior to construction. Each new or different aggregate requires a new calibration. Previous calibration documentation covering the exact materials to be used may be acceptable, provided that no more than 30 days have lapsed. The documentation shall include an individual calibration of each material at various settings, which can be related to the machine metering devices. Prior to the calibration process, portable scales used to calibrate the mixing machine for emulsion and aggregate shall be checked with 25 lb (11.3 kg) and 50 lb (22.6 kg) weights, respectively. Results from the standard weight checks shall be furnished to the Engineer. No machine will be allowed to work on the project until the calibration has been completed and/or accepted.

- (2) Micro-Surfacing Spreader: The mixture shall be agitated and spread uniformly in the surfacing box by means of twin shafted paddles or spiral augers fixed in the spreader box. A front seal shall be provided to insure no loss of the mixture at the road contact point. The rear seal shall act as a final strike-off and shall be adjustable. The spreader box and rear strike-off shall be so designed and operated that a uniform consistency is achieved to produce a free flow of material to the rear strike-off. The spreader box shall have suitable means provided to side shift the box to compensate for variations in the pavement geometry.

A secondary strike-off shall be provided to improve surface texture on the surface course. The secondary strike-off shall have the same adjustments as the spreader box and shall not bounce, wobble, or chatter.

When required on the plans, before the final surface course is placed, preliminary micro-surfacing material may be required to fill ruts, utility cuts, depressions in the existing surface, etc. Ruts of 1/2 inch (13 mm) or greater in depth shall be filled independently with a rut-filling spreader box, either 5 or 6 ft (1.5 or 1.8 m) in width. For irregular or shallow rutting of less than 1/2 inch (13 mm) in depth, a full-width scratch-coat pass may be used as directed by the Engineer utilizing either a stiff primary rubber or else a metal primary strike off. Ruts that are in excess of 1 1/2 inch (38 mm) in depth may require multiple placements with the rut-filling spreader box to restore the cross-section. All rut-filling level-up material shall cure under traffic for a minimum of 24 hours before additional material is placed on top of the level up.

- (3) Micro-Surfacing Proportioning Devices: Individual volume or weight controls for proportioning each material to be added to the mix (i.e. aggregate, mineral filler, emulsified asphalt, additive, and water) shall be provided and properly marked. These proportioning devices are used in material calibration and determining the material output at any time. Calibration records, conversion formulas, and daily run sheets including the beginning

and final numbers shown on the proportioning devices shall be submitted to the Engineer for approval. During production any deviations from the original Job Mix Formula (JMF) shall be approved by the Engineer.

- (4) Mechanical Sweepers: Mechanical sweepers shall meet the requirements of Article 1101.03 of the “Standard Specifications”.

Construction Requirements:

General: The paving mixture shall be capable of filling up to 1 1/2 in. (38 mm) wheel ruts in one pass, be capable of field regulation of the setting time, and be suitable for nighttime placement. The compatibility of all ingredients of the mix, including the mix set additive, shall be certified by the emulsified asphalt manufacturer.

Weather Limitations: Placement of the micro-surfacing shall be done between May 1 and October 15, and when the temperature is at least 50 °F (10 °C) and rising and the forecast for the next 24 hours is above 40 °F (5 °C).

Mix Design: A Contractor provided laboratory shall develop the mix design for the micro-surfacing mixture, shall verify the functioning of the set regulating additives, and shall present certified test results for the Engineer's approval. This laboratory shall be recognized by the International Slurry Surfacing Association (ISSA) as being capable of performing mix designs. The Engineer will verify the laboratory tests required in ISSA A143 have been conducted. The actual aggregates and emulsion to be used in the mix must be provided for testing.

Proportions for the mix design shall be within the following limits:

Mineral Aggregate, dry weight (mass) lb/sq yd (kg/sq m)	15-50 (8-30)
Latex Emulsified Asphalt Residue, % by weight (mass) of Aggregate	5.5-10.5
Latex Base Modifier	As required with % by weight (mass) of binder, min. of 3.0
Mix Set Additive	As required
Mineral Filler, % by weight (mass) of Aggregate	0.25 - 3 depending on weather conditions

The amount of mineral filler needed shall be determined by the laboratory mix design and will be considered as part of the aggregate gradation.

The amount and type of latex shall be determined by the laboratory performing the mix design. The minimum amount required shall be based on asphalt weight content and shall be certified by the emulsion supplier.

Compatibility of the aggregate, latex-modified emulsified asphalt, mineral filler, and other additives shall be verified by the mix design. The materials shall meet the following requirements for ISSA A143:

ISSA Test No.	Description	Specification
ISSA TB-139	Wet Cohesion @ 30 minutes min. (Set) @ 60 minutes min. (Traffic)	12 kg-cm min. 20 kg-cm min. or Near Spin
ISSA TB-109	Excess Asphalt by LWT Sand Adhesion	50 gm/sq ft (538 gm/sq m) max.
ISSA TB-114	Wet Stripping	Pass (90% min.)
ISSA TB-100	Wet-Track Abrasion Loss One-hour Soak Six-day Soak	50 gm/sq ft (538 gm/sq m) max. 75 gm/sq ft (807 gm/sq m) max.
ISSA TB-147	Lateral Displacement	5% max.
	Specific Gravity after 1,000 Cycles of 25 lb (11.34 kg)	2.10 max.
ISSA TB-144	Classification Compatibility	11 Grade Points min. (AAA, BAA)
ISSA TB-113	Mix Time @ 77 °F (25 °C)	Controllable to 120 seconds Min.

The mixing test and set-time test shall be checked at the highest temperatures expected during construction.

The mix design shall report the quantitative effects of moisture content on the unit weight of the aggregate (bulking effect). The report shall clearly show the proportions of aggregate, mineral filler (minimum and maximum), water (minimum and maximum), additive usage, and latex-modified asphalt emulsion based on the dry weight of the aggregate.

For the aggregate blend in the mix design, the following test results shall be provided with the mix information to the Engineer and are required before receiving approval of the mix:

Test	Test Method		Specification
	AASHTO	ASTM	
Sand Equivalent Value of Soils and Fine Aggregate	T 176	D 2419	65 Minimum
Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	T 104	C 88	15% Maximum w/Na ₂ SO ₄ 25% Maximum w/MgSO ₄
Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine ¹	T 96	C 131	30% Maximum

¹ The abrasion test is run on the parent aggregate.

Before the work commences, the Contractor shall submit to the Engineer a complete mix design covering the specific materials to be used on the project. The percentages of each individual material required shall be shown in the laboratory report. The Engineer shall approve the mix design prior to its use. After approval, no substitutions will be permitted, unless approved by the Engineer, and the Contractor shall maintain continuous control of the latex-modified emulsified asphalt to dry aggregate proportioning to conform to the approved mix design within a tolerance of ± 2 gal/ton (± 8 L/metric ton).

Test Strip: For projects over 100,000 sq yd (83,600 sq m), at least one day prior to starting the project the Contractor shall designate a mutually agreeable location and apply a test strip of micro-surfacing using the aggregate indicated in the mix design. The Engineer will evaluate the micro-surfacing application rate and cure time.

Surface Preparation: All raised and thermoplastic pavement markings shall be completely removed according to Article 783.03(a) of the “Standard Specifications” and/or as directed by the Engineer prior to micro-surfacing. Only very small particles of tightly adhering existing markings may remain in place.

When specified on the plans, pavement markers shall be removed according to Article 783.03(b) of the “Standard Specifications”.

Bumps greater than or equal to 1/2 in. (13 mm) shall be located and removed according to the special provision for Bump Grinding contained herein.

Any cracks, voids or joints less than 2” (50 mm) in width shall be filled and sealed according to the special provision for Fiber Asphalt contained herein. Any cracks and joints greater than 2” (50 mm) shall not be sealed without the approval of the Engineer. The Engineer will determine the extent that fine cracks are filled. It shall be required to have traffic driving on the new fiber asphalt crack sealant for a minimum of 30 days prior to micro-surfacing.

The Contractor shall be responsible for sweeping and cleaning roads, sidewalks, and driveways to the satisfaction of the Engineer during the various construction processes. The pavement surface to which the micro-surfacing shall be applied shall be free of dirt, debris, grease, oil, or any other material that would reduce the adhesion of the micro-surfacing.

A mechanical sweeper, compressed air, and hand work with shovel and broom shall be utilized to provide clean working conditions and a clean finished product. A vacuum type sweeper and/or pressure washer may be required if mechanical methods produce insufficient results. Preparation also includes the removal of any vegetation in the pavement or curb joint. Contractor shall exercise care to ensure that all cleaning methods result in minimal or no damage to the pavement surface.

Micro-surfacing shall be applied to the cleaned surfaces as soon as possible after cleaning is completed. Engineer may direct Contractor to re-clean any pavement areas where deleterious materials have reappeared after the initial cleaning. No micro-surfacing shall be applied until the Engineer approves the cleaning.

All swept up material, dirt and vegetation shall be disposed of outside of the right-of-way according to Article 202.03 of the “Standard Specifications”. It shall be the Contractor's responsibility to find a dumpsite or landfill to dispose of the swept up material and dirt.

Notifications and Staging: The Contractor shall distribute by hand a typed notice to residences abutting the project. The notice will be furnished by the Engineer. **The notice shall be delivered two to five days before beginning the surface treatment on that road.** The Contractor shall also distribute by hand a typed notice to be placed the evening before on the windshields of all cars parked on the project.

The Contractor shall place traffic cones in each driveway (typically one or two cones depending upon driveway width) on the appropriate side(s) of the road prior to application of the pavement treatment. The Contractor shall remove the cones prior to opening the roadway.

For roads with only two access points to the road being micro-surfaced, the Contractor shall stage the micro-surfacing to keep one open at all times. Similarly, when micro-surfacing adjacent to properties with two access points, the Contractor shall stage the micro-surfacing to keep one open at all times. Commercial driveways should be staged half at a time or with minimal closure duration while work is in progress, except as noted below:

Micro-surfacing in front of the driveways to the Lowe's Home Improvement store (7735 Grand Avenue) and the North Shore Medical Group office building (7900 Rollins Road) shall be staged such that ingress and egress to and from both directions Rollins Road is provided at all times during construction. Periodic restrictions of these driveways to one-way traffic is permissible when work is occurring, or when micro-surfacing material is curing, directly in front of the driveways. Flaggers shall be provided to direct traffic in and out of the driveways during periods of one-way traffic.

Micro-Surfacing: The micro-surfacing shall be applied as shown on the plans and the following:

- i. Preparation: Prior to applying the micro-surfacing, the pavement surface shall be cleaned. On highly oxidized surfaces, at the discretion of the Engineer, a tack coat shall be applied at a rate of 0.05-0.10 gal/sq yd (0.22-0.45 L/sq m) according to Article 406.05(b) of the “Standard Specifications”. Manholes, valve boxes, drop inlets, and other service entrances shall be protected from the micro-surfacing by a suitable method. The surface preparation shall be approved by the Engineer prior to the application of the micro-surfacing. No dry

aggregate either spilled from the lay-down machine or existing on the road will be permitted.

The Contractor shall apply the micro-surfacing according to the following:

- (1) Micro-Surfacing Rut Filling: This shall consist of filling each of the two wheelpath ruts in a lane using the specially designed rutbox and the rutfill (Type III) mix. It shall be the Contractor's responsibility to determine and estimate the quantities of rutfill mix required for rut filling. This work is then followed by two passes of micro-surfacing as described below.
- (2) Micro-Surfacing, Two Passes: This shall consist of applying the surface mix over the entire width of each lane in two passes at a total combined application rate of 28 lb/sq yd (15.2 kg/sq m) \pm 4 pounds (1.8 kg). The first course shall be a heavier application than the final course. On uneven pavements that do not warrant rut filling, a stiffer squeegee shall be used on the first course.

Determinations of application rates shall be from daily readings taken from the material control devices during the progress of the work.

The pavement surface shall be pre-wetted by water fogging ahead of the spreader box when road conditions require, as determined by the Engineer. The rate of fogging shall be adjusted during the day based on pavement temperature, surface texture, and dryness.

The paving mixture shall be spread to fill minor cracks and shallow potholes and leave a uniform surface. Care shall be taken when rut filling to restore the designed profile of the pavement cross section. Excess crowning (over-filling) of rut areas shall be avoided. A sufficient amount of material shall be carried at all times in all parts of the spreader box to ensure complete coverage. Overloading of the spreader shall be avoided. No lumps or uncoated aggregate will be permitted in the finished surface.

Adjustments to the mix design may be required during construction, based on field conditions. The percent of mineral filler in the mix design may be increased or decreased by less than 0.3 percent when the slurry seal is being placed if it is found to be necessary for better consistency or set times. The Engineer will give final approval for all adjustments.

The Contractor should slow down the emulsion set speed time on irregular or in other handwork areas. Any defective work repairs shall be done with a neat, aesthetic straight line edge, and shall be the entire lane width.

- (b) Mix Consistency: The finished product shall be uniform in color and composition. No streaks, such as those caused by oversized aggregate, shall

be left in the finished surface. If excess streaking develops, the job will be stopped until the Contractor proves to the Engineer that the situation has been corrected. Excessive streaking is defined as more than four drag marks greater than 1/2 inch (13 mm) wide and 4 inch (100 mm) long, or 1 inch (25 mm) wide and 3 inch (75 mm) long, in any 30 sq yd (25 sq m) area. No transverse ripples or longitudinal streaks of 0.25 inch (6 mm) in depth will be permitted, when measured by placing a 10 foot (3 m) straightedge over the surface.

- (c) **Mix Stability:** The micro-surfacing shall possess sufficient stability so that premature breaking of the material in the spreader box does not occur. The mixture shall be homogeneous during and following mixing and spreading. It shall be free of excess water or emulsified asphalt and free of segregation of the emulsified asphalt and aggregate fines from the coarser aggregate. Under no circumstances shall water be sprayed directly into the lay-down box while placing micro-surfacing material.
- (d) **Joints and Edges:** The Contractor shall devise a joint plan according to ISSA A143 and submit it to the Engineer for approval. When practical, the surface course joint shall be at least 10 in. (255 mm) away from the nearest edge of any subsequent permanent pavement markings. This will serve to reduce conflicts between future crack sealant materials and pavement markings. Longitudinal joints shall be overlapped 4 inch (100 mm) to 6 inch (150 mm) and squeegeed. The longitudinal joint on the final course shall be offset apart from the joint on the bottom course. The edge of the joint should be blended to the extent possible to be flush with the adjacent pavement surface and maintain positive drainage.

Micro-surfacing edges shall be parallel with the existing pavement edges. If the existing pavement edge cannot be used to give a straight edge, a stringline or other guide will be required. Edge lines shall not vary by more than ± 2 in. (50 mm) horizontally in any 100 ft (30 m) of length.

The Contractor shall take great care in providing a neat, aesthetic straight line edge along the toe of the curb. At intersections of other streets, the treatment shall terminate in a neat straight line running parallel to the edge of pavement extended in accordance with the plans and details. Tar paper or other masking material or equivalent shall be used to get a neat line at intersections and where the micro-surface treatment starts and stops.

A smooth, neat seam shall be provided where two passes meet. Excess material shall be immediately removed from the ends of each run. Any damage to, or irregularities in, the micro-surfacing shall be repaired, as directed by the Engineer. All repairs shall be made with a paver box, except areas designated as hand work areas.

- (e) Hand Work: Those areas inaccessible to the spreader box and approved by the Engineer shall be designated as hand work areas. Adjustments to the additive will be permitted to provide a slower setting time when hand spreading is needed. If hand spreading is necessary, the mixture shall be poured in a small windrow along one edge of the surface to be covered and then spread uniformly by a hand squeegee or lute. Hand work areas shall have an appearance consistent with that being placed with a spreader box.
- (f) When directed by the Engineer, the Contractor shall apply a dusting coat of fine sand to control tracking of the micro-surfacing material according to the special provision for Blotter Aggregate contained herein.
- (g) Prior to placement of permanent pavement markings, the Contractor shall, to the satisfaction of the Engineer, sweep the roadway with a mechanical sweeper to remove loose aggregates.
- (h) In the event the pavement markings are not replaced as they existed prior to their removal, or as modified by the Engineer, the Contractor shall remove the incorrect markings, remove and repair the necessary micro-surfacing, and replace all removed pavement markings at the Contractor's own expense. No additional compensation will be allowed.

Clean-Up: All areas, such as manholes, gutters, and intersections, shall have the micro-surfacing mix removed as specified by the Engineer. The Contractor shall, on a daily basis, remove any dirt, grindings or debris associated with the performance of the work. Any Blotter Aggregate applied at intersections shall be removed within 72 hours of completion of the micro-surfacing application.

Regardless of the circumstances, the Contractor shall pressure wash or use other appropriate cleaning methods to remove any micro-surfacing material that is tracked on driveways, sidewalks, or other surfaces adjacent to the project work zone to the best of their abilities when directed to do so by the Engineer.

Sampling and Testing: The Contractor shall check yield of the application after the first 1000 ft (300 m), and throughout each day's paving, with a minimum of three tests per day. Yield check results shall be furnished to the Engineer daily.

The Contractor shall submit to the Engineer a daily "run sheet" for each day's work as soon as all the data is available. The run sheet shall provide a breakdown of the actual meter numbers and quantities of all materials actually used each day, as well as the respective locations.

In addition, the Department will collect samples of material in the field at random for laboratory analysis. The field samples will be tested for final approval of the micro-surfacing materials.

Opening to Traffic: The micro-surfacing shall be opened to traffic within one hour of its application.

Curing: The micro-surfacing shall cure for a minimum of fourteen days prior to the placement of permanent pavement markings.

Warranties: The Contractor shall unconditionally guarantee the materials and workmanship on all materials, items and work furnished under this contract, including contract changes and additions FOR A PERIOD OF ONE YEAR from date of final acceptance and final payment, unless otherwise stated in these special provisions. If within the guarantee period, any defects or signs of deterioration are noted which, in the opinion of the Department, are due to faulty design and installation, workmanship, or materials, the Department shall notify the Contractor. At the Contractor's expense, the Contractor shall replace, repair or adjust the material, item or work to correct the condition to the complete satisfaction of the Department.

Method of Measurement: This work will be measured for payment as follows.

(a) Contract Quantities. The requirements for the use of contract quantities shall conform to Article 202.07(a) of the "Standard Specifications".

(b) Measured Quantities:

- i. Crack/Joint sealing will be measured separately according to the special provision for FIBER ASPHALT contained herein.
- ii. Blotter aggregate, when required, will be measured separately according to the special provision for BLOTTER AGGREGATE contained herein.
- iii. Pavement marking removal will be measured for payment according to Article 783.05 of the "Standard Specifications".
- iv. The micro-surfacing will be measured according to the following for the method of application provided in the plans.
 - (1) Micro-Surfacing Rut Filling: Micro-surfacing rut filling will be measured for payment in place in feet (meters) along the wheel path or filled rut.
 - (2) Micro-surfacing, Two Passes: Micro-surfacing, Two Passes will be measured for payment in place and the area computed in square yards (square meters). The width for measurement will be the width of the top surface as shown on the plans or as directed by the Engineer.

Basis of Payment: This work will be paid for at the contract unit price per square yard for MICRO-SURFACING, TWO PASSES of the gradation type and friction aggregate mixture specified. *The unit price shall include all equipment, materials and labor required to prepare a mix design, prepare the pavement surface (including tack coat, when required), distribute notifications, as well as furnish and place the micro-surfacing material.*

Crack/joint sealing will be paid for separately according to the special provision for FIBER ASPHALT contained herein.

Bump removal will be paid for separately according to the special provision for BUMP REMOVAL contained herein.

Pavement marking removal and pavement marker removal will be paid for according to Article 783.06 of the “Standard Specifications”.

Rut filling will be paid for at the contract unit price per foot (meter) for MICRO-SURFACING RUT FILLING.

LC600200 INSTALL SURVEY MONUMENTS (LCDOT)

Effective: January 1, 2007

Revised: September 4, 2014

Description: This work shall consist of installing survey monument(s) at the location(s) shown on the plans.

Materials: The Lake County Division of Transportation will supply the survey monument(s). The Contractor shall supply all the materials necessary to install the monument(s).

General: After the final surface course has been placed the Engineer will install four Mag™ nails for each point to be monumented. The Contractor shall use the following procedure to install the survey monuments.

1. At each monument location, the Engineer shall install four Mag™ nails in the surface. Each nail shall be one foot from the center and in a direct line with the opposite nail to be used for setting the new monument.
2. The Contractor shall use a hammer drill mounted with a 1¼” diameter masonry bit, to drill a hole 4½” deep, centered within the four Mag™ nails.
3. The Contractor shall use a drilling machine mounted with a four inch diamond core bit, to cut a hole, ¾” deep, centered on the initial hole. The Contractor shall chisel out the hole to a level depth of ¾”.

4. The Contractor shall remove debris from the hole and insure that it is dry before applying the epoxy adhesive.
5. The Contractor shall fill the hole with an epoxy adhesive. The adhesive shall be Mark-29.9, a two-component epoxy adhesive, manufactured by Poly-Carb, Inc., or approved equal. Equivalent adhesives shall meet the requirements of ASTM Specification C881, Type IV, Grade 3 for temperatures at or above 50°F or AASHTO Specification M237-90, Table 2 Type III for the two component, epoxy adhesive if the temperature is between 31°F and 50°F. Equivalent adhesives shall be approved by the Engineer before installation.
6. The Contractor shall place the new monument in the center of the hole. Set the monument so that the center of the legend top is $\frac{3}{8}$ " below the pavement surface. Aggregate can be used to adjust the monument elevation to obtain the correct depth.
7. The Contractor shall use the four Mag™ nails and a string line or $\frac{1}{8}$ " chalk line to center the monument in the hole to the nearest 0.005 foot. This can be accomplished by drawing the string across two diagonally opposite Mag™ nails.
8. Each monument shall be protected from traffic for a minimum of 90 minutes.
9. The Contractor shall notify the Engineer prior to installing the survey monuments. The Engineer shall be present during the installation process.

Basis of Payment: This work will be paid for at the contract unit price per each for INSTALL SURVEY MONUMENTS. *The unit price shall include all labor, equipment and materials required to complete the monument installation.*

LC78002X GROOVED THERMOPLASTIC PAVEMENT MARKINGS (LCDOT)

Effective: March 1, 2015

Description: This work shall consist of furnishing, grooving and applying inlaid thermoplastic pavement markings.

Materials: The materials shall be according to Article 780.02 of the “Standard Specifications” and the following:

Article 1095.01 for Thermoplastic Pavement Markings, paragraph (a) Ingredient Materials, subparagraph (4) Glass Beads, shall be modified by adding the following sentence:

The percentage of Glass Beads, Type A, shall be raised to 45% by decreasing the percentage of filler material specified in subparagraph (3) by 15%.

General: The Contractor shall supply the Engineer with a copy of the pavement marking material manufacturer’s recommendations for constructing a groove.

Construction Requirements: The work shall be according to Section 780 of the “Standard Specifications” and the following:

Grooving for Thermoplastic Pavement Markings:

Equipment: Plane the grooved lines according to details in the plan and per manufacturer’s recommendations. The grooving equipment shall be equipped with either a free-floating saw blade cutting head or a free-floating grinder cutting head configuration with diamond or carbide tipped cutters and shall produce an irregular textured surface.

Pavement Grooving Methods: The grooves for recessed pavement markings shall be constructed using the following methods:

- (a) Wet Cutting Head Operation. When water is required or used to cool the cutting head, the groove shall be flushed with high pressure water immediately following the cut to avoid build up and hardening of slurry in the groove. The pavement surface shall be allowed to dry for a minimum of 24 hours prior to the final cleaning of the groove and application of the pavement marking material.
- (b) Dry Cutting Head Operation. When used on HMA pavements, the groove shall be vacuumed or cleaned by blasting with a high-pressure air blower with at least 185 ft³/min air flow and 120 psi air pressure to remove loose aggregate, debris, and dust generated during the cutting operation. When used on PCC pavements, the groove shall be flushed with high

pressure water or shot blasted to remove any PCC particles that may have become destabilized during the grooving process. If high pressure water is used, the pavement surface shall be allowed to dry for a minimum of 24 hours prior to the final cleaning of the groove and application of the pavement marking material.

Pavement Grooving: Grooving shall not cause ravel, aggregate fractures, spalling or disturbance of the joints to the underlying surface of the pavement. Grooves shall be cut into the pavement prior to the application of the pavement marking material. Grooves shall be cut such that the width is 1 inch greater than the width of the pavement marking line as specified on the plans. Grooves for letters and symbols shall be cut in the shape of the symbol and such that all dimensions are 1 inch greater than the corresponding dimensions of the symbol.

The position of the edge of the grooves shall be a minimum of 2 inches from the edge of all longitudinal joints. The Contractor shall achieve straight alignment with the grooving equipment.

The depth of the groove shall not be less than the manufacturer's recommendations for the pavement marking material specified, but shall be installed to a minimum depth of 120 mils \pm 10 mils from the pavement surface or, if tined, from the high point of the tined surface. To measure the depth, the contractor may use a depth plate placed in the groove and a straightedge placed across the plate and groove, or the contractor may use a straightedge placed perpendicular to the groove. The Engineer may periodically check groove depths. The cutting head shall be operated at the appropriate speed in order to prevent undulation of the cutting head and grooving at an inconsistent depth.

At the start of grooving operations, a 50 ft test section shall be installed and depth measurements shall be made at 10 ft intervals within the test section. The individual depth measurements shall be within the allowable ranges according to this Special Provision. If it is determined the test section has not been grooved at the appropriate depth or texture, adjustments shall be made to the cutting head and another 50 ft test section shall be installed and checked. This process shall continue until the test section meets the requirements of this Special Provision.

For new HMA pavements, grooves shall not be installed within 14 days of the placement of the final course of pavement.

Final Cleaning:

Concrete – If water is used in the grooving process, allow the groove to dry a minimum of 24 hours after groove cleaning, and prior to pavement marking application. The groove surface shall be clean and dry before applying the adhesive, and pavement marking tape. Immediately prior to the application of the pavement marking material or primer sealer, the groove shall be cleaned with a high-pressure air blower with at least 185 ft³/min air flow and 120 psi air

pressure. Use of the air blower does not decrease the amount of time required for the groove to dry.

New HMA - Use a high-pressure air blower with at least 185 ft³/min air flow and 120 psi air pressure to clean the groove.

Thermoplastic Pavement Marking Application: Apply the thermoplastic pavement markings according to Section 780 of the “Standard Specifications” and the following:

The equipment used to apply thermoplastic pavement markings, under this contract, shall be limited to hand-operated equipment only. Truck-mounted equipment shall not be used.

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

Words and symbols shall conform to the sizes and dimensions specified in the Illinois Manual on Uniform Traffic Control Devices and IDOT standard 780001. They will be measured based on the total areas indicated in Table 1 of Section 780 of the “Standard Specifications”, or as indicated on the plans.

Basis of Payment: This work will be paid for at the contract price per foot of applied GROOVED THERMOPLASTIC PAVEMENT MARKING – LINE of the width specified; and/or per square foot for GROOVED THERMOPLASTIC PAVEMENT MARKING – LETTERS AND SYMBOLS. *The unit price shall include all equipment, materials and labor required to furnish, groove and install the thermoplastic pavement markings.*

IDOT DESIGN TEMPORARY PAY ITEMS

X3200001 BUMP REMOVAL

Description: This work shall consist of removing random bumps from an asphalt pavement surface prior to crack filling a roadway.

General: This work shall be performed according to the applicable portions of Section 440 of the “Standard Specifications” and the following:

Construction Requirements: Bumps greater than or equal to 1/2 in. (13 mm) shall be removed by grinding. The Contractor shall determine bump grinding locations in the presence of the Engineer by using a 16-ft (5-m) straightedge with the scratcher bolts set to 1/2 inch (13 mm). All locations marked by the scratcher bolts shall be ground using either a grinding machine consisting of multiple saws or a cold-milling machine with a double-wrap or triple-wrap milling head.

The random bumps shall be removed from the pavement surface throughout the project limits prior to crack filling operations. Care shall be exercised in the bump removal to not gouge or damage the underlying pavement or cause a dip in the pavement.

Millings from the bump grinding operations shall be disposed of outside the right-of-way according to Article 202.03 of the “Standard Specifications”.

Basis of Payment: This work will be paid for at the contract unit price per each (up to one lane width) for BUMP REMOVAL. The unit price shall include all equipment and labor required to mill the pavement, and remove, transport and dispose of excess millings.

X4400196 HOT-MIX ASPHALT SURFACE REMOVAL, SPECIAL

Description: This work shall consist of the partial depth removal of the existing Hot-Mix Asphalt pavement to a depth of 1.5” along the lane lines of the roadway.

General: The work shall be performed according to Section 440 of the “Standard Specifications” and the following:

The removal shall be 2 feet wide extending 1 foot either side of the centerline of a two lane roadway or the lane line of a multilane roadway.

If the milling machine cuts too deep or tears out areas of the existing pavement which were not designated for removal, the holes shall be filled with leveling binder at the Contractor's expense.

Removed materials shall be disposed of outside the right-of-way according to Article 202.03 of the “Standard Specifications”.

Method of Measurement: Hot-Mix Asphalt Surface Removal, Special will be measured for payment in square yards along the length removed.

Basis of Payment: This work will be paid for at the contract unit price per square yard for HOT-MIX ASPHALT REMOVAL, SPECIAL. The unit price shall include all labor, equipment, and materials required to remove the pavement and prepare the area for tack coat and HMA placement. The application of tack coat will be paid for separately as BITUMINOUS MATERIALS (TACK COAT). The patching will be paid for at the contract unit price per ton for HOT-MIX ASPHALT SURFACE COURSE, MIX “D”, N70.

X7810300 RECESSED REFLECTIVE PAVEMENT MARKER (LCDOT)

Effective: December 2, 2013

Revised: May 20, 2014

Description: This work shall consist of furnishing and setting reflective pavement markers in a recessed groove in the pavement. The recessed pavement markers shall be used to supplement other pavement markings, similar to the use of Raised Reflective Pavement Markers.

Materials: The reflective pavement marker lens shall be a 3M 190 series pavement marker or an approved equal. The reflector holder shall be a MarkerOne Series R100 reflector holder or an approved equal. The epoxy used shall be as recommended by the pavement marker manufacturer.

Installation: The spacing and orientation of the pavement markers shall be as shown on the plans and/or as directed by the Engineer. A recessed groove shall be cut in the pavement 5.25" wide and 1.0" deep on a 15.5" diameter. A 3.5' long groove shall taper from 0" (normal pavement) to 0.35" depth (full-recessed) before and after the groove. For additional detail see the LCDOT standard LC7805.

The recessed area shall be cleaned free of all loose material, and be dry before the placement of the pavement marker. All excess material resulting from the construction of the recessed area shall be completely removed from the surface of the roadway by means of a vacuum sweeper truck. The pavement marker shall be cemented with epoxy in the center of the 1.0" deep recessed groove.

Inspection: A straight edge shall be placed across the recess to check that the top of the marker is below the pavement. The inspection and acceptance shall be according to Article 781.04 of the "Standard Specifications".

Basis of Payment: This work will be paid for at the contract unit price each for RECESSED REFLECTIVE PAVEMENT MARKER. *The unit price shall include all costs for cutting the grooves into the pavement. The unit price shall also include all equipment, materials and labor required to install the recessed reflective pavement markers.*

IDOT SPECIAL PAY ITEMS FOR ROAD AND BRIDGE CONSTRUCTION

Z0004005 FIBER ASPHALT

Description: This item of work shall consist of cleaning and filling miscellaneous cracks as well as transverse, longitudinal, curblines, and edge joints using a fiber-modified asphalt binder.

Materials: The sealant shall consist of an asphalt binder and polypropylene fibers, and shall meet the requirements of the following:

- a. Asphalt Binder: The asphalt binder shall meet the requirements of Article 1032.05 of the "Standard Specifications" except that:

The asphalt cement shall be limited to PG 64-22.

- b. Fibers: Fibers shall be short cut polypropylene fibers meeting the properties listed below. The Contractor shall provide a certificate from the supplier showing that the fibers meet the required physical properties.

Property	Value
Length, in. (mm)	0.3 - 0.5 (8 - 12)
Denier	13 - 16
Crimps	None
Tensile Strength, min., psi (MPa)	40,000 (275)
Specific Gravity (typical)	0.91
Moisture Regain @ 70 °F (21 °C) and 65% RH (typical), %	0.1

- c. Percent Fibers. The sealant shall consist of a mixture of 8.0%, minimum by weight (mass), polypropylene fibers with liquid asphalt binder.
- d. Operating temperature in the kettle shall be between 255°F and 285°F (124°C and 141°C). The temperature shall never exceed 290°F (143°C) as the fibers will melt into the asphalt cement.

Equipment:

- (1) Air Compressor: The air compressor shall be capable of producing a minimum pressure of 100 psi (689 kPa) at the end of the discharge hose. The air stream shall discharge onto the pavement through an appropriate air lance. The tool lubricator shall be bypassed and a filter installed on the discharge valve to keep water and oil out of the line.
- (2) Oil Kettle: The crack sealant shall be heated in an oil jacketed double wall kettle (minimum 350 Gal. (1350L) capacity) equipped with an agitator

(reversing rotary auger action) and separate thermometers for the oil bath and mixing chamber. The unit shall also be equipped with a reversible hydraulic 2 in. (50 mm) hot asphalt pump and a recirculating pump to circulate the oil bath.

Construction Requirements: Any cracks, voids or joints less than 2” (50 mm) in width shall be filled and sealed as described hereafter. Any cracks and joints greater than 2” (50 mm) shall not be sealed without the approval of the Engineer. The Engineer will determine the extent that fine cracks are filled.

The crackfill membrane shall be applied only when the joints and cracks and adjacent pavement surfaces are dry and free of dirt, vegetation, debris and loose sealant. Physical routing of cracks to provide a square cut reservoir will generally not be required. If so ordered by the Engineer, this work will be paid for according to Article 109.04 of the “Standard Specifications”. All cracks and joints to be sealed shall be cleaned by air blasting, hand tools, wire wheel, and/or by other methods approved by the Engineer to remove all foreign material for proper bonding of the sealant. If air blasting is used to clean the cracks and joints, they shall be blown out with 90 psi (620 kPa) compressed air. The blowing out operations shall be kept close to the filling operations to prevent debris being carried back into the cracks before filling. A hot compressed air lance meeting the approval of the Engineer may be used to clean the cracks.

The sealing material shall be applied to form a water-proofing, stress absorbing membrane centered within 1 inch (25 mm) of the crack or joint. The mixture shall be installed under high pressure 100 psi (689 kPa) directly into and over the crack or joint. The crack shall be completely filled to its full depth and a membrane $1/8 \pm 1/16$ inch (3 mm \pm 1.5 mm) thick by 3 inch (75 mm) wide (nominal measurements) shall be formed on the surface of the pavement.

The Contractor is strongly cautioned against the excessive use of crackfill material in either thickness or location. If the Engineer determines that sealant is being improperly applied or wasted, then a quantity of 2 pounds of FIBER ASPHALT, per foot of errant sealant applied, shall be deducted from payments due the Contractor. In addition, the Contractor shall be responsible and will not be paid for any material placed in excess of 103% of the historic application rates of 0.19 pounds per square yard for roads designated as a Light application, 0.26 pounds per square yard for Medium application and 0.35 pounds per square yard for Heavy application.

Rollins Road will be considered a Light application.

At the time of placement of the mixture, the surfaces to be sealed shall be clean and dry, and the ambient temperature shall be above 40°F (4°C), and less than 85°F (29°C). If work is in progress and the ambient temperature reaches 85°F (29°C), the work must stop. The sealant must cure before being opened to traffic. Traffic shall not be allowed on the sealant until it is properly cured. The sealant shall be dusted with a fine sand, according to the special provision for Blotter Aggregate contained herein, if the ambient temperature is

greater than 75°F (24°C), and it is necessary to open the road immediately. When the sealant is applied to a parking area, fine sand is to be immediately dusted over seals, and completed with a water wetted steel roller.

The sealant material shall be placed with special care such that the material does not come into contact with any manhole, appurtenance frame, lid or any thermoplastic pavement markings. The Contractor shall immediately remove any misplaced sealant and clean the frame or replace any pavement markings damaged at the Contractor's sole expense. Repairs shall be to the complete satisfaction of the Engineer. Should the Contractor choose not to repair the damage, then the Engineer may order the work to be done by others, the cost of such work to be deducted from payments due the Contractor.

The Contractor shall obtain a weight certification each day and shall submit the documentation to the Engineer by the end of each day. The Contractor shall perform a yield check each day, comparing the results to the estimated amount of sealant provided in these specifications. The Contractor shall submit the results of the yield check to the Engineer at the end of each day. Work shall not begin each day until all weight certifications and the yield check for the previous day's work have been submitted to the Engineer.

A technical representative from the fiber manufacturer shall be available for initial filling work. Any suggestions or recommendations shall be submitted to the Engineer for approval.

Method of Measurement: Filling of cracks will be measured for payment in pounds of sealant used. The quantity of sealant used will be determined by daily weight certification of the kettle. The fine sand used for dusting will be measured separately according to the special provision for BLOTTER AGGREGATE contained herein.

Basis of Payment: FIBER ASPHALT will be paid for at the contract unit price per pound. The unit price shall be full compensation for furnishing, hauling, preparing, and placing materials, for preparation of cracks and joints, clean up and disposal of surplus materials, and for labor, equipment, tools and incidentals necessary to complete this work as specified. The fine sand used for dusting will be paid for separately according to the special provision for BLOTTER AGGREGATE contained herein.

IDOT LOCAL ROADS PAY ITEMS

LR400300 BLOTTER AGGREGATE

Description: This work shall consist of furnishing and placing fine aggregate material on a freshly micro-surfaced roadway or joint sealant.

Materials: The aggregate shall meet the requirements of Article 1003.03 of the “Standard Specifications” except that:

The aggregate gradation shall be limited to FA6.

General: The Contractor shall apply a dusting coat of Blotter Aggregate where directed by the Engineer to control tracking of the micro-surfacing material or joint sealant if either are slow to cure. The Contractor is cautioned on the excessive use of Blotter Aggregate. The Contractor shall, if directed by the Engineer, sweep off and remove any remaining Blotter Aggregate from the roadway when the micro-surfacing material or joint sealant no longer tracks off of the pavement.

Method of Measurement: Blotter Aggregate will be measured for payment in tons according to Article 311.08(b) of the “Standard Specifications”. The following excess moisture content correction will apply to Blotter Aggregate:

When the unit of measurement for the aggregate is tons, the aggregate may be weighed in trucks or freight cars. The Contractor shall furnish or arrange for the use of scales of a type approved by the Engineer. If, at the time the aggregate is weighed, it contains more than six (6) percent of absorbed and free moisture by weight, a deduction for the amount of moisture in excess of this amount will be made in determining the pay quantity. Any aggregate that has been stockpiled will be weighed at the time it is incorporated into the work.

Basis of Payment: This work will be paid for at the contract unit price per ton for BLOTTER AGGREGATE. The unit price shall include all equipment, materials and labor required to furnish, weigh, and place the aggregate.

Traffic Control Plan (L.C.-T- Section 700)

Effective 06/01/2012

Traffic Control shall be performed according to the applicable sections of the “Standard Specifications”, the “Supplemental Specifications”, the “Illinois Manual on Uniform Traffic Control Devices for Streets and Highways”, the “Quality Standard for Work Zone Traffic Control Devices”, any special details and Highway Standards as shown on the plans and the special provisions contained herein.

Special attention is called to Articles 105.03(b), 105.05, and 107.09, and to Sections 701, 704, and 782 of the “Standard Specifications”, and to the following Highway Standards, Details, Recurring Special Provisions and Special Provisions contained herein, relating to traffic control.

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

STANDARDS

701421-07	701426-08	701427-04
701602-07	701901-05	

DETAILS

LC7003	LC7004	LC7200
LC7802		

RECURRING SPECIAL PROVISIONS

LRS3 Special Provision for Work Zone Traffic Control Surveillance

DETOURS

Detours and road closures on county maintained roads within Lake County, Illinois shall be according to the applicable Articles and Sections of the “Standard Specifications”, the “Supplemental Specifications”, the “Illinois Manual on Uniform Traffic Control Devices for Streets and Highways”, the Lake County Division of Transportation’s Detour Procedures and Guidelines, any special details and Highway Standards as shown on the Detour Plan and the Special Provisions contained herein. The LCDOT Detour Procedures and Guidelines are available from the LCDOT, Traffic Engineering Section upon request.

Traffic Control and Protection (Special) (L.C.-T- Section 700)

Effective 06/01/2012

The Traffic Control and Protection (Special) shall meet the requirements of Division 700. Work Zone Traffic Control and Protection, Signing, and Pavement Marking of the “Standard Specifications” except as follows:

Article 701.01 Description shall be replaced with the following:

701.01 Description. This item of work shall consist of furnishing, installing, maintaining, replacing, relocating and removing all traffic control devices used for the purpose of regulating, warning or directing traffic during the construction or maintenance of this improvement.

Article 701.02 Materials shall be modified by adding the following paragraph:

Traffic control devices include signs and their supports, signals, pavement markings, barricades and their approved weights, channeling devices, warning lights, arrow boards, flaggers, or any other device used for the purpose of regulating, detouring, warning or guiding traffic through or around the construction zone.

Article 701.04 General shall be modified by adding the following as the first paragraph:

Traffic Control and Protection (Special) shall be provided as shown on the plans and applicable Highway Standards; as required in these special provisions and the applicable sections of the “Standard Specifications”; and/or as directed by the Engineer.

Article 701.04 General shall be modified by adding the following to the fourth paragraph:

The Contractor shall dispatch men, materials, and equipment to correct any such deficiencies. The Contractor shall respond to any call from LCDOT concerning any request for improving or correcting traffic control devices and begin making the requested repairs within two hours from the time of notification.

Article 701.10 Surveillance shall be replaced with the following:

The Contractor is required to conduct routine inspections of the work site at a frequency that will allow for the timely replacement of any traffic control device that has become displaced, worn or damaged to the extent that it no longer conforms to the shape, dimensions, color and operational requirements of the MUTCD, the Traffic Control Standards, the IDOT Quality Standard For Work Zone Traffic Control Devices, or will no longer present a neat appearance to motorists. A sufficient quantity of replacement devices, based on vulnerability to damage, shall be readily available to meet this requirement.

The Contractor shall ensure that all the traffic control devices he/she installs are operational, functional and effective 24 hours a day, seven days a week, including holidays.

Article 701.13 Flaggers (a) shall be modified by revising the second paragraph of subparagraph (a) by adding the following:

The Engineer will determine when a side road or entrance shall be closed to traffic. The flagger shall be positioned as shown on the plans or as directed by the Engineer.

Article 701.14 Signs (a) Road Construction Ahead Signs shall be modified by changing the following in the paragraph:

“ROAD WORK AHEAD” signs shall be required in lieu of “ROAD CONSTRUCTION AHEAD” SIGNS

Article 701.14 Signs (b) Work Zone Speed Limit Signs shall be revised to read:

- (b) Work Zone Speed Limit Signs. The Lake County Division of Transportation will specify whether a project meets the criteria for a Work Zone Speed Limit. When specified, the work zone speed limit signs shall be installed as shown on the LCDOT Work Zone Speed Limit Signing Diagram, LC7203, at a maximum of 20 feet lateral distance of the locations shown on the plans. Failure to install and maintain the required amount of signs at the proper sign spacing shall result in an immediate traffic control deficiency.

All permanent “SPEED LIMIT” signs located within the work zone shall be removed or covered. If the speed limit sign is to be covered, it shall be done in a manner that no part of the legend shall be visible in any lighting condition. This work shall be completed by the Contractor after the method of covering the speed limit signs has been approved by the Engineer.

The work zone speed limit signs and the end work zone speed limit signs in advance of and at the end of the lane closure(s) shall be used for the duration of the closure(s).

The work zone speed limit signs will be removed when roadway conditions return to normal or when the construction project is suspended for more than 30 days.

Article 701.14 Signs shall be modified by adding the following section (c),

- (c) Temporary Construction Information Signs. When indicated in the traffic control plan or as directed by the Engineer the Contractor shall furnish, install, maintain, relocate, and remove for various stages of construction Temporary Construction Information Signs.

Temporary Construction Information Signs may include:

Driveway	White Legend on Green Background
Caution – New Lanes Open	Black Legend on Orange Background

The signs, as shown on Lake County Detail LC7201, shall be installed according to the traffic control plan and/or as directed by the Engineer.

Article 701.15 Traffic Control Devices (b) Type I, II and III Barricades shall be deleted and replaced with the following:

Type II barricades shall be used at all locations that call for Type I, or Type II barricades.

Type II barricades are used to channelize traffic; to delineate unattended obstacles, patches, excavations, drop-offs, and other hazards; and as check barricades

Any drop off greater than three inches, but less than six inches, located within eight feet of the pavement edge shall be protected by Type II barricades equipped with mono-directional steady burn lights. The barricades shall be placed at a spacing of 100 feet center to center. For any drop off within eight feet of the pavement edge that exceeds six inches, the Type II barricades equipped with mono-directional steady burn lights shall be placed at a spacing of 50 feet center to center. Barricades that must be placed in excavated areas shall have leg extensions installed so that the top of the barricade is in compliance with the height requirements of IDOT Standard 701901.

Check barricades shall be placed in work areas perpendicular to traffic every 1,000 feet, at one per lane and one per shoulder, to prevent motorists from using work areas as a traveled way. Two additional check barricades shall be placed in advance of each patch excavation or any other hazard in the work area. The first will be placed at the edge of the open traffic lane and the second centered on the closed lane. Check barricades shall be Type II and equipped with flashing amber light.

Type III barricades are used to close traffic lanes and to close roads.

Article 701.15 Traffic Control Devices (e) Direction Indicator Barricades shall be modified by adding the following paragraph.

The direction indicator barricades shall meet the requirements for Type II barricades as stated in this special provision. The top panel, which faces traffic, shall be as shown in IDOT Highway Standard 701901. The top panel, facing away from traffic shall have a 12 inch x 24 inch orange and white diagonal panel. The bottom panels shall be eight inches x 24 inches with orange and white diagonal sheeting, as shown in LCDOT's Special Detail LC7200.

Article 701.15 Traffic Control Devices (j) Portable Changeable Message Signs shall be modified by adding the following paragraphs:

The PCMS shall be compatible and fully functional with the LCDOT's Transportation Management Center PASSAGE PCMS Control Software. A list of approved PCMS's manufacturers and traffic control vendors is available upon request from the LCDOT. The PCMS shall be tested and approved by the LCDOT and can be sufficiently controlled by the LCDOT NTCIP compliant software. If the PCMS has not been tested or approved by either the Illinois State Toll Highway Authority or the LCDOT then the PCMS will need to be tested and certified by the Delcan Corporation at the Contractor's expense.

Lake County Division of Transportation (PASSAGE)
Software Developer:
Delcan
650 East Algonquin Road, Suite 101
Schaumburg, IL 60173

In case of a Traffic Incident Management (TIM) event or other County/State declared Emergency Management event, the use of the PCMS may be pre-empted from the Contractor's use by the Lake County Transportation Management Center for the duration of the incident. If the PCMS must be moved from the limits of the work site to an offsite location to better facilitate

the use of the PCMS during the incident, the Contractor will be compensated for the labor and equipment to move the PCMS to the designated location and back, according to Article 109.04 (b) of the “Standard Specifications”. In order to facilitate the movement of the PCMS in a timely manner, the LCDOT may use County Forces to move the PCMS to the designated location and/or back, at no additional cost to the Contractor.

When the sign(s) are displaying messages, they shall be considered a traffic control device. At all other times when no message is displayed, they shall be considered equipment.

Basis of Payment. Changeable message signs will be paid for at the contract unit price per calendar month for each sign as CHANGEABLE MESSAGE SIGN, as stated in Article 701.20 of this special provision.

Article 701.17 Specific Construction Operations (c) Surface Courses and Pavement (1) Prime Coat shall be replaced by the following:

- (1) Prime Coat. "FRESH OIL" signs (W21-2) shall be used when the prime coat is applied to pavement that is open to traffic. The signs shall remain in place until tracking of the prime ceases. These signs shall be erected a minimum of 500 feet preceding the start of the prime and on all side roads within the posted area. The signs on the side roads shall be posted a minimum of 200 feet from the mainline pavement. These signs are excluded from the time requirements of Article 701.04 of the “Standard Specifications” as modified by this special provision (above). Non-compliance with the provisions of this section, by the Contractor, shall result in an immediate traffic control deficiency deduction. All signs shall have an amber flashing light attached.

Article 701.17 Specific Procedures (c) Surface Courses and Pavement (2) Cold Milling shall be replaced by the following:

- (2) Cold Milling. "ROUGH GROOVED SURFACE" signs (W8-I107) shall be used when the road has been cold milled and is open to traffic. The signs shall remain in place until the milled surface condition no longer exists. These signs shall be erected a minimum of 500 feet preceding the start of the milled pavement and on all side roads within the posted area. The signs on the side roads shall be posted a minimum of 200 feet from the mainline pavement. Non-compliance with the provisions of this section, by the Contractor, shall result in an immediate traffic control deficiency deduction. All signs shall have an amber flashing light attached.

Article 701.17 Specific Procedures (c) Surface Course and Pavement shall be modified by adding the following paragraph:

- (6) Area Reflective Crack Control Treatment Fabric. "SLIPPERY WHEN WET" signs (W8-5) shall be used when crack control fabric is applied to pavement that is open to traffic. These signs shall remain in place until the binder course is laid. The signs shall be erected a minimum of 500 feet preceding the start of the crack control treatment and on all side roads within the posted area. The signs on the side roads shall be posted a minimum of 200 feet from the mainline pavement. These signs are excluded from the time requirements of Article 701.04 of the "Standard Specifications" as modified by this special provision (above). Non-compliance with the provisions of this section, by the Contractor, shall result in an immediate traffic control deficiency deduction. All signs shall have an amber flashing light attached.

Article 701.18 Highway Standards Application (b) Standard 701316 and 701321 (2) g. Detector Loops, shall be replaced with the following:

- g. Detection. Microwave Vehicle Sensors shall be installed as directed by the Engineer. The LCDOT shall approve the proposed microwave vehicle sensor before the Contractor may furnish or install it. The Contractor shall install, wire and adjust the alignment of the sensor according to the manufacturer's recommendations and requirements. The Engineer shall approve the installation. An alternate method of detection may be used if it has been demonstrated and approved by the Department.

The microwave vehicle sensor shall meet the following requirements:

- Detection Range: Adjustable to 60 feet
- Detection Angle: Adjustable, horizontal and vertical
- Detection Pattern: 16 degree beam width minimum [at 50 feet the pattern shall be approximately 15.5 feet wide]
- Mounting: Heavy-duty bracket, predrilled and slotted for pole mounting
- LED Indicator Light: For detection verification

Article 701.18 Highway Standards Application (j) Urban Traffic Control, Standards 701501, 701502, 701601, 701602, 701606, 701701, and 701801 (1) General, shall be modified by adding the following paragraphs:

Whenever a lane is closed to traffic using IDOT standard 701601, 701606, or 701701, the pavement width transition sign (W4-2R or W4-2L) shall be used in lieu of the "WORKERS" sign (W21-1 or W21-1a)

Whenever any vehicle, equipment, workers or their activities infringe on the shoulder or within 15 feet of the traveled way, and the traveled way remains unobstructed, then the applicable Traffic Control Standard shall be 701006, 701011, 701101, or 701701. The "SHOULDER WORK AHEAD" sign (W21-5(0)-48) shall be used in lieu of the "WORKERS" sign (W21-1 or W-21-1a).

Article 701.18 Highway Standards Application shall be modified by adding the following section (l):

- (l) IDOT standard 701331. When IDOT standard 701331 is specified on two-lane, two-way roadways, a "LANE SHIFT AHEAD" sign shall be added 500 feet in advance of W1-3 or W1-4 sign. The Road Work sign (W20-1) shall be extended to a total of 1500' from the start of the lane shift.

Article 701.19 Method of Measurement shall be replaced completely with the following:

701.19 Method of Measurement.

These items of work will be measured on a lump sum basis for furnishing installing, maintaining, replacing, relocating and removing the traffic control devices required in the plans and these special provisions.

Article 701.20 Basis of Payment shall be replaced completely with the following:

701.20 Basis of Payment

This work will be paid for at the contract unit price per lump sum for TRAFFIC CONTROL AND PROTECTION (SPECIAL). The payment will be in full for all labor, materials, transportation, and incidentals necessary to furnish, install, maintain, replace, relocate and remove all traffic control devices indicated in the plans and specifications, except for the following items, which will be paid for separately.

- 1) Temporary Bridge Traffic Signals
- 2) Temporary Rumble Strips [where each is defined as 25 feet]

- 3) Temporary Raised Pavement Markers
- 4) Sand module impact attenuators
- 5) Portable Changeable Message Signs
- 6) Temporary Concrete Barrier
- 7) Temporary Pavement Marking-Letters and Symbols
- 8) Temporary Pavement Marking-Line at width specified

The salvage value of the materials removed shall be reflected in the bid price for this item.

Any delays or inconveniences incurred by the Contractor while complying with these requirements shall be considered as part of TRAFFIC CONTROL AND PROTECTION (SPECIAL) and no additional compensation will be allowed.

Any traffic control devices required by the Engineer to implement the Traffic Control Plan as shown in the plans and specifications of the contract shall be considered included in the pay item TRAFFIC CONTROL AND PROTECTION (SPECIAL).

If the Engineer requires additional work involving a substantial change of location and/or work which differs in design and/or work requiring a change in the type of construction, as stated in Article 104.02(d) of the “Standard Specifications”, the standards and/or the designs, other than those required in the plans, will be made available to the Contractor at least one week in advance of the change in traffic control. Payment for any additional traffic control required for the reasons listed above will be in accordance with Article 109.04 of the “Standard Specifications”.

Revisions in the phasing of construction or maintenance operations, requested by the Contractor, may require traffic control to be installed according to standards and/or designs other than those included in the plans. The Contractor shall submit revisions or modifications to the traffic control plan shown in the contract to the Engineer for approval. No additional payment will be made for a Contractor requested modification.

In the event the sum total of all work items for which traffic control and protection is required is increased or decreased by more than ten percent, the contract bid price for TRAFFIC CONTROL AND PROTECTION will be adjusted as follows:

$$\text{Adjusted Contract Price} = 0.25P + 0.75P [1 \pm (X - 0.1)]$$

P = the contract price for TRAFFIC CONTROL AND PROTECTION (SPECIAL)

$$X = \frac{\text{Difference between original and final value of work for which traffic control and protection is required.}}{\text{Original value of work for which traffic control and protection is required.}}$$

The value of the work items used in calculating the increase and decrease will include only items that have been added to or deducted from the contract under Article 104.02 of the “Standard Specifications” and only items that require the use of TRAFFIC CONTROL AND PROTECTION (SPECIAL).

In the event LCDOT cancels or alters any portion of the contract that result in the elimination or incompleteness of any portion of the work, payment for partially completed work will be made according to Article 104.02 of the “Standard Specifications”.



The following Special Provisions and Supplemental Specifications approved by the State of Illinois Department of Transportation are applicable for this work and are on file in the office of the Lake County Engineer. Copies are available to prospective bidders upon request.

- Fair Employment Practices, Form LRS11, amended to conform to the latest “Equal Employment Opportunity Clause” required by the Illinois Fair Employment Practices Commission as a material form of all public contracts.
- Prevailing Wage Rates for the County of Lake

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

SPECIAL PROVISION
FOR
EMPLOYMENT PRACTICES

Effective: January 1, 1999

In addition to all other labor requirements set forth in this proposal and in the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation, during the performance of this contract, the Contractor for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees as follows:

Selection of Labor. The Contractor shall comply with all Illinois statutes pertaining to the selection of labor.

Equal Employment Opportunity. During the performance of this contract, the Contractor agrees as follows:

- (a) That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, ancestry, age, marital status, physical or mental handicap or unfavorable discharge from military service, and further that it will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such underutilization.
- (b) That, if it hires additional employees in order to perform this contract or any portion hereof, it will determine the availability of minorities and women in the area(s) from which it may reasonably recruit and it will hire for each job classification for which employees are hired in such a way that minorities and women are not underutilized.
- (c) That, in all solicitations or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, national origin, ancestry, age, martial status, physical or mental handicap or unfavorable discharge from military service.

That it will send to each labor organization or representative of workers with which it has or is bound by collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the Contractor's obligations under the Illinois Human Rights Act and the Department's Rules and Regulations. If any such labor organization or representative fails or refuses to cooperate with the Contractor in its efforts to comply with so such Act and Rules and Regulations, the Contractor will promptly so notify the Illinois Department of Human Rights and the contracting agency and will recruit employees from other sources when necessary to fulfill its obligations thereunder.

CHECK SHEET #LRS11

- (e) That it will submit reports as required by the Department of Human Rights Rules and Regulations, furnish all relevant information as may from time to time be requested by the Department or the contracting agency, and in all respects comply with the Illinois Human Rights Act and the Department's Rules and Regulations.
- (f) That it will permit access to all relevant books, records, accounts and work sites by personnel of the contracting agency Illinois Department of Human Rights for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and the Department's Rules and Regulations.
- (g) That it will include verbatim or by reference the provisions of this clause in every subcontract so that such provisions will be binding upon every such subcontractor. In the same manner as with other provisions of this contract, the Contractor will be liable for compliance with applicable provisions of this clause by all its subcontractors; and further it will promptly notify the contracting agency and the Illinois Department of Human Rights in the event any subcontractor fails or refuses to comply therewith. In addition, the Contractor will not utilize any subcontractor declared by the subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations.

Lake County Prevailing Wage for July 2015

(See explanation of column headings at bottom of wages)

Trade Name	RG	TYP	C	Base	FRMAN	M-F>8	OSA	OSH	H/W	Pensn	Vac	Trng			
=====	==	===	=	=====	=====	=====	===	===	=====	=====	=====	=====			
ASBESTOS ABT-GEN		ALL		39.400	39.950	1.5	1.5	2.0	13.98	10.72	0.000	0.500			
ASBESTOS ABT-MEC		BLD		36.340	38.840	1.5	1.5	2.0	11.47	10.96	0.000	0.720			
BOILERMAKER		BLD		47.070	51.300	2.0	2.0	2.0	6.970	18.13	0.000	0.400			
BRICK MASON		BLD		43.780	48.160	1.5	1.5	2.0	10.05	14.43	0.000	1.030			
CARPENTER		ALL		44.350	46.350	1.5	1.5	2.0	11.79	16.39	0.000	0.630			
CEMENT MASON		ALL		42.050	44.050	2.0	1.5	2.0	10.00	19.24	0.000	0.500			
CERAMIC TILE FNSHER		BLD		36.810	0.000	1.5	1.5	2.0	10.55	9.230	0.000	0.770			
COMMUNICATION TECH		BLD		35.130	37.230	1.5	1.5	2.0	11.07	11.77	0.000	0.530			
ELECTRIC PWR EQMT OP		ALL		0.000	0.000	0.0	0.0	0.0	0.000	0.000	0.000	0.000			
ELECTRIC PWR EQMT OP		HWY		39.220	53.290	1.5	1.5	2.0	5.000	12.17	0.000	0.390			
ELECTRIC PWR GRNDMAN		ALL		30.330	53.290	1.5	1.5	2.0	5.000	9.400	0.000	0.300			
ELECTRIC PWR GRNDMAN		HWY		30.330	53.290	1.5	1.5	2.0	5.000	9.400	0.000	0.300			
ELECTRIC PWR LINEMAN		ALL		45.360	51.480	1.5	1.5	2.0	5.000	14.06	0.000	0.450			
ELECTRIC PWR LINEMAN		HWY		46.950	53.290	1.5	1.5	2.0	5.000	14.56	0.000	0.470			
ELECTRIC PWR TRK DRV		ALL		30.340	51.480	1.5	1.5	2.0	5.000	9.400	0.000	0.300			
ELECTRIC PWR TRK DRV		HWY		31.400	53.290	1.5	1.5	2.0	5.000	9.730	0.000	0.310			
ELECTRICIAN		BLD		39.400	43.340	1.5	1.5	2.0	13.59	15.71	0.000	0.640			
ELEVATOR CONSTRUCTOR		BLD		50.800	57.150	2.0	2.0	2.0	13.57	14.21	4.060	0.600			
FENCE ERECTOR		ALL		37.340	39.340	1.5	1.5	2.0	13.05	12.06	0.000	0.300			
GLAZIER		BLD		40.500	42.000	1.5	2.0	2.0	13.14	16.99	0.000	0.940			
HT/FROST INSULATOR		BLD		48.450	50.950	1.5	1.5	2.0	11.47	12.16	0.000	0.720			
IRON WORKER		ALL		44.200	46.200	2.0	2.0	2.0	13.65	21.14	0.000	0.350			
LABORER		ALL		39.200	39.950	1.5	1.5	2.0	13.98	10.72	0.000	0.500			
LATHER		ALL		44.350	46.350	1.5	1.5	2.0	11.79	16.39	0.000	0.630			
MACHINIST		BLD		45.350	47.850	1.5	1.5	2.0	7.260	8.950	1.850	0.000			
MARBLE FINISHERS		ALL		32.400	34.320	1.5	1.5	2.0	10.05	13.75	0.000	0.620			
MARBLE MASON		BLD		43.030	47.330	1.5	1.5	2.0	10.05	14.10	0.000	0.780			
MATERIAL TESTER I		ALL		29.200	0.000	1.5	1.5	2.0	13.98	10.72	0.000	0.500			
MATERIALS TESTER II		ALL		34.200	0.000	1.5	1.5	2.0	13.98	10.72	0.000	0.500			
MILLWRIGHT		ALL		44.350	46.350	1.5	1.5	2.0	11.79	16.39	0.000	0.630			
OPERATING ENGINEER		BLD	1	48.100	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		BLD	2	46.800	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		BLD	3	44.250	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		BLD	4	42.500	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		BLD	5	51.850	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		BLD	6	49.100	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		BLD	7	51.100	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		FLT	1	53.600	53.600	1.5	1.5	2.0	17.10	11.80	1.900	1.250			
OPERATING ENGINEER		FLT	2	52.100	53.600	1.5	1.5	2.0	17.10	11.80	1.900	1.250			
OPERATING ENGINEER		FLT	3	46.400	53.600	1.5	1.5	2.0	17.10	11.80	1.900	1.250			
OPERATING ENGINEER		FLT	4	38.550	53.600	1.5	1.5	2.0	17.10	11.80	1.900	1.250			
OPERATING ENGINEER		FLT	5	55.100	53.600	1.5	1.5	2.0	17.10	11.80	1.900	1.250			
OPERATING ENGINEER		FLT	6	35.000	35.000	1.5	1.5	2.0	16.60	11.05	1.900	1.250			
OPERATING ENGINEER		HWY	1	46.300	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		HWY	2	45.750	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		HWY	3	43.700	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		HWY	4	42.300	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		HWY	5	41.100	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		HWY	6	49.300	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		HWY	7	47.300	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250			
ORNAMNTL IRON WORKER		ALL		45.000	47.500	2.0	2.0	2.0	13.55	17.94	0.000	0.650			
PAINTER		ALL		41.750	46.500	1.5	1.5	1.5	11.50	11.10	0.000	0.770			
PAINTER SIGNS		BLD		33.920	38.090	1.5	1.5	1.5	2.600	2.710	0.000	0.000			
PILEDRIVER		ALL		44.350	46.350	1.5	1.5	2.0	11.79	16.39	0.000	0.630			
PIPEFITTER		BLD		46.000	49.000	1.5	1.5	2.0	9.000	15.85	0.000	1.780			
PLASTERER		BLD		43.430	46.040	1.5	1.5	2.0	13.05	14.43	0.000	1.020			
PLUMBER		BLD		46.650	48.650	1.5	1.5	2.0	13.18	11.46	0.000	0.880			
ROOFER		BLD		41.000	44.000	1.5	1.5	2.0	8.280	10.54	0.000	0.530			
SHEETMETAL WORKER		BLD		42.230	45.610	1.5	1.5	2.0	10.53	20.68	0.000	0.720			
SIGN HANGER		BLD		31.310	33.810	1.5	1.5	2.0	4.850	3.280	0.000	0.000			
SPRINKLER FITTER		BLD		49.200	51.200	1.5	1.5	2.0	11.75	9.650	0.000	0.550			
STEEL ERECTOR		ALL		42.070	44.070	2.0	2.0	2.0	13.45	19.59	0.000	0.350			
STONE MASON		BLD		43.780	48.160	1.5	1.5	2.0	10.05	14.43	0.000	1.030			
SURVEY WORKER															
				-->NOT IN EFFECT	ALL		37.000	37.750	1.5	1.5	2.0	12.97	9.930	0.000	0.500

TERRAZZO FINISHER	BLD	38.040	0.000	1.5	1.5	2.0	10.55	11.22	0.000	0.720
TERRAZZO MASON	BLD	41.880	44.880	1.5	1.5	2.0	10.55	12.51	0.000	0.940
TILE MASON	BLD	43.840	47.840	1.5	1.5	2.0	10.55	11.40	0.000	0.990
TRAFFIC SAFETY WRKR	HWY	32.750	34.350	1.5	1.5	2.0	6.550	6.450	0.000	0.500
TRUCK DRIVER	ALL 1	36.560	36.760	1.5	1.5	2.0	9.070	7.050	0.000	0.000
TRUCK DRIVER	ALL 2	36.000	36.400	1.5	1.5	2.0	7.200	6.000	0.000	0.150
TRUCK DRIVER	ALL 3	36.200	36.400	1.5	1.5	2.0	7.200	6.000	0.000	0.150
TRUCK DRIVER	ALL 4	36.400	36.400	1.5	1.5	2.0	7.200	6.000	0.000	0.150
TUCKPOINTER	BLD	43.800	44.800	1.5	1.5	2.0	8.280	13.49	0.000	0.670

Legend: RG (Region)
 TYP (Trade Type - All,Highway,Building,Floating,Oil & Chip,Rivers)
 C (Class)
 Base (Base Wage Rate)
 FRMAN (Foreman Rate)
 M-F>8 (OT required for any hour greater than 8 worked each day, Mon through Fri.
 OSA (Overtime (OT) is required for every hour worked on Saturday)
 OSH (Overtime is required for every hour worked on Sunday and Holidays)
 H/W (Health & Welfare Insurance)
 Pensn (Pension)
 Vac (Vacation)
 Trng (Training)

Explanations

LAKE COUNTY

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

CERAMIC TILE FINISHER

The grouting, cleaning, and polishing of all classes of tile, whether for interior or exterior purposes, all burned, glazed or unglazed products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials. The handling and unloading of all sand, cement, lime, tile, fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scariying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

COMMUNICATION TECHNICIAN

Low voltage construction, installation, maintenance and removal of

telecommunication facilities (voice, sound, data and video) including outside plant, telephone, security systems and data inside wire, interconnect, terminal equipment, central offices, PABX, fiber optic cable and equipment, micro waves, V-SAT, bypass, CATV, WAN (wide area network), LAN (local area networks), and ISDN (integrated system digital network), pulling of wire in raceways, but not the installation of raceways.

MARBLE FINISHER

Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

OPERATING ENGINEER - BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft; Concrete Paver 27E cu. ft. and Under; Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Heavy Duty Self-Propelled Transporter or Prime Mover; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes: Squeeze Cretes-Screw Type Pumps; Gypsum Bulker and Pump; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Operation of Tie Back Machine; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Laser Screed; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators (remodeling or renovation work); Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 4. Bobcats and/or other Skid Steer Loaders; Oilers; and Brick Forklift.

Class 5. Assistant Craft Foreman.

Class 6. Gradall.

Class 7. Mechanics; Welders.

OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines; ABG Paver; Backhoes with Caisson Attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower Cranes of all types; Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derrick Boats; Derricks, Traveling; Dredges; Elevators, Outside type Rack & Pinion and Similar Machines; Formless Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Heavy Duty Self-Propelled Transporter or Prime Mover; Hydraulic Backhoes; Backhoes with shear attachments up to 40' of boom reach; Lubrication Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig; Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill Grinder; Slip-Form Paver; Snow Melters; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel); Operation of Tieback Machine; Tractor Drawn Belt Loader; Tractor Drawn Belt Loader (with attached pusher - two engineers); Tractor with Boom; Tractaire with Attachments; Traffic Barrier Transfer Machine; Trenching; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5 ft. in diameter and over tunnel, etc; Underground Boring and/or Mining Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine - Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; Hydro Excavating (excluding hose work); Laser Screed; All Locomotives, Dinky; Off-Road Hauling Units (including articulating) Non Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper - Single/Twin Engine/Push and Pull; Scraper - Prime Mover in Tandem (Regardless of Size); Tractors pulling attachments, Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats; Tamper-Form-Motor Driven.

Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Vacuum Trucks (excluding hose work); Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. SkidSteer Loader (all); Brick Forklifts; Oilers.

Class 6. Field Mechanics and Field Welders

Class 7. Dowell Machine with Air Compressor; Gradall and machines of like nature.

OPERATING ENGINEER - FLOATING

Class 1. Craft Foreman; Master Mechanic; Diver/Wet Tender; Engineer; Engineer (Hydraulic Dredge).

Class 2. Crane/Backhoe Operator; Boat Operator with towing endorsement; Mechanic/Welder; Assistant Engineer (Hydraulic Dredge); Leverman (Hydraulic Dredge); Diver Tender.

Class 3. Deck Equipment Operator, Machineryman, Maintenance of Crane (over 50 ton capacity) or Backhoe (115,000 lbs. or more); Tug/Launch Operator; Loader/Dozer and like equipment on Barge, Breakwater Wall, Slip/Dock, or Scow, Deck Machinery, etc.

Class 4. Deck Equipment Operator, Machineryman/Fireman (4 Equipment Units or More); Off Road Trucks; Deck Hand, Tug Engineer, Crane Maintenance (50 Ton Capacity and Under) or Backhoe Weighing (115,000 pounds or less); Assistant Tug Operator.

Class 5. Friction or Lattice Boom Cranes.

Class 6. ROV Pilot, ROV Tender

SURVEY WORKER - Operated survey equipment including data collectors, G.P.S. and robotic instruments, as well as conventional levels and transits.

TRAFFIC SAFETY - work associated with barricades, horses and drums used to reduce lane usage on highway work, the installation and removal of temporary lane markings, and the installation and removal of temporary road signs.

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION

Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters; Unskilled Dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turnatrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnatrailers or turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front.

TERRAZZO FINISHER

The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and Terrazzo work, floors, base, stairs, and wainscoting by hand or machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

MATERIAL TESTER & MATERIAL TESTER/INSPECTOR I AND II

Notwithstanding the difference in the classification title, the classification entitled "Material Tester I" involves the same job duties as the classification entitled "Material Tester/Inspector I". Likewise, the classification entitled "Material Tester II" involves the same job duties as the classification entitled "Material Tester/Inspector II".

INTENTIONALLY

BLANK

CHECK SHEET
FOR
RECURRING SPECIAL PROVISIONS

Adopted April 1, 2016

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

<u>CHECK SHEET #</u>	<u>RECURRING SPECIAL PROVISIONS</u>	<u>PAGE NO.</u>
1	<input type="checkbox"/> Additional State Requirements for Federal-Aid Construction Contracts	1
2	<input type="checkbox"/> Subletting of Contracts (Federal-Aid Contracts)	4
3	<input type="checkbox"/> EEO	5
4	<input type="checkbox"/> Specific EEO Responsibilities Non Federal-Aid Contracts	15
5	<input type="checkbox"/> Required Provisions - State Contracts	20
6	<input type="checkbox"/> Asbestos Bearing Pad Removal	26
7	<input type="checkbox"/> Asbestos Waterproofing Membrane and Asbestos Hot-Mix Asphalt Surface Removal	27
8	<input type="checkbox"/> Temporary Stream Crossings and In-Stream Work Pads	28
9	<input type="checkbox"/> Construction Layout Stakes Except for Bridges	29
10	<input type="checkbox"/> Construction Layout Stakes	32
11	<input type="checkbox"/> Use of Geotextile Fabric for Railroad Crossing	35
12	<input type="checkbox"/> Subsealing of Concrete Pavements	37
13	<input type="checkbox"/> Hot-Mix Asphalt Surface Correction	41
14	<input type="checkbox"/> Pavement and Shoulder Resurfacing	43
15	<input type="checkbox"/> Patching with Hot-Mix Asphalt Overlay Removal	44
16	<input type="checkbox"/> Polymer Concrete	45
17	<input type="checkbox"/> PVC Pipeliner	47
18	<input type="checkbox"/> Bicycle Racks	48
19	<input type="checkbox"/> Temporary Portable Bridge Traffic Signals	50
20	<input type="checkbox"/> Work Zone Public Information Signs	52
21	<input type="checkbox"/> Nighttime Inspection of Roadway Lighting	53
22	<input type="checkbox"/> English Substitution of Metric Bolts	54
23	<input type="checkbox"/> Calcium Chloride Accelerator for Portland Cement Concrete	55
24	<input type="checkbox"/> Quality Control of Concrete Mixtures at the Plant	56
25	<input type="checkbox"/> Quality Control/Quality Assurance of Concrete Mixtures	64
26	<input type="checkbox"/> Digital Terrain Modeling for Earthwork Calculations	80
27	<input type="checkbox"/> Pavement Marking Removal	82
28	<input type="checkbox"/> Preventive Maintenance – Bituminous Surface Treatment	83
29	<input type="checkbox"/> Preventive Maintenance – Cape Seal	89
30	<input type="checkbox"/> Preventive Maintenance – Micro-Surfacing	104
31	<input type="checkbox"/> Preventive Maintenance – Slurry Seal	115
32	<input type="checkbox"/> Temporary Raised Pavement Markers	125
33	<input type="checkbox"/> Restoring Bridge Approach Pavements Using High-Density Foam	126

CHECK SHEET
FOR
LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS

Adopted April 1, 2016

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

LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS

<u>CHECK SHEET #</u>		<u>PAGE NO.</u>
LRS 1	Reserved	130
LRS 2	<input type="checkbox"/> Furnished Excavation	131
LRS 3	<input checked="" type="checkbox"/> Work Zone Traffic Control Surveillance	132
LRS 4	<input type="checkbox"/> Flaggers in Work Zones	133
LRS 5	<input checked="" type="checkbox"/> Contract Claims	134
LRS 6	<input checked="" type="checkbox"/> Bidding Requirements and Conditions for Contract Proposals	135
LRS 7	<input type="checkbox"/> Bidding Requirements and Conditions for Material Proposals	141
LRS 8	Reserved	147
LRS 9	<input type="checkbox"/> Bituminous Surface Treatments	148
LRS 10	Reserved	149
LRS 11	<input checked="" type="checkbox"/> Employment Practices	150
LRS 12	<input checked="" type="checkbox"/> Wages of Employees on Public Works	152
LRS 13	<input checked="" type="checkbox"/> Selection of Labor	154
LRS 14	<input type="checkbox"/> Paving Brick and Concrete Paver Pavements and Sidewalks	155
LRS 15	<input checked="" type="checkbox"/> Partial Payments	158
LRS 16	<input checked="" type="checkbox"/> Protests on Local Lettings	159
LRS 17	<input checked="" type="checkbox"/> Substance Abuse Prevention Program	160
LRS 18	<input type="checkbox"/> Multigrade Cold Mix Asphalt	161

WORKING DAYS (BDE)

Effective: January 1, 2002

The Contractor shall complete the work within 39 working days.

80071

ERRATA FOR THE 2016 STANDARD SPECIFICATIONS (BDE)

Effective: April 1, 2016

- Page 84 Article 204.02. In the seventh line of the first paragraph change “AASHTO T 99 (Method C)” to “Illinois Modified AASHTO T 99 (Method C)”.
- Page 90 Article 205.06. In the first sentence of the third paragraph change “AASHTO T 99 (Method C)” to “Illinois Modified AASHTO T 99 (Method C)”.
- Page 91 Article 205.06. In the first sentence of the fourth paragraph change “AASHTO T 99 (Method C)” to “Illinois Modified AASHTO T 99 (Method C)”, and in the second sentence change “AASHTO T 224” to “Illinois Modified AASHTO T 99 (Annex A1)”.
- Page 91 Article 205.06. In the second line of the fifth paragraph change “AASHTO T 191” to “Illinois Modified AASHTO T 191”.
- Page 91 Article 205.06. In the sixth line of the eighth paragraph change “AASHTO T 99 (Method C)” to “Illinois Modified AASHTO T 99 (Method C)”.
- Page 148 Article 302.09. In the second sentence of the fifth paragraph change “AASHTO T 191” to “Illinois Modified AASHTO T 191”, and in the third sentence change “AASHTO T 99” to “Illinois Modified AASHTO T 99”.
- Page 152 Article 310.09. In the second sentence of the second paragraph change “AASHTO T 191” to “Illinois Modified AASHTO T 191”, and in the third sentence change “AASHTO T 99” to “Illinois Modified AASHTO T 99”.
- Page 155 Article 311.05(a). In the first sentence of the fifth paragraph change “AASHTO T 99 (Method C)” to “Illinois Modified AASHTO T 99 (Method C)”, and in the second sentence change “AASHTO T 224” to “Illinois Modified AASHTO T 99 (Annex A1)”.
- Page 155 Article 311.05(a). In the second line of the sixth paragraph change “AASHTO T 191” to “Illinois Modified AASHTO T 191”.
- Page 163 Article 351.05(a). In the second sentence of the fifth paragraph change “AASHTO T 99 (Method C)” to “Illinois Modified AASHTO T 99 (Method C)”, and in the third sentence change “AASHTO T 224” to “Illinois Modified AASHTO T 99 (Annex A1)”.
- Page 163 Article 351.05(a). In the second line of the sixth paragraph change “AASHTO T 191” to “Illinois Modified AASHTO T 191”.
- Page 169 Article 352.11. In the second sentence of the fourth paragraph change “AASHTO T 191” to “Illinois Modified AASHTO T 191”, and in the third sentence change “AASHTO T 134 (Method B)” to “Illinois Modified AASHTO T 134 (Method B)”.

Page 169 Article 352.12. In the first sentence of the first paragraph change “AASHTO T 22” to “Illinois Modified AASHTO T 22”, and in the second sentence change “AASHTO T 134 (Method B)” to “Illinois Modified AASHTO T 134 (Method B)”.

Page 196 Article 406.07(a). After the footnotes in Table 1 - Minimum Roller Requirements for HMA add the following:

“EQUIPMENT DEFINITION

V_s - Vibratory roller, static mode, minimum 125 lb/in. (2.2 kg/mm) of roller width. Maximum speed = 3 mph (5 km/h) or 264 ft/min (80 m/min). If the vibratory roller does not eliminate roller marks, its use shall be discontinued and a tandem roller, adequately ballasted to remove roller marks, shall be used.

V_D - Vibratory roller, dynamic mode, operated at a speed to produce not less than 10 impacts/ft (30 impacts/m).

P - Pneumatic-tired roller, max. speed 3 1/2 mph (5.5 km/h) or 308 ft/min (92 m/min). The pneumatic-tired roller shall have a minimum tire pressure of 80 psi (550 kPa) and shall be equipped with heat retention shields. The self-propelled pneumatic-tired roller shall develop a compression of not less than 300 lb (53 N) nor more than 500 lb (88 N) per in. (mm) of width of the tire tread in contact with the HMA surface.

T_B - Tandem roller for breakdown rolling, 8 to 12 tons (7 to 11 metric tons), 250 to 400 lb/in. (44 to 70 N/mm) of roller width, max. speed = 3 1/2 mph (5.5 km/h) or 308 ft/min (92 m/min).

T_F - Tandem roller for final rolling, 200 to 400 lb/in. (35 to 70 N/mm) of roller width with minimum roller width of 50 in. (1.25 m). Ballast shall be increased if roller marks are not eliminated. Ballast shall be decreased if the mat shoves or distorts.

3W - Three wheel roller, max. speed = 3 mph (5 km/h) or 264 ft/min (80 m/min), 300 to 400 lb/in. (53 to 70 N/mm) of roller width. The three-wheel roller shall weigh 10 to 12 tons (9 to 11 metric tons).”

Page 331 Article 505.04(p). Under Range of Clearance in the first table change “in. x 10⁻⁶” to “in. x 10⁻³”.

Page 444 Article 542.03. In the Notes in Table IIIB add “CPP Corrugated Polypropylene (CPP) pipe with smooth interior”.

- Page 445 Article 542.03. In the fourth column in Table IIIB (metric) change the heading for Type 5 pipe from “CPE” to “CPP”.
- Page 445 Article 542.03. In the Notes in Table IIIB (metric) change “PE Polyethylene (PE) pipe with a smooth interior” to “CPP Corrugated Polypropylene (CPP) pipe with smooth interior”.
- Page 449 Article 542.04(f)(2). In the third line of the second paragraph change “AASHTO T 99 (Method C)” to “Illinois Modified AASHTO T 99 (Method C)”.
- Page 544 Article 639.03. In the first sentence of the first paragraph change “AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, Traffic Signals,” to “AASHTO “LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals,””.
- Page 546 Article 640.03. In the first sentence of the first paragraph change “AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals” to “AASHTO “LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals””.
- Page 548 Article 641.03. In the first sentence of the first paragraph change “AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaire and Traffic Signals,” to “AASHTO “LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals,””.
- Page 621 Article 727.03. In the first sentence of the third paragraph change “AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals” to “AASHTO “LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals””.
- Page 629 Article 734.03(a). In the fourth line of the second paragraph change “AASHTO T 99 (Method C)” to “Illinois Modified AASHTO T 99 (Method C)”.
- Page 649 Article 801.02. In the first sentence of the first paragraph change “AASHTO’s Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals” to “AASHTO “LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals””.
- Page 742 Article 1003.04(c). Under Gradation in the table change “(see Article 1003.02(c))” to “(see Article 1003.01(c))”.
- Page 755 Article 1004.03(b). Revise the third sentence of the first paragraph to read “For Class A (seal or cover coat), and other binder courses, the coarse aggregate shall be Class C quality or better.”.

- Page 809 Article 1020.04(e). In the third line of the first paragraph change “ITP SCC-3” to “ITP SCC-4”.
- Page 945 Article 1069.05. In the first sentence of the tenth paragraph change ““Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals”” to “AASHTO “LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals””.
- Page 961 Article 1070.04(b)(1). In the third sentence of the first paragraph change ““Standard Specifications of Structural Supports for Highway Signs, Luminaires and Traffic Signals” published by AASHTO” to “AASHTO “LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals””.
- Page 989 Article 1077.01. In the second sentence of the first paragraph change “Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, as published by AASHTO” to “AASHTO “LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals””.
- Page 1121 Article 1103.13(a). In the first line of the first paragraph change “Bridge Deck Approach Slabs.” to “Bridge Deck and Approach Slabs.”.

80364

PAVEMENT MARKING REMOVAL (BDE)

Effective: July 1, 2016

Revise Article 783.02 of the Standard Specifications to read:

“783.02 Equipment. Equipment shall be according to the following.

Item	Article/Section
(a) Grinders (Note 1)	
(b) Water Blaster with Vacuum Recovery	1101.12

Note 1. Grinding equipment shall be approved by the Engineer.”

Revise the first paragraph of Article 783.03 of the Standard Specifications to read:

“783.03 Removal of Conflicting Markings. Existing pavement markings that conflict with revised traffic patterns shall be removed. If darkness or inclement weather prohibits the removal operations, such operations shall be resumed the next morning or when weather permits. In the event of removal equipment failure, such equipment shall be repaired, replaced, or leased so removal operations can be resumed within 24 hours.”

Revise the first and second sentences of the first paragraph of Article 783.03(a) of the Standard Specifications to read:

“The existing pavement markings shall be removed by the method specified and in a manner that does not materially damage the surface or texture of the pavement or surfacing. Small particles of tightly adhering existing markings may remain in place, if in the opinion of the Engineer, complete removal of the small particles will result in pavement surface damage.”

Revise the first paragraph of Article 783.04 of the Standard Specifications to read:

“783.04 Cleaning. The roadway surface shall be cleaned of debris or any other deleterious material by the use of compressed air or water blast.”

Revise the first paragraph of Article 783.06 of the Standard Specifications to read:

“783.06 Basis of Payment. This work will be paid for at the contract unit price per each for RAISED REFLECTIVE PAVEMENT MARKER REMOVAL, or at the contract unit price per square foot (square meter) for PAVEMENT MARKING REMOVAL – GRINDING and/or PAVEMENT MARKING REMOVAL – WATER BLASTING.”

Delete Article 1101.13 from the Standard Specifications.

80371

FRICITION AGGREGATE (D-1)

Effective: January 1, 2011
 Revised: April 29, 2016

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

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

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

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

Use	Mixture	Aggregates Allowed	
HMA High ESAL Low ESAL	C Surface and Leveling Binder IL-9.5 or IL-9.5L SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination</u> ^{5/} : Crushed Gravel Carbonate Crushed Stone ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{4/} Crushed Concrete ^{3/}	
HMA High ESAL	D Surface and Leveling Binder IL-9.5 SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination</u> ^{5/} : Crushed Gravel Carbonate Crushed Stone (other than Limestone) ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{4/} Crushed Concrete ^{3/}	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		25% Limestone	Dolomite
		50% Limestone	Any Mixture D aggregate other than Dolomite
75% Limestone	Crushed Slag (ACBF) or Crushed Sandstone		
HMA High ESAL	E Surface IL-9.5 SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination</u> ^{5/ 6/} : Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag No Limestone.	
		<u>Other Combinations Allowed:</u> <i>Up to...</i>	<i>With...</i>

Use	Mixture	Aggregates Allowed	
		50% Dolomite ^{2/}	Any Mixture E aggregate
		75% Dolomite ^{2/}	Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone
		75% Crushed Gravel ^{2/} or Crushed Concrete ^{3/}	Crushed Sandstone, Crystalline Crushed Stone, Crushed Slag (ACBF), or Crushed Steel Slag
HMA High ESAL	F Surface IL-9.5 SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination</u> ^{5/ 6/} :	
		Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag No Limestone.	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		50% Crushed Gravel ^{2/} , Crushed Concrete ^{3/} , or Dolomite ^{2/}	Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone

- 1/ Crushed steel slag allowed in shoulder surface only.
- 2/ Carbonate crushed stone (limestone) and/or crushed gravel shall not be used in SMA Ndesign 80. In SMA Ndesign 50, carbonate crushed stone shall not be blended with any of the other aggregates allowed alone in Ndesign 50 SMA binder or Ndesign 50 SMA surface.
- 3/ Crushed concrete will not be permitted in SMA mixes.
- 4/ Crushed steel slag shall not be used as leveling binder.
- 5/ When combinations of aggregates are used, the blend percent measurements shall be by volume."
- 6/ Combining different types of aggregate will not be permitted in SMA Ndesign 80."

HMA MIXTURE DESIGN REQUIREMENTS (D-1)

Effective: January 1, 2013

Revised: April 1, 2016

1) Design Composition and Volumetric Requirements

Revise the table in Article 406.06(d) of the Standard Specifications to read:

"MINIMUM COMPACTED LIFT THICKNESS	
Mixture Composition	Thickness, in. (mm)
IL-4.75	3/4 (19)
SMA-9.5, IL-9.5, IL-9.5L	1 1/2 (38)
SMA-12.5	2 (50)
IL-19.0, IL-19.0L	2 1/4 (57)"

Revise the table in Article 1004.03(c) of the Standard Specifications to read:

"Use	Size/Application	Gradation No.
Class A-1, 2, & 3	3/8 in. (10 mm) Seal	CA 16
Class A-1	1/2 in. (13 mm) Seal	CA 15
Class A-2 & 3	Cover	CA 14
HMA High ESAL	IL-19.0 IL-9.5	CA 11 ^{1/} CA 16, CA 13 ^{3/}
HMA Low ESAL	IL-19.0L IL-9.5L Stabilized Subbase or Shoulders	CA 11 ^{1/} CA 16
SMA ^{2/}	1/2 in. (12.5mm) Binder & Surface IL 9.5 Surface	CA13 ^{3/} , CA14 or CA16 CA16, CA 13 ^{3/}

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

2/ The coarse aggregates used shall be capable of being combined with stone sand, slag sand, or steel slag sand meeting the FA/FM 20 gradation and mineral filler to meet the approved mix design and the mix requirements noted herein.

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

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

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

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

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

Revise the nomenclature table in Article 1030.01 of the Standard Specifications to read:

“High ESAL	IL-19.0 binder; IL-9.5 surface; IL-4.75; SMA-12.5, SMA-9.5
Low ESAL	IL-19.0L binder; IL-9.5L surface; Stabilized Subbase (HMA) ^{1/} ; HMA Shoulders ^{2/}

1/ Uses 19.0L binder mix.

2/ Uses 19.0L for lower lifts and 9.5L for surface lift.”

Revise Article 1030.02 of the Standard Specifications and Supplemental Specifications to read:

“**1030.02 Materials.** Materials shall be according to the following.

Item.....	Article/Section
(a) Coarse Aggregate	1004.03
(b) Fine Aggregate	1003.03
(c) RAP Material	1031
(d) Mineral Filler	1011
(e) Hydrated Lime	1012.01
(f) Slaked Quicklime (Note 1)	
(g) Performance Graded Asphalt Binder (Note 2)	1032
(h) Fibers (Note 3)	
(i) Warm Mix Asphalt (WMA) Technologies (Note 4)	

Note 1. Slaked quicklime shall be according to ASTM C 5.

Note 2. The asphalt binder shall be an SBS PG 76-28 when the SMA is used on a full-depth asphalt pavement and SBS PG 76-22 when used as an overlay, except where modified herein. The asphalt binder shall be an Elvaloy or SBS PG 76-22 for IL-4.75, except where modified herein. The elastic recovery shall be a minimum of 80.

Note 3. A stabilizing additive such as cellulose or mineral fiber shall be added to the SMA mixture according to Illinois Modified AASHTO M 325. The stabilizing additive shall meet the Fiber Quality Requirements listed in Illinois Modified AASHTO M 325. Prior to approval and use of fibers, the Contractor shall submit a notarized certification by the producer of these materials stating they meet these requirements. Reclaimed Asphalt Shingles (RAS) may be used in Stone Matrix Asphalt (SMA) mixtures designed with an SBA polymer modifier as a fiber additive if the mix design with RAS included meets AASHTO T305 requirements. The RAS shall be from a certified source that

produces either Type I or Type 2. Material shall meet requirements noted herein and the actual dosage rate will be determined by the Engineer.

Note 4. Warm mix additives or foaming processes shall be selected from the current Bureau of Materials and Physical Research Approved List, "Warm Mix Asphalt Technologies".

Revise Article 1030.04(a)(1) of the Standard Specifications and the Supplemental Specifications to read:

"(1) High ESAL Mixtures. The Job Mix Formula (JMF) shall fall within the following limits.

High ESAL, MIXTURE COMPOSITION (% PASSING) ^{1/}										
Sieve Size	IL-19.0 mm		SMA ^{4/} IL-12.5 mm		SMA ^{4/} IL-9.5 mm		IL-9.5 mm		IL-4.75 mm	
	min	max	min	max	min	max	min	max	min	max
1 1/2 in. (37.5 mm)										
1 in. (25 mm)		100								
3/4 in. (19 mm)	90	100		100						
1/2 in. (12.5 mm)	75	89	80	100		100		100		100
3/8 in. (9.5 mm)				65	90	100	90	100		100
#4 (4.75 mm)	40	60	20	30	36	50	34	69	90	100
#8 (2.36 mm)	20	42	16	24 ^{5/}	16	32 ^{5/}	34 ^{6/}	52 ^{2/}	70	90
#16 (1.18 mm)	15	30					10	32	50	65
#30 (600 μm)			12	16	12	18				
#50 (300 μm)	6	15					4	15	15	30
#100 (150 μm)	4	9					3	10	10	18
#200 (75 μm)	3	6	7.0	9.0 ^{3/}	7.5	9.5 ^{3/}	4	6	7	9 ^{3/}
Ratio Dust/Asphalt Binder		1.0		1.5		1.5		1.0		1.0

- 1/ Based on percent of total aggregate weight.
- 2/ The mixture composition shall not exceed 44 percent passing the #8 (2.36 mm) sieve for surface courses with Ndesign = 90.
- 3/ Additional minus No. 200 (0.075 mm) material required by the mix design shall be mineral filler, unless otherwise approved by the Engineer.
- 4/ The maximum percent passing the #635 (20 μm) sieve shall be ≤ 3 percent.

- 5/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted above the percentage stated on the table.
- 6/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted below 34 percent.

Revise Article 1030.04(b)(1) of the Standard Specifications to read:

“(1) High ESAL Mixtures. The target value for the air voids of the HMA shall be 4.0 percent and for IL-4.75 it shall be 3.5 percent at the design number of gyrations. The VMA and VFA of the HMA design shall be based on the nominal maximum size of the aggregate in the mix, and shall conform to the following requirements.

VOLUMETRIC REQUIREMENTS High ESAL				
Ndesign	Voids in the Mineral Aggregate (VMA), % minimum			Voids Filled with Asphalt Binder (VFA), %
	IL-19.0	IL-9.5	IL-4.75 ^{1/}	
50	13.5	15.0	18.5	65 – 78 ^{2/}
70			65 - 75	
90				

1/ Maximum Draindown for IL-4.75 shall be 0.3 percent

2/ VFA for IL-4.75 shall be 72-85 percent”

Replace Article 1030.04(b)(3) of the Standard Specifications with the following:

“(3) SMA Mixtures.

Volumetric Requirements SMA ^{1/}			
Ndesign	Design Air Voids Target %	Voids in the Mineral Aggregate (VMA), % min.	Voids Filled with Asphalt (VFA), %
80 ^{4/}	3.5	17.0 ^{2/}	75 - 83
		16.0 ^{3/}	

1/ Maximum draindown shall be 0.3 percent. The draindown shall be determined at the JMF asphalt binder content at the mixing temperature plus 30 °F.

2/ Applies when specific gravity of coarse aggregate is ≥ 2.760.

- 3/ Applies when specific gravity of coarse aggregate is < 2.760.
- 4/ Blending of different types of aggregate will not be permitted.
For surface course, the coarse aggregate can be crushed steel slag, crystalline crushed stone or crushed sandstone. For binder course, coarse aggregate shall be crushed stone (dolomite), crushed gravel, crystalline crushed stone, or crushed sandstone.

Add to the end of Article 1030.05 (d) (2) a. of the Standard Specifications:

“During production, the Contractor shall test SMA mixtures for draindown according to AASHTO T305 at a frequency of 1 per day of production.”

Delete last sentence of the second paragraph of Article 1102.01(a) (4) b. 2.

Add to the end of Article 1102.01 (a) (4) b. 2.:

“As an option, collected dust (baghouse) may be used in lieu of manufactured mineral filler according to the following:

- (a.) Sufficient collected dust (baghouse) is available for production of the SMA mix for the entire project.
- (b.) A mix design was prepared based on collected dust (baghouse).

2) Design Verification and Production

Revise Article 1030.04 (d) of the Standard Specifications to read:

“(d) Verification Testing. High ESAL, IL-4.75, and SMA mix designs submitted for verification will be tested to ensure that the resulting mix designs will pass the required criteria for the Hamburg Wheel Test (IL mod AASHTO T-324) and the Tensile Strength Test (IL mod AASHTO T-283). The Department will perform a verification test on gyratory specimens compacted by the Contractor. If the mix fails the Department’s verification test, the Contractor shall make the necessary changes to the mix and resubmit compacted specimens to the Department for verification. If the mix fails again, the mix design will be rejected.

All new and renewal mix designs will be required to be tested, prior to submittal for Department verification and shall meet the following requirements:

- (1)Hamburg Wheel Test criteria. The maximum allowable rut depth shall be 0.5 in. (12.5 mm). The minimum number of wheel passes at the 0.5 in. (12.5 mm) rut depth criteria shall be based on the high temperature binder grade of the mix as specified in the mix requirements table of the plans.

Illinois Modified AASHTO T 324 Requirements ^{1/}

Asphalt Binder Grade	# Repetitions	Max Rut Depth (mm)
PG 70 -XX (or higher)	20,000	12.5
PG 64 -XX (or lower)	10,000	12.5

1/ When produced at temperatures of 275 ± 5 °F (135 ± 3 °C) or less, loose Warm Mix Asphalt shall be oven aged at 270 ± 5 °F (132 ± 3 °C) for two hours prior to gyratory compaction of Hamburg Wheel specimens.

Note: For SMA Designs (N-80) the maximum rut depth is 6.0 mm at 20,000 repetitions.
For IL 4.75mm Designs (N-50) the maximum rut depth is 9.0mm at 15,000 repetitions.

(2) Tensile Strength Criteria. The minimum allowable conditioned tensile strength shall be 60 psi (415 kPa) for non-polymer modified performance graded (PG) asphalt binder and 80 psi (550 kPa) for polymer modified PG asphalt binder. The maximum allowable unconditioned tensile strength shall be 200 psi (1380 kPa).”

Production Testing. Revise first paragraph of Article 1030.06(a) of the Standard Specifications to read:

“(a) High ESAL, IL-4.75, WMA, and SMA Mixtures. For each contract, a 300 ton (275 metric tons) test strip, except for SMA mixtures it will be 400 ton (363 metric ton), will be required at the beginning of HMA production for each mixture with a quantity of 3000 tons (2750 metric tons) or more according to the Manual of Test Procedures for Materials “Hot Mix Asphalt Test Strip Procedures”.

Add the following after the sixth paragraph in Article 1030.06 (a) of the Standard Specifications:

“The Hamburg Wheel test shall also be conducted on all HMA mixtures from a sample taken within the first 500 tons (450 metric tons) on the first day of production or during start up with a split reserved for the Department. The mix sample shall be tested according to the Illinois Modified AASHTO T 324 and shall meet the requirements specified herein. Mix production shall not exceed 1500 tons (1350 metric tons) or one day’s production, whichever comes first, until the testing is completed and the mixture is found to be in conformance. The requirement to cease mix production may be waived if the plant produced mixture demonstrates conformance prior to start of mix production for a contract.
If the mixture fails to meet the Hamburg Wheel criteria, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria”

Method of Measurement:

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

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

Basis of Payment.

Replace the fourth paragraph of Article 406.14 of the Standard Specifications with the following:

“Stone matrix asphalt will be paid for at the contract unit price per ton (metric ton) for POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, STONE MATRIX ASPHALT, of the mixture composition and Ndesign specified; and POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, STONE MATRIX ASPHALT, of the mixture composition and Ndesign specified.”

RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES (D-1)

Effective: November 1, 2012

Revise: April 2, 2016

Revise Section 1031 of the Standard Specifications to read:

“SECTION 1031. RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES

1031.01 Description. Reclaimed asphalt pavement and reclaimed asphalt shingles shall be according to the following.

- (a) Reclaimed Asphalt Pavement (RAP). RAP is the material resulting from cold milling or crushing an existing hot-mix asphalt (HMA) pavement. RAP will be considered processed FRAP after completion of both crushing and screening to size. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction.
- (b) Reclaimed Asphalt Shingles (RAS). Reclaimed asphalt shingles (RAS). RAS is from the processing and grinding of preconsumer or post-consumer shingles. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable material, as defined in Bureau of Materials and Physical Research Policy Memorandum, “Reclaimed Asphalt Shingle (RAS) Sources”, by weight of RAS. All RAS used shall come from a Bureau of Materials and Physical Research approved processing facility where it shall be ground and processed to 100 percent passing the 3/8 in. (9.5 mm) sieve and 90 percent passing the #4 (4.75 mm) sieve. RAS shall meet the testing requirements specified herein. In addition, RAS shall meet the following Type 1 or Type 2 requirements.
 - (1) Type 1. Type 1 RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.
 - (2) Type 2. Type 2 RAS shall be processed post-consumer shingles only, salvaged from residential, or four unit or less dwellings not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP).

1031.02 Stockpiles. RAP and RAS stockpiles shall be according to the following.

- (a) RAP Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. Additional processed RAP (FRAP) shall be stockpiled in a separate working pile, as designated in the QC Plan, and only added to the sealed stockpile when test results for the working pile are complete and are found to meet tolerances specified herein for the original sealed FRAP stockpile. Stockpiles shall be sufficiently separated to prevent intermingling at the base. All stockpiles (including

unprocessed RAP and FRAP) shall be identified by signs indicating the type as listed below (i.e. "Non- Quality, FRAP -#4 or Type 2 RAS", etc...).

- (1) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, Superpave HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in FRAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. All FRAP shall be processed prior to testing and sized into fractions with the separation occurring on or between the #4 (4.75 mm) and 1/2 in. (12.5 mm) sieves. Agglomerations shall be minimized such that 100 percent of the RAP in the coarse fraction shall pass the maximum sieve size specified for the mix the FRAP will be used in.
- (2) Restricted FRAP (B quality) stockpiles shall consist of RAP from Class I, Superpave (High ESAL), or HMA (High ESAL). If approved by the Engineer, the aggregate from a maximum 3.0 in. (75 mm) single combined pass of surface/binder milling will be classified as B quality. All millings from this application will be processed into FRAP as described previously.
- (3) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, Superpave HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate RAP shall be processed (FRAP) prior to testing. Conglomerate RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.
- (4) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP from HMA shoulders, bituminous stabilized subbases or Superpave (Low ESAL)/HMA (Low ESAL) IL-19.0L binder mixture. The coarse aggregate in this RAP may be crushed or round but shall be at least D quality. This RAP may have an inconsistent gradation and/or asphalt binder content. Conglomerate DQ RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.
- (5) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Non-Quality".

RAP or FRAP containing contaminants, such as earth, brick, sand, concrete, sheet asphalt, bituminous surface treatment (i.e. chip seal), pavement fabric, joint sealants, plant cleanout etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.

- (b) RAS Stockpiles. Type 1 and Type 2 RAS shall be stockpiled separately and shall be sufficiently separated to prevent intermingling at the base. Each stockpile shall be signed indicating what type of RAS is present.

However, a RAS source may submit a written request to the Department for approval to blend mechanically a specified ratio of Type 1 RAS with Type 2 RAS. The source will not be permitted to change the ratio of the blend without the Department prior written approval. The Engineer's written approval will be required, to mechanically blend RAS with any fine aggregate produced under the AGCS, up to an equal weight of RAS, to improve workability. The fine aggregate shall be "B Quality" or better from an approved Aggregate Gradation Control System source. The fine aggregate shall be one that is approved for use in the HMA mixture and accounted for in the mix design and during HMA production.

Records identifying the shingle processing facility supplying the RAS, RAS type, and lot number shall be maintained by project contract number and kept for a minimum of three years.

1031.03 Testing. FRAP and RAS testing shall be according to the following.

(a) FRAP Testing. When used in HMA, the FRAP shall be sampled and tested either during processing or after stockpiling. It shall also be sampled during HMA production.

(1) During Stockpiling. For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 500 tons (450 metric tons) for the first 2000 tons (1800 metric tons) and one sample per 2000 tons (1800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4000 tons (3600 metric tons).

(2) Incoming Material. For testing as incoming material, washed extraction samples shall be run at a minimum frequency of one sample per 2000 tons (1800 metric tons) or once per week, whichever comes first.

(3) After Stockpiling. For testing after stockpiling, the Contractor shall submit a plan for approval to the District proposing a satisfactory method of sampling and testing the RAP/FRAP pile either in-situ or by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to obtain representative samples throughout the pile for testing.

Before extraction, each field sample of FRAP, shall be split to obtain two samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedure. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

(b) RAS Testing. RAS shall be sampled and tested during stockpiling according to Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Sources". The Contractor shall also sample as incoming material at the HMA plant.

- (1) During Stockpiling. Washed extraction and testing for unacceptable materials shall be run at the minimum frequency of one sample per 200 tons (180 metric tons) for the first 1000 tons (900 metric tons) and one sample per 1000 tons (900 metric tons) thereafter. A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). Once a ≤ 1000 ton (900 metric ton), five-sample/test stockpile has been established it shall be sealed. Additional incoming RAS shall be in a separate working pile as designated in the Quality Control plan and only added to the sealed stockpile when the test results of the working pile are complete and are found to meet the tolerances specified herein for the original sealed RAS stockpile.
- (2) Incoming Material. For testing as incoming material at the HMA plant, washed extraction shall be run at the minimum frequency of one sample per 250 tons (227 metric tons). A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). The incoming material test results shall meet the tolerances specified herein.

The Contractor shall obtain and make available all test results from start of the initial stockpile sampled and tested at the shingle processing facility in accordance with the facility's QC Plan.

Before extraction, each field sample shall be split to obtain two samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedures. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

1031.04 Evaluation of Tests. Evaluation of test results shall be according to the following.

- (a) Evaluation of FRAP Test Results. All test results shall be compiled to include asphalt binder content, gradation and, when applicable (for slag), G_{mm} . A five test average of results from the original pile will be used in the mix designs. Individual extraction test results run thereafter, shall be compared to the average used for the mix design, and will be accepted if within the tolerances listed below.

Parameter	FRAP
No. 4 (4.75 mm)	$\pm 6 \%$
No. 8 (2.36 mm)	$\pm 5 \%$
No. 30 (600 μm)	$\pm 5 \%$
No. 200 (75 μm)	$\pm 2.0 \%$
Asphalt Binder	$\pm 0.3 \%$
G_{mm}	± 0.03 ^{1/}

- 1/ For stockpile with slag or steel slag present as determined in the current Manual of Test Procedures Appendix B 21, "Determination of Reclaimed Asphalt Pavement Aggregate Bulk Specific Gravity".

If any individual sieve and/or asphalt binder content tests are out of the above tolerances when compared to the average used for the mix design, the FRAP stockpile shall not be used in Hot-Mix Asphalt unless the FRAP representing those tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

The Contractor shall maintain a representative moving average of five tests to be used for Hot-Mix Asphalt production.

With the approval of the Engineer, the ignition oven may be substituted for extractions according to the ITP, "Calibration of the Ignition Oven for the Purpose of Characterizing Reclaimed Asphalt Pavement (RAP)" or Illinois Modified AASHTO T-164-11, Test Method A.

- (b) Evaluation of RAS Test Results. All of the test results, with the exception of percent unacceptable materials, shall be compiled and averaged for asphalt binder content and gradation. A five test average of results from the original pile will be used in the mix designs. Individual test results run thereafter, when compared to the average used for the mix design, will be accepted if within the tolerances listed below.

Parameter	RAS
No. 8 (2.36 mm)	± 5 %
No. 16 (1.18 mm)	± 5 %
No. 30 (600 µm)	± 4 %
No. 200 (75 µm)	± 2.5 %
Asphalt Binder Content	± 2.0 %

If any individual sieve and/or asphalt binder content tests are out of the above tolerances when compared to the average used for the mix design, the RAS shall not be used in Hot-Mix Asphalt unless the RAS representing those tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

- (c) Quality Assurance by the Engineer. The Engineer may witness the sampling and splitting conduct assurance tests on split samples taken by the Contractor for quality control testing a minimum of once a month.

The overall testing frequency will be performed over the entire range of Contractor samples for asphalt binder content and gradation. The Engineer may select any or all split samples for assurance testing. The test results will be made available to the Contractor as soon as they become available.

The Engineer will notify the Contractor of observed deficiencies.

Differences between the Contractor's and the Engineer's split sample test results will be considered acceptable if within the following limits.

Test Parameter	Acceptable Limits of Precision	
	FRAP	RAS
% Passing: ^{1/}		
1/2 in.	5.0%	
No. 4	5.0%	
No. 8	3.0%	4.0%
No. 30	2.0%	3.0%
No. 200	2.2%	2.5%
Asphalt Binder Content	0.3%	1.0%
G _{mm}	0.030	

1/ Based on washed extraction.

In the event comparisons are outside the above acceptable limits of precision, the Engineer will immediately investigate.

- (d) Acceptance by the Engineer. Acceptable of the material will be based on the validation of the Contractor's quality control by the assurance process.

1031.05 Quality Designation of Aggregate in RAP and FRAP.

- (a) RAP. The aggregate quality of the RAP for homogeneous, conglomerate, and conglomerate "D" quality stockpiles shall be set by the lowest quality of coarse aggregate in the RAP stockpile and are designated as follows.

- (1) RAP from Class I, Superpave/HMA (High ESAL), or (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.
- (2) RAP from Superpave/HMA (Low ESAL) IL-19.0L binder mixture is designated as Class D quality coarse aggregate.
- (3) RAP from Class I, Superpave/HMA (High ESAL) binder mixtures, bituminous base course mixtures, and bituminous base course widening mixtures are designated as containing Class C quality coarse aggregate.
- (4) RAP from bituminous stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate.

- (b) FRAP. If the Engineer has documentation of the quality of the FRAP aggregate, the Contractor shall use the assigned quality provided by the Engineer.

If the quality is not known, the quality shall be determined as follows. Fractionated RAP stockpiles containing plus #4 (4.75 mm) sieve coarse aggregate shall have a maximum tonnage of 5,000 tons (4,500 metric tons). The Contractor shall obtain a representative sample witnessed by the Engineer. The sample shall be a minimum of 50 lb (25 kg). The sample shall be extracted according to Illinois Modified AASHTO T 164 by a consultant laboratory prequalified by the Department for the specified testing. The consultant laboratory shall submit the test results along with the recovered aggregate to the District Office. The cost for this testing shall be paid by the Contractor. The District will forward the sample to the Bureau of Materials and Physical Research Aggregate Lab for MicroDeval Testing, according to ITP 327. A maximum loss of 15.0 percent will be applied for all HMA applications. The fine aggregate portion of the fractionated RAP shall not be used in any HMA mixtures that require a minimum of "B" quality aggregate or better, until the coarse aggregate fraction has been determined to be acceptable thru a MicroDeval Testing.

1031.06 Use of FRAP and/or RAS in HMA. The use of FRAP and/or RAS shall be the Contractor's option when constructing HMA in all contracts.

(a) FRAP. The use of FRAP in HMA shall be as follows.

- (1) Coarse Aggregate Size (after extraction). The coarse aggregate in all FRAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.
- (2) Steel Slag Stockpiles. FRAP stockpiles containing steel slag or other expansive material, as determined by the Department, shall be homogeneous and will be approved for use in HMA (High ESAL and Low ESAL) mixtures regardless of lift or mix type.
- (3) Use in HMA Surface Mixtures (High and Low ESAL). FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall have coarse aggregate that is Class B quality or better. FRAP shall be considered equivalent to limestone for frictional considerations unless produced/screened to minus 3/8 inch.
- (4) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. FRAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be FRAP in which the coarse aggregate is Class C quality or better.
- (5) Use in Shoulders and Subbase. FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, Restricted FRAP, conglomerate, or conglomerate DQ.

(b) RAS. RAS meeting Type 1 or Type 2 requirements will be permitted in all HMA applications as specified herein.

- (c) FRAP and/or RAS Usage Limits. Type 1 or Type 2 RAS may be used alone or in conjunction with FRAP in HMA mixtures up to a maximum of 5.0 percent by weight of the total mix.

When FRAP is used alone or FRAP is used in conjunction with RAS, the percent of virgin asphalt binder replacement (ABR) shall not exceed the amounts indicated in the table below for a given N Design.

Max Asphalt Binder Replacement for FRAP with RAS Combination

HMA Mixtures ^{1/ 2/ 4/}	Maximum % ABR		
	Binder/Leveling Binder	Surface	Polymer Modified ^{3/}
30L	50	40	30
50	40	35	30
70	40	30	30
90	40	30	30
4.75 mm N-50			40
SMA N-80			30

- 1/ For Low ESAL HMA shoulder and stabilized subbase, the percent asphalt binder replacement shall not exceed 50 % of the total asphalt binder in the mixture.
- 2/ When the binder replacement exceeds 15 % for all mixes, except for SMA and IL-4.75, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 % binder replacement using a virgin asphalt binder grade of PG64-22 will be reduced to a PG58-28). When constructing full depth HMA and the ABR is less than 15 %, the required virgin asphalt binder grade shall be PG64-28.
- 3/ When the ABR for SMA or IL-4.75 is 15 % or less, the required virgin asphalt binder shall be SBS PG76-22 and the elastic recovery shall be a minimum of 80. When the ABR for SMA or IL-4.75 exceeds 15%, the virgin asphalt binder grade shall be SBS PG70-28 and the elastic recovery shall be a minimum of 80.
- 4/ When FRAP or RAS is used alone, the maximum percent asphalt binder replacement designated on the table shall be reduced by 10 %.

1031.07 HMA Mix Designs. At the Contractor's option, HMA mixtures may be constructed utilizing RAP/FRAP and/or RAS material meeting the detailed requirements specified herein.

- (a) FRAP and/or RAS. FRAP and /or RAS mix designs shall be submitted for verification. If additional FRAP or RAS stockpiles are tested and found to be within tolerance, as defined under "Evaluation of Tests" herein, and meet all requirements herein, the

additional FRAP or RAS stockpiles may be used in the original design at the percent previously verified.

- (b) RAS. Type 1 and Type 2 RAS are not interchangeable in a mix design. A RAS stone bulk specific gravity (Gsb) of 2.300 shall be used for mix design purposes.

1031.08 HMA Production. HMA production utilizing FRAP and/or RAS shall be as follows.

To remove or reduce agglomerated material, a scalping screen, gator, crushing unit, or comparable sizing device approved by the Engineer shall be used in the RAS and FRAP feed system to remove or reduce oversized material. If material passing the sizing device adversely affects the mix production or quality of the mix, the sizing device shall be set at a size specified by the Engineer.

If during mix production, corrective actions fail to maintain FRAP, RAS or QC/QA test results within control tolerances or the requirements listed herein the Contractor shall cease production of the mixture containing FRAP or RAS and conduct an investigation that may require a new mix design.

- (a) RAS. RAS shall be incorporated into the HMA mixture either by a separate weight depletion system or by using the RAP weigh belt. Either feed system shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes. The portion of RAS shall be controlled accurately to within ± 0.5 percent of the amount of RAS utilized. When using the weight depletion system, flow indicators or sensing devices shall be provided and interlocked with the plant controls such that the mixture production is halted when RAS flow is interrupted.
- (b) HMA Plant Requirements. HMA plants utilizing FRAP and/or RAS shall be capable of automatically recording and printing the following information.

(1) Dryer Drum Plants.

- a. Date, month, year, and time to the nearest minute for each print.
- b. HMA mix number assigned by the Department.
- c. Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- d. Accumulated dry weight of RAS and FRAP in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- e. Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.

- f. Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.
 - g. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.
 - h. Aggregate RAS and FRAP moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAS and FRAP are printed in wet condition.)
 - i. When producing mixtures with FRAP and/or RAS, a positive dust control system shall be utilized.
 - j. Accumulated mixture tonnage.
 - k. Dust Removed (accumulated to the nearest 0.1 ton (0.1 metric ton))
- (2) Batch Plants.
- a. Date, month, year, and time to the nearest minute for each print.
 - b. HMA mix number assigned by the Department.
 - c. Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).
 - d. Mineral filler weight to the nearest pound (kilogram).
 - f. RAS and FRAP weight to the nearest pound (kilogram).
 - g. Virgin asphalt binder weight to the nearest pound (kilogram).
 - h. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.

The printouts shall be maintained in a file at the plant for a minimum of one year or as directed by the Engineer and shall be made available upon request. The printing system will be inspected by the Engineer prior to production and verified at the beginning of each construction season thereafter.

1031.09 RAP in Aggregate Surface Course and Aggregate Wedge Shoulders, Type B.

The use of RAP or FRAP in aggregate surface course and aggregate shoulders shall be as follows.

- (a) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except "Non-Quality" and "FRAP". The testing requirements of Article 1031.03 shall not apply. RAP used shall be according to the current Bureau of Materials and Physical

Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications".

- (b) Gradation. The RAP material shall meet the gradation requirements for CA 6 according to Article 1004.01(c), except the requirements for the minus No. 200 (75 μ m) sieve shall not apply. The sample for the RAP material shall be air dried to constant weight prior to being tested for gradation."

INTENTIONALLY

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SPECIAL PROVISION
FOR
CONSTRUCTION DEBRIS

Effective October 18, 1999

Add the following to the third paragraph of Article 202.03 of the Standard Specifications:

“The Contractor shall not conduct any generation, transportation, or recycling of construction or demolition debris, clean or general or uncontaminated soil generated during construction, remodeling, repair, and demolition of utilities, structures, and roads that is not commingled with any waste, without the maintenance of documentation identifying the hauler, generator, place of origin of the debris or soil, the weight or volume of the debris or soil, and the location, owner, and operator of the facility where the debris or soil was transferred , disposed, recycled or treated. This documentation must be maintained by the Contractor for 3 years.”

CONSTRUCTION DEBRIS MANIFEST

Ticket No. _____

Contract No. _____

Generator _____

Hauler _____

Truck No. _____

Description of Material

Approximate Weight of Material _____

Approximate Volume of Material _____

Disposition of Material:

Location: _____

Date: _____

Time: _____

Owner: _____

Operator: _____