

If you plan to submit a bid directly to the Department of Transportation

PREQUALIFICATION

Any contractor who desires to become pre-qualified to bid on work advertised by IDOT must submit the properly completed pre-qualification forms to the Bureau of Construction no later than 4:30 p.m. prevailing time twenty-one days prior to the letting of interest. This pre-qualification requirement applies to first time contractors, contractors renewing expired ratings, contractors maintaining continuous pre-qualification or contractors requesting revised ratings. To be eligible to bid, existing pre-qualification ratings must be effective through the date of letting.

REQUESTS FOR AUTHORIZATION TO BID

Contractors wanting to bid on items included in a particular letting must submit the properly completed "Request for Authorization to Bid/or Not For Bid Status" (BDE 124INT) and the ORIGINAL "Affidavit of Availability" (BC 57) to the proper office no later than 4:30 p.m. prevailing time, three (3) days prior to the letting date.

WHO CAN BID ?

Bids will be accepted from only those companies that request and receive written **Authorization to Bid** from IDOT's Central Bureau of Construction.

WHAT CONSTITUTES WRITTEN AUTHORIZATION TO BID?: When a prospective prime bidder submits a "Request for Authorization to Bid/or Not For Bid Status" (BDE 124INT) he/she must indicate at that time which items are being requested For Bidding purposes. Only those items requested For Bidding will be analyzed. After the request has been analyzed, the bidder will be issued an **Authorization to Bid or Not for Bid Report**, approved by the Central Bureau of Construction that indicates which items have been approved For Bidding. If **Authorization to Bid** cannot be approved, the **Authorization to Bid or Not for Bid Report** will indicate the reason for denial.

ABOUT AUTHORIZATION TO BID: Firms that have not received an authorization form within a reasonable time of complete and correct original document submittal should contact the department as to status. This is critical in the week before the letting. These documents must be received three days before the letting date. Firms unsure as to authorization status should call the Prequalification Section of the Bureau of Construction at the number listed at the end of these instructions.

ADDENDA AND REVISIONS: It is the contractor's responsibility to determine which, if any, addenda or revisions pertain to any project they may be bidding. Failure to incorporate all relevant addenda or revisions may cause the bid to be declared unacceptable.

Each addendum will be placed with the contract number. Addenda and revisions will also be placed on the Addendum/Revision Checklist and each subscription service subscriber will be notified by e-mail of each addendum and revision issued.

The Internet is the Department's primary way of doing business. The subscription server e-mails are an added courtesy the Department provides. It is suggested that bidders check IDOT's website at <http://www.dot.il.gov/desenv/delett.html> before submitting final bid information.

IDOT IS NOT RESPONSIBLE FOR ANY E-MAIL FAILURES.

Addenda Questions may be directed to the Contracts Office at (217)782-7806 or D&Econtracts@dot.il.gov

Technical Questions about downloading these files may be directed to Tim Garman (217)524-1642 or Timothy.Garman@illinois.gov.

WHAT MUST BE INCLUDED WHEN BIDS ARE SUBMITTED?: Bidders need not return the entire proposal when bids are submitted. That portion of the proposal that must be returned includes the following:

1. All documents from the Proposal Cover Sheet through the Proposal Bid Bond
2. Other special documentation and/or information that may be required by the contract special provisions

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

ABOUT SUBMITTING BIDS: It is recommended that bidders deliver bids in person to insure they arrive at the proper location prior to the time specified for the receipt of bids. Any bid received at the place of letting after the time specified will not be accepted.

WHO SHOULD BE CALLED IF ASSISTANCE IS NEEDED?

Questions Regarding	Call
Prequalification and/or Authorization to Bid	217/782-3413
Preparation and submittal of bids	217/782-7806
Mailing of plans and proposals	217/782-7806

ADDENDUMS AND REVISIONS TO THE PROPOSAL FORMS

Planholders should verify that they have received and incorporated any addendum and/or revision prior to submitting their bid. Failure by the bidder to include an addendum or revision could result in a bid being rejected as irregular.

RETURN WITH BID

104

Proposal Submitted By
Name
Address
City

Letting January 21, 2011

BIDDERS NEED NOT RETURN THE ENTIRE PROPOSAL
(See instructions inside front cover)

NOTICE TO PROSPECTIVE BIDDERS

This proposal can be used for bidding purposes by only those companies that request and receive written AUTHORIZATION TO BID from IDOT's Central Bureau of Construction.

(SEE INSTRUCTIONS ON THE INSIDE OF COVER)

**Notice to Bidders,
Specifications,
Proposal, Contract
and Contract Bond**



**Illinois Department
of Transportation**

Springfield, Illinois 62764

Contract No. 60H20
COOK County
Section 98-B
Route FAP 343
Project F-0343(017)
District 1 Construction Funds

PLEASE MARK THE APPROPRIATE BOX BELOW:

- A Bid Bond is included.
- A Cashier's Check or a Certified Check is included

Prepared by

Checked by

F

(Printed by authority of the State of Illinois)

INSTRUCTIONS

ABOUT IDOT PROPOSALS: All proposals issued by IDOT are potential bidding proposals. Each proposal contains all Certifications and Affidavits, a Proposal Signature Sheet and a Proposal Bid Bond required for Prime Contractors to submit a bid after written **Authorization to Bid** has been issued by IDOT's Central Bureau of Construction. In addition, this proposal contains new statutory requirements applicable to the use of subcontractors and, in particular, includes the State Required Ethical Standards Governing Subcontractors to be signed and incorporated into all subcontracts.

WHO CAN BID?: Bids will be accepted from only those companies that request and receive written **Authorization to Bid** from IDOT's Central Bureau of Construction. To request authorization, a potential bidder must complete and submit Part B of the Request for Authorization to Bid/or Not For Bid Status form (BDE 124 INT) and submit an original Affidavit of Availability (BC 57).

WHAT CONSTITUTES WRITTEN AUTHORIZATION TO BID?: When a prospective prime bidder submits a "**Authorization to Bid or Not for Bid**" form, he/she must indicate at that time which items are being requested For Bidding purposes. Only those items requested For Bidding will be analyzed. After the request has been analyzed, the bidder will be issued a **Authorization to Bid or Not for Bid Report**, approved by the Central Bureau of Construction, that indicates which items have been approved For Bidding. If **Authorization to Bid** cannot be approved, the **Authorization to Bid or Not for Bid Report** will indicate the reason for denial. If a contractor has requested to bid but has not received a **Authorization to Bid or Not for Bid Report**, they should contact the Central Bureau of Construction in advance of the letting date.

WHAT MUST BE INCLUDED WHEN BIDS ARE SUBMITTED?: Bidders need not return the entire proposal when bids are submitted. That portion of the proposal that must be returned includes the following:

1. All documents from the Proposal Cover Sheet through the Proposal Bid Bond
2. Other special documentation and/or information that may be required by the contract special provisions

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

ABOUT SUBMITTING BIDS: It is recommended that bidders deliver bids in person to insure they arrive at the proper location prior to the time specified for the receipt of bids. Any bid received at the place of letting after the time specified will not be accepted.

WHO SHOULD BE CALLED IF ASSISTANCE IS NEEDED?

Questions Regarding	Call
Prequalification and/or Authorization to Bid	217/782-3413
Preparation and submittal of bids	217/782-7806

RETURN WITH BID



PROPOSAL

TO THE DEPARTMENT OF TRANSPORTATION

1. Proposal of _____

Taxpayer Identification Number (Mandatory) _____

for the improvement identified and advertised for bids in the Invitation for Bids as:

**Contract No. 60H20
COOK County
Section 98-B
Project F-0343(017)
Route FAP 343
District 1 Construction Funds**

Water main relocation and replacement of the existing structure carrying IL Route 68 (Dundee Road) over the Wheeling Drainage Ditch (SN 016-0525) with a three-sided precast concrete structure 36' X 11', located west of Dundee Road and Wolf Road in Wheeling.

2. The undersigned bidder will furnish all labor, material and equipment to complete the above described project in a good and workmanlike manner as provided in the contract documents provided by the Department of Transportation. This proposal will become part of the contract and the terms and conditions contained in the contract documents shall govern performance and payments.

RETURN WITH BID

6. **COMBINATION BIDS.** The undersigned further agrees that if awarded the contract for the sections contained in the following combination, he/she will perform the work in accordance with the requirements of each individual proposal comprising the combination bid specified in the schedule below, and that the combination bid shall be prorated against each section in proportion to the bid submitted for the same. If an error is found to exist in the gross sum bid for one or more of the individual sections included in a combination, the combination bid shall be corrected as provided in the specifications.

When a combination bid is submitted, the schedule below must be completed in each proposal comprising the combination.

If alternate bids are submitted for one or more of the sections comprising the combination, a combination bid must be submitted for each alternate.

Schedule of Combination Bids

Combination No.	Sections Included in Combination	Combination Bid	
		Dollars	Cents

7. **SCHEDULE OF PRICES.** The undersigned bidder submits herewith, in accordance with the rules and instructions, a schedule of prices for the items of work for which bids are sought. The unit prices bid are in U.S. dollars and cents, and all extensions and summations have been made. The bidder understands that the quantities appearing in the bid schedule are approximate and are provided for the purpose of obtaining a gross sum for the comparison of bids. If there is an error in the extension of the unit prices, the unit prices shall govern. Payment to the contractor awarded the contract will be made only for 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 provided elsewhere in the contract.

8. **AUTHORITY TO DO BUSINESS IN ILLINOIS.** Section 20-43 of the Illinois Procurement Code (30 ILCS 500/20-43) provides that a person (other than an individual acting as a sole proprietor) must be a legal entity authorized to do business in the State of Illinois prior to submitting the bid.

9. **The services of a subcontractor will or may be used.**

Check box Yes
 Check box No

For known subcontractors with subcontracts with an annual value of more than \$25,000, the contract shall include their name, address, and the dollar allocation for each subcontractor.

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER -

60H20

State Job # - C-91-583-09
 PPS NBR - 1-77363-0000
 County Name - COOK- -
 Code - 31 - -
 District - 1 - -
 Section Number - 98-B

Project Number
 F-0343/017/

Route
 FAP 343

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
XZ191305	AGG SUBGRADE	TON	370.000				
X0301339	REM EX PARKING BLOCKS	EACH	9.000				
X0323330	PCC SUBSTRUCTURE	L SUM	1.000				
X0323378	CONC PARKING BLOCKS	EACH	9.000				
X0324032	3-SIDED PCC STR 36X11	FOOT	86.000				
X0325241	TEMP PAVT 11	SQ YD	170.000				
X0325290	CORED DRAIN HOLES	EACH	7.000				
X0325577	UNWT STR EX PR SPL L1	EACH	1.000				
X0325578	UNWT STR EX PR SPL L2	EACH	1.000				
X0325938	TEMP WIR INTERCON COM	L SUM	1.000				
X4404000	PARKING LOT PAVT REM	SQ YD	1,240.000				
X5630008	CUT & CAP EX 8 WM	EACH	2.000				
X5640150	FIRE HYDNT ASSY COMP	EACH	3.000				
X6020098	MAN TA 9 DIA T1F CL	EACH	1.000				
X6026622	VV REMOVED	EACH	4.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER -

60H20

State Job # - C-91-583-09
 PPS NBR - 1-77363-0000
 County Name - COOK- -
 Code - 31 - -
 District - 1 - -
 Section Number - 98-B

Project Number
 F-0343/017/

Route
 FAP 343

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
X6640300	CH LK FENCE REMOV	FOOT	30.000				
X7010216	TRAF CONT & PROT SPL	L SUM	1.000				
X7030104	WET TEM PM TAPE T3 4	FOOT	7,800.000				
X8710020	FOCC62.5/125 MM12SM12	FOOT	2,977.000				
Z0001050	AGG SUBGRADE 12	SQ YD	4,650.000				
Z0001900	ASB BEARING PAD REMOV	EACH	40.000				
Z0004544	HMA DRIVWY PAVT REM	SQ YD	22.000				
Z0004552	APPROACH SLAB REM	SQ YD	222.000				
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.000				
Z0026407	TEMP SHT PILING	SQ FT	2,700.000				
Z0030275	IMP ATTN TEMP SUN TL2	EACH	2.000				
Z0030355	IMP ATTN REL S U TL2	EACH	2.000				
Z0033066	TRACER CABLE	FOOT	2,960.000				
Z0042002	POROUS GRAN EMB SUBGR	CU YD	144.000				
Z0044800	PRESS CONNECT 8X8	EACH	2.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER - 60H20

State Job # - C-91-583-09
 PPS NBR - 1-77363-0000
 County Name - COOK- -
 Code - 31 - -
 District - 1 - -
 Section Number - 98-B

Project Number
 F-0343/017/

Route
 FAP 343

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
Z0067600	STEEL CASINGS 18	FOOT	160.000				
Z0067900	STEEL CASINGS 24	FOOT	75.000				
Z0073002	TEMP SOIL RETEN SYSTM	SQ FT	500.000				
Z0073510	TEMP TR SIGNAL TIMING	EACH	2.000				
20100110	TREE REMOV 6-15	UNIT	332.000				
20100210	TREE REMOV OVER 15	UNIT	151.000				
20200100	EARTH EXCAVATION	CU YD	2,225.000				
20201200	REM & DISP UNS MATL	CU YD	750.000				
20300100	CHANNEL EXCAVATION	CU YD	210.000				
20700220	POROUS GRAN EMBANK	CU YD	2,610.000				
20800150	TRENCH BACKFILL	CU YD	1,040.000				
21101615	TOPSOIL F & P 4	SQ YD	3,010.000				
25000310	SEEDING CL 4	ACRE	0.060				
25000400	NITROGEN FERT NUTR	POUND	168.000				
25000600	POTASSIUM FERT NUTR	POUND	168.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER - 60H20

State Job # - C-91-583-09
 PPS NBR - 1-77363-0000
 County Name - COOK- -
 Code - 31 - -
 District - 1 - -
 Section Number - 98-B

Project Number
 F-0343/017/

Route
 FAP 343

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
25100630	EROSION CONTR BLANKET	SQ YD	9,320.000				
25200110	SODDING SALT TOLERANT	SQ YD	2,788.000				
28000250	TEMP EROS CONTR SEED	POUND	1,865.000				
28000400	PERIMETER EROS BAR	FOOT	1,631.000				
28000510	INLET FILTERS	EACH	20.000				
28100107	STONE RIPRAP CL A4	SQ YD	330.000				
28200200	FILTER FABRIC	SQ YD	420.000				
35501316	HMA BASE CSE 8	SQ YD	165.000				
40300100	BIT MATLS PR CT	GALLON	3,115.000				
40600300	AGG PR CT	TON	80.000				
40600895	CONSTRUC TEST STRIP	EACH	2.000				
40600982	HMA SURF REM BUTT JT	SQ YD	51.000				
40603240	P HMA BC IL19.0 N90	TON	284.000				
40603310	HMA SC "C" N50	TON	155.000				
40603595	P HMA SC "F" N90	TON	330.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER -

60H20

State Job # - C-91-583-09
 PPS NBR - 1-77363-0000
 County Name - COOK- -
 Code - 31 - -
 District - 1 - -
 Section Number - 98-B

Project Number
 F-0343/017/

Route
 FAP 343

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
40701926	HMA PAVT FD 12 1/4	SQ YD	3,340.000				
40800050	INCIDENTAL HMA SURF	TON	40.000				
42000300	PCC PVT 8	SQ YD	360.000				
42400200	PC CONC SIDEWALK 5	SQ FT	5,240.000				
42400410	PC CONC SIDEWALK 8	SQ FT	1,416.000				
42400800	DETECTABLE WARNINGS	SQ FT	224.000				
44000100	PAVEMENT REM	SQ YD	2,335.000				
44000157	HMA SURF REM 2	SQ YD	2,465.000				
44000200	DRIVE PAVEMENT REM	SQ YD	552.000				
44000500	COMB CURB GUTTER REM	FOOT	1,990.000				
44000600	SIDEWALK REM	SQ FT	11,080.000				
50100100	REM EXIST STRUCT	EACH	1.000				
50200100	STRUCTURE EXCAVATION	CU YD	2,550.000				
50300225	CONC STRUCT	CU YD	210.000				
50800205	REINF BARS, EPOXY CTD	POUND	17,420.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER - 60H20

State Job # - C-91-583-09
 PPS NBR - 1-77363-0000
 County Name - COOK- -
 Code - 31 - -
 District - 1 - -
 Section Number - 98-B

Project Number
 F-0343/017/

Route
 FAP 343

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
50800515	BAR SPLICERS	EACH	26.000				
50901720	BICYCLE RAILING	FOOT	38.000				
50901750	PARAPET RAILING	FOOT	75.000				
51500100	NAME PLATES	EACH	1.000				
550A0330	STORM SEW CL A 2 10	FOOT	19.000				
550A0340	STORM SEW CL A 2 12	FOOT	80.000				
550A0410	STORM SEW CL A 2 24	FOOT	72.000				
550A0480	STORM SEW CL A 2 48	FOOT	65.000				
55101200	STORM SEWER REM 24	FOOT	42.000				
55101900	STORM SEWER REM 48	FOOT	33.000				
56100500	WATER MAIN 4	FOOT	10.000				
56100600	WATER MAIN 6	FOOT	210.000				
56100700	WATER MAIN 8	FOOT	30.000				
56100900	WATER MAIN 12	FOOT	940.000				
56104800	WATER VALVES 4	EACH	1.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER - 60H20

State Job # - C-91-583-09
 PPS NBR - 1-77363-0000
 County Name - COOK- -
 Code - 31 - -
 District - 1 - -
 Section Number - 98-B

Project Number
 F-0343/017/

Route
 FAP 343

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
56104900	WATER VALVES 6	EACH	2.000				
56105200	WATER VALVES 12	EACH	2.000				
56200300	WATER SERV LINE 1	FOOT	210.000				
56200700	WATER SERV LINE 2	FOOT	25.000				
56400500	FIRE HYDNPTS TO BE REM	EACH	3.000				
60107600	PIPE UNDERDRAINS 4	FOOT	240.000				
60221100	MAN TA 5 DIA T1F CL	EACH	2.000				
60234200	INLETS TA T1F OL	EACH	5.000				
60240210	INLETS TB T1F OL	EACH	4.000				
60248900	VV TA 5 DIA T1F CL	EACH	6.000				
60255500	MAN ADJUST	EACH	1.000				
60257900	MAN RECONST	EACH	1.000				
60262700	INLETS RECONST	EACH	1.000				
60500060	REMOV INLETS	EACH	9.000				
60600605	CONC CURB TB	FOOT	336.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER -

60H20

State Job # - C-91-583-09
 PPS NBR - 1-77363-0000
 County Name - COOK- -
 Code - 31 - -
 District - 1 - -
 Section Number - 98-B

Project Number
 F-0343/017/

Route
 FAP 343

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
60605000	COMB CC&G TB6.24	FOOT	1,842.000				
63000001	SPBGR TY A 6FT POSTS	FOOT	145.000				
63100085	TRAF BAR TERM T6	EACH	2.000				
63100167	TR BAR TRM T1 SPL TAN	EACH	2.000				
63200310	GUARDRAIL REMOV	FOOT	30.000				
67000400	ENGR FIELD OFFICE A	CAL MO	9.000				
67100100	MOBILIZATION	L SUM	1.000				
70103815	TR CONT SURVEILLANCE	CAL DA	180.000				
70300100	SHORT TERM PAVT MKING	FOOT	943.000				
70301000	WORK ZONE PAVT MK REM	SQ FT	1,690.000				
70400100	TEMP CONC BARRIER	FOOT	980.000				
70400200	REL TEMP CONC BARRIER	FOOT	970.000				
78000100	THPL PVT MK LTR & SYM	SQ FT	161.200				
78000200	THPL PVT MK LINE 4	FOOT	3,230.000				
78000400	THPL PVT MK LINE 6	FOOT	20.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER - 60H20

State Job # - C-91-583-09
 PPS NBR - 1-77363-0000
 County Name - COOK- -
 Code - 31 - -
 District - 1 - -
 Section Number - 98-B

Project Number
 F-0343/017/

Route
 FAP 343

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
78000600	THPL PVT MK LINE 12	FOOT	36.000				
78100100	RAISED REFL PAVT MKR	EACH	100.000				
78200200	BIDIR PRIS BAR REFL	EACH	79.000				
78200410	GUARDRAIL MKR TYPE A	EACH	2.000				
78201000	TERMINAL MARKER - DA	EACH	2.000				
78300100	PAVT MARKING REMOVAL	SQ FT	1,335.000				
78300200	RAISED REF PVT MK REM	EACH	95.000				
81000600	CON T 2 GALVS	FOOT	1,708.000				
81018500	CON P 2 GALVS	FOOT	887.000				
81400100	HANDHOLE	EACH	5.000				
81900200	TR & BKFIL F ELECT WK	FOOT	1,708.000				
85000200	MAIN EX TR SIG INSTAL	EACH	2.000				
87301305	ELCBL C LEAD 14 1PR	FOOT	401.000				
87900200	DRILL EX HANDHOLE	EACH	2.000				
88600100	DET LOOP T1	FOOT	66.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER - 60H20

State Job # - C-91-583-09
 PPS NBR - 1-77363-0000
 County Name - COOK- -
 Code - 31 - -
 District - 1 - -
 Section Number - 98-B

Project Number
 F-0343/017/

Route
 FAP 343

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
89502300	REM ELCBL FR CON	FOOT	698.000				
89502380	REMOV EX HANDHOLE	EACH	10.000				

CONTRACT NUMBER

60H20

THIS IS THE TOTAL BID

\$ _____

NOTES:

1. Each **PAY ITEM** should have a **UNIT PRICE** and a **TOTAL PRICE**.
2. The **UNIT PRICE** shall govern if no **TOTAL PRICE** is shown or if there is a discrepancy between the product of the **UNIT PRICE** multiplied by the **QUANTITY**.
3. If a **UNIT PRICE** is omitted, the **TOTAL PRICE** will be divided by the **QUANTITY** in order to establish a **UNIT PRICE**.
4. A bid may be declared **UNACCEPTABLE** if neither a unit price nor a total price is shown.

RETURN WITH BID

STATE REQUIRED ETHICAL STANDARDS GOVERNING CONTRACT PROCUREMENT: ASSURANCES, CERTIFICATIONS AND DISCLOSURES

I. GENERAL

A. Article 50 of the Illinois Procurement Code establishes the duty of all State chief procurement officers, State purchasing officers, and their designees to maximize the value of the expenditure of public moneys in procuring goods, services, and contracts for the State of Illinois and to act in a manner that maintains the integrity and public trust of State government. In discharging this duty, they are charged by law to use all available information, reasonable efforts, and reasonable actions to protect, safeguard, and maintain the procurement process of the State of Illinois.

B. In order to comply with the provisions of Article 50 and to carry out the duty established therein, all bidders are to adhere to ethical standards established for the procurement process, and to make such assurances, disclosures and certifications required by law. Except as otherwise required in subsection III, paragraphs J-M, by execution of the Proposal Signature Sheet, the bidder indicates that each of the mandated assurances have been read and understood, that each certification is made and understood, and that each disclosure requirement has been understood and completed.

C. In addition to all other remedies provided by law, failure to comply with any assurance, failure to make any disclosure or the making of a false certification shall be grounds for the chief procurement officer to void the contract, or subcontract, and may result in the suspension or debarment of the bidder or subcontractor.

II. ASSURANCES

The assurances 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.

A. Conflicts of Interest

1. The Illinois Procurement Code provides in pertinent part:

Section 50-13. Conflicts of Interest.

(a) Prohibition. It is unlawful for any person holding an elective office in this State, holding a seat in the General Assembly, or appointed to or employed in any of the offices or agencies of state government and who receives compensation for such employment in excess of 60% of the salary of the Governor of the State of Illinois, or who is an officer or employee of the Capital Development Board or the Illinois Toll Highway Authority, or who is the spouse or minor child of any such person to have or acquire any contract, or any direct pecuniary interest in any contract therein, whether for stationery, printing, paper, or any services, materials, or supplies, that will be wholly or partially satisfied by the payment of funds appropriated by the General Assembly of the State of Illinois or in any contract of the Capital Development Board or the Illinois Toll Highway authority.

(b) Interests. It is unlawful for any firm, partnership, association or corporation, in which any person listed in subsection (a) is entitled to receive (i) more than 7 1/2% of the total distributable income or (ii) an amount in excess of the salary of the Governor, to have or acquire any such contract or direct pecuniary interest therein.

(c) Combined interests. It is unlawful for any firm, partnership, association, or corporation, in which any person listed in subsection (a) together with his or her spouse or minor children is entitled to receive (i) more than 15%, in the aggregate, of the total distributable income or (ii) an amount in excess of 2 times the salary of the Governor, to have or acquire any such contract or direct pecuniary interest therein.

(d) Securities. Nothing in this Section invalidates the provisions of any bond or other security previously offered or to be offered for sale or sold by or for the State of Illinois.

(e) Prior interests. This Section does not affect the validity of any contract made between the State and an officer or employee of the State or member of the General Assembly, his or her spouse, minor child or any combination of those persons if that contract was in existence before his or her election or employment as an officer, member, or employee. The contract is voidable, however, if it cannot be completed within 365 days after the officer, member, or employee takes office or is employed.

The current salary of the Governor is \$177,412.00. Sixty percent of the salary is \$106,447.20.

RETURN WITH BID

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-13, or that an effective exemption has been issued by the Board of Ethics to any individual subject to the Section 50-13 prohibitions pursuant to the provisions of Section 50-20 of the Code and Executive Order Number 3 (1998). Information concerning the exemption process is available from the Department upon request.

B. Negotiations

1. The Illinois Procurement Code provides in pertinent part:

Section 50-15. Negotiations.

(a) It is unlawful for any person employed in or on a continual contractual relationship with any of the offices or agencies of State government to participate in contract negotiations on behalf of that office or agency with any firm, partnership, association, or corporation with whom that person has a contract for future employment or is negotiating concerning possible future employment.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-15, and that the bidder has no knowledge of any facts relevant to the kinds of acts prohibited therein.

C. Inducements

1. The Illinois Procurement Code provides:

Section 50-25. Inducement. Any person who offers or pays any money or other valuable thing to any person to induce him or her not to bid for a State contract or as recompense for not having bid on a State contract is guilty of a Class 4 felony. Any person who accepts any money or other valuable thing for not bidding for a State contract or who withholds a bid in consideration of the promise for the payment of money or other valuable thing is guilty of a Class 4 felony.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-25, and that the bidder has no knowledge of any facts relevant to the kinds of acts prohibited therein.

D. Revolving Door Prohibition

1. The Illinois Procurement Code provides:

Section 50-30. Revolving door prohibition. Chief procurement officers, State purchasing officers, procurement compliance monitors, their designees whose principal duties are directly related to State procurement, and executive officers confirmed by the Senate are expressly prohibited for a period of 2 years after terminating an affected position from engaging in any procurement activity relating to the State agency most recently employing them in an affected position for a period of at least 6 months. The prohibition includes, but is not limited to: lobbying the procurement process; specifying; bidding; proposing bid, proposal, or contract documents; on their own behalf or on behalf of any firm, partnership, association, or corporation. This Section applies only to persons who terminate an affected position on or after January 15, 1999.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-30, and that the bidder has no knowledge of any facts relevant to the kinds of acts prohibited therein.

E. Reporting Anticompetitive Practices

1. The Illinois Procurement Code provides:

Section 50-40. Reporting anticompetitive practices. When, for any reason, any vendor, bidder, contractor, chief procurement officer, State purchasing officer, designee, elected official, or State employee suspects collusion or other anticompetitive practice among any bidders, offerors, contractors, proposers, or employees of the State, a notice of the relevant facts shall be transmitted to the Attorney General and the chief procurement officer.

2. The bidder assures the Department that it has not failed to report any relevant facts concerning the practices addressed in Section 50-40 which may involve the contract for which the bid is submitted.

F. Confidentiality

1. The Illinois Procurement Code provides:

Section 50-45. Confidentiality. Any chief procurement officer, State purchasing officer, designee, or executive officer who willfully uses or allows the use of specifications, competitive bid documents, proprietary competitive information, proposals, contracts, or selection information to compromise the fairness or integrity of the procurement, bidding, or contract process shall be subject to immediate dismissal, regardless of the Personnel code, any contract, or any collective bargaining agreement, and may in addition be subject to criminal prosecution.

2. The bidder assures the Department that it has no knowledge of any fact relevant to the practices addressed in Section 50-45 which may involve the contract for which the bid is submitted.

RETURN WITH BID

G. Insider Information

1. The Illinois Procurement Act provides:

Section 50-50. Insider information. It is unlawful for any current or former elected or appointed State official or State employee to knowingly use confidential information available only by virtue of that office or employment for actual or anticipated gain for themselves or another person.

2. The bidder assures the Department that it has no knowledge of any facts relevant to the practices addressed in Section 50-50 which may involve the contract for which the bid is submitted.

III. CERTIFICATIONS

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. Section 50-2 of the Illinois Procurement Code provides that every person that has entered into a multi-year contract and every subcontractor with a multi-year subcontract shall certify, by July 1 of each fiscal year covered by the contract after the initial fiscal year, to the responsible chief procurement officer whether it continues to satisfy the requirements of Article 50 pertaining to the eligibility for a contract award. If a contractor or subcontractor is not able to truthfully certify that it continues to meet all requirements, it shall provide with its certification a detailed explanation of the circumstances leading to the change in certification status. A contractor or subcontractor that makes a false statement material to any given certification required under Article 50 is, in addition to any other penalties or consequences prescribed by law, subject to liability under the Whistleblower Reward and Protection Act for submission of a false claim.

A. Bribery

1. The Illinois Procurement Code provides:

Section 50-5. Bribery.

(a) Prohibition. No person or business shall be awarded a contract or subcontract under this Code who:

(1) has been convicted under the laws of Illinois or any other state of bribery or attempting to bribe an officer or employee of the State of Illinois or any other state in that officer's or employee's official capacity; or

(2) has made an admission of guilt of that conduct that is a matter of record but has not been prosecuted for that conduct.

(b) Businesses. No business shall be barred from contracting with any unit of State or local government, or subcontracting under such a contract, as a result of a conviction under this Section of any employee or agent of the business if the employee or agent is no longer employed by the business and:

(1) the business has been finally adjudicated not guilty; or

(2) the business demonstrates to the governmental entity with which it seeks to contract, or which is signatory to the contract which the subcontract relates, and that entity finds that the commission of the offense was not authorized, requested, commanded, or performed by a director, officer, or high managerial agent on behalf of the business as provided in paragraph (2) of subsection (a) of Section 5-4 of the Criminal Code of 1961.

(c) Conduct on behalf of business. For purposes of this Section, when an official, agent, or employee of a business committed the bribery or attempted bribery on behalf of the business and in accordance with the direction or authorization of a responsible official of the business, the business shall be chargeable with the conduct.

(d) Certification. Every bid submitted to and contract executed by the State, and every subcontract subject to Section 20-120 of the Procurement Code shall contain a certification by the contractor or the subcontractor, respectively, that the contractor or subcontractor is not barred from being awarded a contract or subcontract under this Section and acknowledges that the chief procurement officer may declare the related contract void if any certifications required by this Section are false. A contractor who makes a false statement, material to the certification, commits a Class 3 felony.

2. The contractor or subcontractor certifies that it is not barred from being awarded a contract under Section 50.5.

B. Felons

1. The Illinois Procurement Code provides:

Section 50-10. Felons. Unless otherwise provided, no person or business convicted of a felony shall do business with the State of Illinois or any State agency, or enter into a subcontract, from the date of conviction until 5 years after the date of completion of the sentence for that felony, unless no person held responsible by a prosecutorial office for the facts upon which the conviction was based continues to have any involvement with the business.

3. Certification. Every bid submitted to and contract executed by the State and every subcontract subject to Section 20-120 of the Procurement Code shall contain a certification by the bidder or contractor or subcontractor, respectively, that the bidder, contractor, or subcontractor is not barred from being awarded a contract or subcontract under this Section and acknowledges that the chief procurement officer may declare the related contract void if any of the certifications required by this Section are false.

RETURN WITH BID

C. Debt Delinquency

1. The Illinois Procurement Code provides:

Section 50-11 and 50-12. Debt Delinquency.

The contractor or bidder or subcontractor, respectively, certifies that it, or any affiliate, is not barred from being awarded a contract or subcontract under the Procurement Code. Section 50-11 prohibits a person from entering into a contract with a State agency, or entering into a subcontract, if it knows or should know that it, or any affiliate, is delinquent in the payment of any debt to the State as defined by the Debt Collection Board. Section 50-12 prohibits a person from entering into a contract with a State agency, or entering into a subcontract, if it, or any affiliate, has failed to collect and remit Illinois Use Tax on all sales of tangible personal property into the State of Illinois in accordance with the provisions of the Illinois Use Tax Act. The bidder or contractor or subcontractor, respectively, further acknowledges that the chief procurement officer may declare the related contract void if this certification is false or if the bidder, contractor, or subcontractor, or any affiliate, is determined to be delinquent in the payment of any debt to the State during the term of the contract.

D. Prohibited Bidders, Contractors and Subcontractors

1. The Illinois Procurement Code provides:

Section 50-10.5 and 50-60(c). Prohibited bidders, contractors and subcontractors.

The bidder or contractor or subcontractor, respectively, certifies in accordance with 30 ILCS 500/50-10.5 that no officer, director, partner or other managerial agent of the contracting business has been convicted of a felony under the Sarbanes-Oxley Act of 2002 or a Class 3 or Class 2 felony under the Illinois Securities Law of 1953 or if in violation of Subsection (c) for a period of five years from the date of conviction. Every bid submitted to and contract executed by the State and every subcontract subject to Section 20-120 of the Procurement Code shall contain a certification by the bidder, contractor, or subcontractor, respectively, that the bidder, contractor, or subcontractor is not barred from being awarded a contract or subcontract under this Section and acknowledges that the chief procurement officer shall declare the related contract void if any of the certifications completed pursuant to this Section are false.

E. Section 42 of the Environmental Protection Act

The bidder or contractor or subcontractor, respectively, certifies in accordance with 30 ILCS 500/50-12 that the bidder, contractor, or subcontractor, is not barred from being awarded a contract or entering into a subcontract under this Section which prohibits the bidding on or entering into contracts with the State of Illinois or a State agency, or entering into any subcontract, that is subject to the Procurement Code by a person or business found by a court or the Pollution Control Board to have committed a willful or knowing violation of Section 42 of the Environmental Protection Act for a period of five years from the date of the order. The bidder or contractor or subcontractor, respectively, acknowledges that the chief procurement officer may declare the contract void if this certification is false.

F. Educational Loan

1. Section 3 of the Educational Loan Default Act provides:

§ 3. No State agency shall contract with an individual for goods or services if that individual is in default, as defined in Section 2 of this Act, on an educational loan. Any contract used by any State agency shall include a statement certifying that the individual is not in default on an educational loan as provided in this Section.

2. The bidder, if an individual as opposed to a corporation, partnership or other form of business organization, certifies that the bidder is not in default on an educational loan as provided in Section 3 of the Act.

G. Bid-Rigging/Bid Rotating

1. Section 33E-11 of the Criminal Code of 1961 provides:

§ 33E-11. (a) Every bid submitted to and public contract executed pursuant to such bid by the State or a unit of local government shall contain a certification by the prime contractor that the prime contractor is not barred from contracting with any unit of State or local government as a result of a violation of either Section 33E-3 or 33E-4 of this Article. The State and units of local government shall provide the appropriate forms for such certification.

- (b) A contractor who makes a false statement, material to the certification, commits a Class 3 felony.

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.

RETURN WITH BID

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.

2. The bidder certifies that it is not barred from contracting with the Department by reason of a violation of either Section 33E-3 or Section 33E-4.

H. International Anti-Boycott

1. Section 5 of the International Anti-Boycott Certification Act provides:

§ 5. State contracts. Every contract entered into by the State of Illinois for the manufacture, furnishing, or purchasing of supplies, material, or equipment or for the furnishing of work, labor, or services, in an amount exceeding the threshold for small purchases according to the purchasing laws of this State or \$10,000.00, whichever is less, shall contain certification, as a material condition of the contract, by which the contractor agrees that neither the contractor nor any substantially-owned affiliated company is participating or shall participate in an international boycott in violation of the provisions of the U.S. Export Administration Act of 1979 or the regulations of the U.S. Department of Commerce promulgated under that Act.

2. The bidder makes the certification set forth in Section 5 of the Act.

I. Drug Free Workplace

1. The Illinois "Drug Free Workplace Act" applies to this contract and it is necessary to comply with the provisions of the "Act" if the contractor is a corporation, partnership, or other entity (including a sole proprietorship) which has 25 or more employees.

2. The bidder certifies that if awarded a contract in excess of \$5,000 it will provide a drug free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance, including cannabis, is prohibited in the contractor's workplace; specifying the actions that will be taken against employees for violations of such prohibition; and notifying the employee that, as a condition of employment on such contract, the employee shall abide by the terms of the statement, and notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction.

(b) Establishing a drug free awareness program to inform employees about the dangers of drug abuse in the workplace; the contractor's policy of maintaining a drug free workplace; any available drug counseling, rehabilitation, and employee assistance programs; and the penalties that may be imposed upon employees for drug violations.

(c) Providing a copy of the statement required by subparagraph (1) to each employee engaged in the performance of the contract and to post the statement in a prominent place in the workplace.

(d) Notifying the Department within ten (10) days after receiving notice from an employee or otherwise receiving actual notice of the conviction of an employee for a violation of any criminal drug statute occurring in the workplace.

(e) Imposing or requiring, within 30 days after receiving notice from an employee of a conviction or actual notice of such a conviction, an appropriate personnel action, up to and including termination, or the satisfactory participation in a drug abuse assistance or rehabilitation program approved by a federal, state or local health, law enforcement or other appropriate agency.

(f) Assisting employees in selecting a course of action in the event drug counseling, treatment, and rehabilitation is required and indicating that a trained referral team is in place.

(g) Making a good faith effort to continue to maintain a drug free workplace through implementation of the actions and efforts stated in this certification.

RETURN WITH BID

J. Disclosure of Business Operations in Iran

Section 50-36 of the Illinois Procurement Code, 30ILCS 500/50-36 provides that each bid, offer, or proposal submitted for a State contract shall include a disclosure of whether or not the Company acting as the bidder, offeror, or proposing entity, or any of its corporate parents or subsidiaries, within the 24 months before submission of the bid, offer, or proposal had business operations that involved contracts with or provision of supplies or services to the Government of Iran, companies in which the Government of Iran has any direct or indirect equity share, consortiums or projects commissioned by the Government of Iran, or companies involved in consortiums or projects commissioned by the Government of Iran and either of the following conditions apply:

- (1) More than 10% of the Company's revenues produced in or assets located in Iran involve oil-related activities or mineral-extraction activities; less than 75% of the Company's revenues produced in or assets located in Iran involve contracts with or provision of oil-related or mineral-extraction products or services to the Government of Iran or a project or consortium created exclusively by that government; and the Company has failed to take substantial action.
- (2) The Company has, on or after August 5, 1996, made an investment of \$20 million or more, or any combination of investments of at least \$10 million each that in the aggregate equals or exceeds \$20 million in any 12-month period, which directly or significantly contributes to the enhancement of Iran's ability to develop petroleum resources of Iran.

The terms "Business operations", "Company", "Mineral-extraction activities", "Oil-related activities", "Petroleum resources", and "Substantial action" are all defined in the Code.

Failure to make the disclosure required by the Code shall cause the bid, offer or proposal to be considered not responsive. The disclosure will be considered when evaluating the bid, offer, or proposal or awarding the contract. The name of each Company disclosed as doing business or having done business in Iran will be provided to the State Comptroller.

Check the appropriate statement:

Company has no business operations in Iran to disclose.

Company has business operations in Iran as disclosed the attached document.

K. Apprenticeship and Training Certification (Does not apply to federal aid projects)

In accordance with the provisions of Section 30-22 (6) of the Illinois Procurement Code, the bidder certifies that it is a participant, either as an individual or as part of a group program, in the approved apprenticeship and training programs applicable to each type of work or craft that the bidder will perform with its own forces. The bidder further certifies for work that will be performed by subcontract that each of its subcontractors submitted for approval either (a) is, at the time of such bid, participating in an approved, applicable apprenticeship and training program; or (b) will, prior to commencement of performance of work pursuant to this contract, begin participation in an approved apprenticeship and training program applicable to the work of the subcontract. The Department, at any time before or after award, may require the production of a copy of each applicable Certificate of Registration issued by the United States Department of Labor evidencing such participation by the contractor and any or all of its subcontractors. Applicable apprenticeship and training programs are those that have been approved and registered with the United States Department of Labor. The bidder shall list in the space below, the official name of the program sponsor holding the Certificate of Registration for all of the types of work or crafts in which the bidder is a participant and that will be performed with the bidder's forces. Types of work or craft work that will be subcontracted shall be included and listed as subcontract work. The list shall also indicate any type of work or craft job category that does not have an applicable apprenticeship or training program. **The bidder is responsible for making a complete report and shall make certain that each type of work or craft job category that will be utilized on the project as reported on the Construction Employee Workforce Projection (Form BC-1256) and returned with the bid is accounted for and listed.**

NA-FEDERAL

The requirements of this certification and disclosure are a material part of the contract, and the contractor shall require this certification provision to be included in all approved subcontracts. In order to fulfill this requirement, it shall not be necessary that an applicable program sponsor be currently taking or that it will take applications for apprenticeship, training or employment during the performance of the work of this contract.

RETURN WITH BID

L. Political Contributions and Registration with the State Board of Elections

Sections 20-160 and 50-37 of the Illinois Procurement Code regulate political contributions from business entities and any affiliated entities or affiliated persons bidding on or contracting with the state. Generally under Section 50-37, any business entity, and any affiliated entity or affiliated person of the business entity, whose current year contracts with all state agencies exceed an awarded value of \$50,000, are prohibited from making any contributions to any political committees established to promote the candidacy of the officeholder responsible for the awarding of the contracts or any other declared candidate for that office for the duration of the term of office of the incumbent officeholder or a period 2 years after the termination of the contract, whichever is longer. Any business entity and affiliated entities or affiliated persons whose state contracts in the current year do not exceed an awarded value of \$50,000, but whose aggregate pending bids and proposals on state contracts exceed \$50,000, either alone or in combination with contracts not exceeding \$50,000, are prohibited from making any political contributions to any political committee established to promote the candidacy of the officeholder responsible for awarding the pending contract during the period beginning on the date the invitation for bids or request for proposals is issued and ending on the day after the date of award or selection if the entity was not awarded or selected. Section 20-160 requires certification of registration of affected business entities in accordance with procedures found in Section 9-35 of The Election Code.

By submission of a bid, the contractor business entity acknowledges and agrees that it has read and understands Sections 20-160 and 50-37 of the Illinois Procurement Code, and that it makes the following certification:

The undersigned business entity certifies that it has registered as a business with the State Board of Elections and acknowledges a continuing duty to update the registration in accordance with the above referenced statutes. A copy of the certificate of registration shall be submitted with the bid. The bidder is cautioned that the Department will not award a contract without submission of the certificate of registration.

These requirements and compliance with the above referenced statutory sections are a material part of the contract, and any breach thereof shall be cause to void the contract under Section 50-60 of the Illinois Procurement Code. This provision does not apply to Federal-aid contracts.

M. Lobbyist Disclosure

Section 50-38 of the Illinois Procurement Code requires that any bidder or offeror on a State contract that hires a person required to register under the Lobbyist Registration Act to assist in obtaining a contract shall:

- (i) Disclose all costs, fees, compensation, reimbursements, and other remunerations paid or to be paid to the lobbyist related to the contract,
- (ii) Not bill or otherwise cause the State of Illinois to pay for any of the lobbyist's costs, fees, compensation, reimbursements, or other remuneration, and
- (iii) Sign a verification certifying that none of the lobbyist's costs, fees, compensation, reimbursements, or other remuneration were billed to the State.

This information, along with all supporting documents, shall be filed with the agency awarding the contract and with the Secretary of State. The chief procurement officer shall post this information, together with the contract award notice, in the online Procurement Bulletin.

Pursuant to Subsection (c) of this Section, no person or entity shall retain a person or entity to attempt to influence the outcome of a procurement decision made under the Procurement Code for compensation contingent in whole or in part upon the decision or procurement. Any person who violates this subsection is guilty of a business offense and shall be fined not more than \$10,000.

Bidder acknowledges that it is required to disclose the hiring of any person required to register pursuant to the Illinois Lobbyist Registration Act (25 ILCS 170) in connection with this contract.

Bidder has not hired any person required to register pursuant to the Illinois Lobbyist Registration Act in connection with this contract.

Or

Bidder has hired the following persons required to register pursuant to the Illinois Lobbyist Registration Act in connection with the contract:

Name and address of person: _____
All costs, fees, compensation, reimbursements and other remuneration paid to said person: _____

RETURN WITH BID

IV. DISCLOSURES

- A. The disclosures 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. The bidder further certifies that the Department has received the disclosure forms for each bid.

The chief procurement officer may void the bid, contract, or subcontract, respectively, if it is later determined that the bidder or subcontractor rendered a false or erroneous disclosure. A contractor or subcontractor may be suspended or debarred for violations of the Procurement Code. Furthermore, the chief procurement officer may void the contract and the surety providing the performance bond shall be responsible for completion of the contract.

B. Financial Interests and Conflicts of Interest

1. Section 50-35 of the Illinois Procurement Code provides that all bids of more than \$25,000 shall be accompanied by disclosure of the financial interests of the bidder. This disclosed information for the successful bidder, will be maintained as public information subject to release by request pursuant to the Freedom of Information Act, filed with the Procurement Policy Board, and shall be incorporated as a material term of the contract. Furthermore, pursuant to Section 5-5, the Procurement Policy Board may review a proposal, bid, or contract and issue a recommendation to void a contract or reject a proposal or bid based on any violation of the Procurement Code or the existence of a conflict of interest as provided in subsections (b) and (d) of Section 50-35.

The financial interests to be disclosed shall include ownership or distributive income share that is in excess of 5%, or an amount greater than 60% of the annual salary of the Governor, of the bidding entity or its parent entity, whichever is less, unless the contractor or bidder is a publicly traded entity subject to Federal 10K reporting, in which case it may submit its 10K disclosure in place of the prescribed disclosure. If a bidder is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. The disclosure shall include the names, addresses, and dollar or proportionate share of ownership of each person making the disclosure, their instrument of ownership or beneficial relationship, and notice of any potential conflict of interest resulting from the current ownership or beneficial interest of each person making the disclosure having any of the relationships identified in Section 50-35 and on the disclosure form. **The current annual salary of the Governor is \$177,412.00.**

In addition, all disclosures shall indicate any other current or pending contracts, proposals, leases, or other ongoing procurement relationships the bidding entity has with any other unit of state government and shall clearly identify the unit and the contract, proposal, lease, or other relationship.

2. Disclosure Forms. Disclosure Form A is attached for use concerning the individuals meeting the above ownership or distributive share requirements. Subject individuals should be covered each by one form. In addition, a second form (Disclosure Form B) provides for the disclosure of current or pending procurement relationships with other (non-IDOT) state agencies. **The forms must be included with each bid.**

C. Disclosure Form Instructions

Form A Instructions for Financial Information & Potential Conflicts of Interest

If the bidder is a publicly traded entity subject to Federal 10K reporting, the 10K Report may be submitted to meet the requirements of Form A. If a bidder is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. If a bidder is not subject to Federal 10K reporting, the bidder must determine if any individuals are required by law to complete a financial disclosure form. To do this, the bidder should answer each of the following questions. A "YES" answer indicates Form A must be completed. If the answer to each of the following questions is "NO", then the NOT APPLICABLE STATEMENT on Form A must be signed and dated by a person that is authorized to execute contracts for the bidding company. Note: These questions are for assistance only and are not required to be completed.

1. Does anyone in your organization have a direct or beneficial ownership share of greater than 5% of the bidding entity or parent entity? YES ___ NO ___
2. Does anyone in your organization have a direct or beneficial ownership share of less than 5%, but which has a value greater than 60% of the annual salary of the Governor? YES ___ NO ___
3. Does anyone in your organization receive more than 60% of the annual salary of the Governor of the bidding entity's or parent entity's distributive income? YES ___ NO ___
4. Does anyone in your organization receive greater than 5% of the bidding entity's or parent entity's total distributive income, but which is less than 60% of the annual salary of the Governor? YES ___ NO ___

(Note: Only one set of forms needs to be completed per person per bid even if a specific individual would require a yes answer to more than one question.)

A "YES" answer to any of these questions requires the completion of Form A. The bidder must determine each individual in the bidding entity or the bidding entity's parent company that would cause the questions to be answered "Yes". Each form must be signed and dated by a person that is authorized to execute contracts for your organization. **Photocopied or stamped signatures are not acceptable.** The person signing can be, but does not have to be, the person for which the form is being completed. The bidder is responsible for the accuracy of any information provided.

If the answer to each of the above questions is "NO", then the NOT APPLICABLE STATEMENT of Form A must be signed and dated by a person that is authorized to execute contracts for your company.

RETURN WITH BID

Form B: Instructions for Identifying Other Contracts & Procurement Related Information

Disclosure Form B must be completed for each bid submitted by the bidding entity. *Note: Checking the NOT APPLICABLE STATEMENT on Form A does not allow the bidder to ignore Form B. Form B must be completed, checked, and dated or the bidder may be considered nonresponsive and the bid will not be accepted.*

The Bidder shall identify, by checking Yes or No on Form B, whether it has any pending contracts (including leases), bids, proposals, or other ongoing procurement relationship with any other (non-IDOT) State of Illinois agency. If "No" is checked, the bidder only needs to complete the check box on the bottom of Form B. If "Yes" is checked, the bidder must do one of the following:

Option I: If the bidder did not submit an Affidavit of Availability to obtain authorization to bid, the bidder must list all non-IDOT State of Illinois agency pending contracts, leases, bids, proposals, and other ongoing procurement relationships. These items may be listed on Form B or on an attached sheet(s). Do not include IDOT contracts. Contracts with cities, counties, villages, etc. are not considered State of Illinois agency contracts and are not to be included. Contracts with other State of Illinois agencies such as the Department of Natural Resources or the Capital Development Board must be included. Bidders who submit Affidavits of Availability are suggested to use Option II.

Option II: If the bidder is required and has submitted an Affidavit of Availability in order to obtain authorization to bid, the bidder may write or type "See Affidavit of Availability" which indicates that the Affidavit of Availability is incorporated by reference and includes all non-IDOT State of Illinois agency pending contracts, leases, bids, proposals, and other ongoing procurement relationships. For any contracts that are not covered by the Affidavit of Availability, the bidder must identify them on Form B or on an attached sheet(s). These might be such things as leases.

RETURN WITH BID

**ILLINOIS DEPARTMENT
OF TRANSPORTATION**

**Form A
Financial Information &
Potential Conflicts of Interest
Disclosure**

Contractor Name		
Legal Address		
City, State, Zip		
Telephone Number	Email Address	Fax Number (if available)

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Code (30 ILCS 500). Vendors desiring to enter into a contract with the State of Illinois must disclose the financial information and potential conflict of interest information as specified in this Disclosure Form. This information shall become part of the publicly available contract file. This Form A must be completed for bids in excess of \$25,000, and for all open-ended contracts. **A publicly traded company may submit a 10K disclosure (or equivalent if applicable) in satisfaction of the requirements set forth in Form A. See Disclosure Form Instructions.**

The current annual salary of the Governor is \$177,412.00.

DISCLOSURE OF FINANCIAL INFORMATION

- 1. Disclosure of Financial Information.** The individual named below has an interest in the BIDDER (or its parent) in terms of ownership or distributive income share in excess of 5%, or an interest which has a value of more than 60% of the annual salary of the Governor. **(Make copies of this form as necessary and attach a separate Disclosure Form A for each individual meeting these requirements)**

FOR INDIVIDUAL (type or print information)	
NAME:	_____
ADDRESS	_____
Type of ownership/distributable income share:	
stock _____ sole proprietorship _____ Partnership _____ other: (explain on separate sheet):	
% or \$ value of ownership/distributable income share:	_____

- 2. Disclosure of Potential Conflicts of Interest.** Check "Yes" or "No" to indicate which, if any, of the following potential conflict of interest relationships apply. If the answer to any question is "Yes", please attach additional pages and describe.

- (a) State employment, currently or in the previous 3 years, including contractual employment of services. Yes ___ No ___

If your answer is yes, please answer each of the following questions.

- Are you currently an officer or employee of either the Capitol Development Board or the Illinois State Toll Highway Authority? Yes ___ No ___
- Are you currently appointed to or employed by any agency of the State of Illinois? If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor provide the name the State agency for which you are employed and your annual salary. _____

RETURN WITH BID

- 3. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor, are you entitled to receive (i) more than 7 1/2% of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of 100% of the annual salary of the Governor? Yes ___ No ___
- 4. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor, are you and your spouse or minor children entitled to receive (i) more than 15% in aggregate of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of two times the salary of the Governor? Yes ___ No ___

(b) State employment of spouse, father, mother, son, or daughter, including contractual employment for services in the previous 2 years.

Yes ___ No ___

If your answer is yes, please answer each of the following questions.

- 1. Is your spouse or any minor children currently an officer or employee of the Capitol Development Board or the Illinois State Toll Highway Authority? Yes ___ No ___
- 2. Is your spouse or any minor children currently appointed to or employed by any agency of the State of Illinois? If your spouse or minor children is/are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, provide the name of the spouse and/or minor children, the name of the State agency for which he/she is employed and his/her annual salary. _____

- 3. If your spouse or any minor children is/are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, are you entitled to receive (i) more than 7 1/2% of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess 100% of the annual salary of the Governor? Yes ___ No ___
- 4. If your spouse or any minor children are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, are you and your spouse or any minor children entitled to receive (i) more than 15% in the aggregate of the total distributable income from your firm, partnership, association or corporation, or (ii) an amount in excess of two times the salary of the Governor? Yes ___ No ___

(c) Elective status; the holding of elective office of the State of Illinois, the government of the United States, any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois currently or in the previous 3 years. Yes ___ No ___

(d) Relationship to anyone holding elective office currently or in the previous 2 years; spouse, father, mother, son, or daughter. Yes ___ No ___

(e) Appointive office; the holding of any appointive government office of the State of Illinois, the United State of America, or any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois, which office entitles the holder to compensation in excess of the expenses incurred in the discharge of that office currently or in the previous 3 years. Yes ___ No ___

(f) Relationship to anyone holding appointive office currently or in the previous 2 years; spouse, father, mother, son, or daughter. Yes ___ No ___

(g) Employment, currently or in the previous 3 years, as or by any registered lobbyist of the State government. Yes ___ No ___

RETURN WITH BID

(h) Relationship to anyone who is or was a registered lobbyist in the previous 2 years; spouse, father, mother, son, or daughter. Yes ___ No ___

(i) Compensated employment, currently or in the previous 3 years, by any registered election or reelection committee registered with the Secretary of State or any county clerk of the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections. Yes ___ No ___

(j) Relationship to anyone; spouse, father, mother, son, or daughter; who was a compensated employee in the last 2 years by any registered election or re-election committee registered with the Secretary of State or any county clerk of the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections. Yes ___ No ___

3. Communication Disclosure.

Disclose the name and address of each lobbyist and other agent of the bidder or offeror who is not identified in Section 2 of this form, who is has communicated, is communicating, or may communicate with any State officer or employee concerning the bid or offer. This disclosure is a continuing obligation and must be promptly supplemented for accuracy throughout the process and throughout the term of the contract. If no person is identified, enter "None" on the line below:

Name and address of person(s): _____

RETURN WITH BID

4. Debarment Disclosure. For each of the persons identified under Sections 2 and 3 of this form, disclose whether any of the following has occurred within the previous 10 years: debarment from contracting with any governmental entity; professional licensure discipline; bankruptcies; adverse civil judgments and administrative findings; and criminal felony convictions. This disclosure is a continuing obligation and must be promptly supplemented for accuracy throughout the procurement process and term of the contract. If no person is identified, enter "None" on the line below:

Name of person(s): _____

Nature of disclosure: _____

APPLICABLE STATEMENT

This Disclosure Form A is submitted on behalf of the INDIVIDUAL named on previous page. Under penalty of perjury, I certify the contents of this disclosure to be true and accurate to the best of my knowledge.

Completed by: _____ Date _____
Signature of Individual or Authorized Representative

NOT APPLICABLE STATEMENT

Under penalty of perjury, I have determined that no individuals associated with this organization meet the criteria that would require the completion of this Form A.

This Disclosure Form A is submitted on behalf of the CONTRACTOR listed on the previous page.

_____ Date _____
Signature of Authorized Representative

The bidder has a continuing obligation to supplement these disclosures under Sec. 50-35 of the Procurement Code.

**ILLINOIS DEPARTMENT
OF TRANSPORTATION**

**Form B
Other Contracts &
Procurement Related Information
Disclosure**

Contractor Name		
Legal Address		
City, State, Zip		
Telephone Number	Email Address	Fax Number (if available)

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Act (30 ILCS 500). This information shall become part of the publicly available contract file. This Form B must be completed for bids in excess of \$25,000, and for all open-ended contracts.

DISCLOSURE OF OTHER CONTRACTS AND PROCUREMENT RELATED INFORMATION

1. Identifying Other Contracts & Procurement Related Information. The BIDDER shall identify whether it has any pending contracts (including leases), bids, proposals, or other ongoing procurement relationship with any other State of Illinois agency: Yes ___ No ___

If "No" is checked, the bidder only needs to complete the signature box on the bottom of this page.

2. If "Yes" is checked. Identify each such relationship by showing State of Illinois agency name and other descriptive information such as bid or project number (attach additional pages as necessary). SEE DISCLOSURE FORM INSTRUCTIONS:

THE FOLLOWING STATEMENT MUST BE CHECKED

<input type="checkbox"/>	<hr style="width: 80%; margin: auto;"/> Signature of Authorized Representative	<hr style="width: 10%; margin: auto;"/> Date
--------------------------	--	--

RETURN WITH BID

SPECIAL NOTICE TO CONTRACTORS

The following requirements of the Illinois Department of Human Rights' Rules and Regulations are applicable to bidders on all construction contracts advertised by the Illinois Department of Transportation:

CONSTRUCTION EMPLOYEE UTILIZATION PROJECTION

- (a) All bidders on construction contracts shall complete and submit, along with and as part of their bids, a Bidder's Employee Utilization Form (Form BC-1256) setting forth a projection and breakdown of the total workforce intended to be hired and/or allocated to such contract work by the bidder including a projection of minority and female employee utilization in all job classifications on the contract project.
- (b) The Department of Transportation shall review the Employee Utilization Form, and workforce projections contained therein, of the contract awardee to determine if such projections reflect an underutilization of minority persons and/or women in any job classification in accordance with the Equal Employment Opportunity Clause and Section 7.2 of the Illinois Department of Human Rights' Rules and Regulations for Public Contracts adopted as amended on September 17, 1980. If it is determined that the contract awardee's projections reflect an underutilization of minority persons and/or women in any job classification, it shall be advised in writing of the manner in which it is underutilizing and such awardee shall be considered to be in breach of the contract unless, prior to commencement of work on the contract project, it submits revised satisfactory projections or an acceptable written affirmative action plan to correct such underutilization including a specific timetable geared to the completion stages of the contract.
- (c) The Department of Transportation shall provide to the Department of Human Rights a copy of the contract awardee's Employee Utilization Form, a copy of any required written affirmative action plan, and any written correspondence related thereto. The Department of Human Rights may review and revise any action taken by the Department of Transportation with respect to these requirements.

RETURN WITH BID

**Contract No. 60H20
COOK County
Section 98-B
Project F-0343(017)
Route FAP 343
District 1 Construction Funds**

PART II. WORKFORCE PROJECTION - continued

- B. Included in "Total Employees" under Table A is the total number of **new hires** that would be employed in the event the undersigned bidder is awarded this contract.

The undersigned bidder projects that: (number) _____ new hires would be recruited from the area in which the contract project is located; and/or (number) _____ new hires would be recruited from the area in which the bidder's principal office or base of operation is located.

- C. Included in "Total Employees" under Table A is a projection of numbers of persons to be employed directly by the undersigned bidder as well as a projection of numbers of persons to be employed by subcontractors.

The undersigned bidder estimates that (number) _____ persons will be directly employed by the prime contractor and that (number) _____ persons will be employed by subcontractors.

PART III. AFFIRMATIVE ACTION PLAN

- A. The undersigned bidder understands and agrees that in the event the foregoing minority and female employee utilization projection included under **PART II** is determined to be an underutilization of minority persons or women in any job category, and in the event that the undersigned bidder is awarded this contract, he/she will, prior to commencement of work, develop and submit a written Affirmative Action Plan including a specific timetable (geared to the completion stages of the contract) whereby deficiencies in minority and/or female employee utilization are corrected. Such Affirmative Action Plan will be subject to approval by the contracting agency and the **Department of Human Rights**.
- B. The undersigned bidder understands and agrees that the minority and female employee utilization projection submitted herein, and the goals and timetable included under an Affirmative Action Plan if required, are deemed to be part of the contract specifications.

Company _____ Telephone Number _____

Address _____

NOTICE REGARDING SIGNATURE

The Bidder's signature on the Proposal Signature Sheet will constitute the signing of this form. The following signature block needs to be completed only if revisions are required.

Signature: _____ Title: _____ Date: _____

- Instructions: All tables must include subcontractor personnel in addition to prime contractor personnel.
- Table A - Include both the number of employees that would be hired to perform the contract work and the total number currently employed (Table B) that will be allocated to contract work, and include all apprentices and on-the-job trainees. The "Total Employees" column should include all employees including all minorities, apprentices and on-the-job trainees to be employed on the contract work.
 - Table B - Include all employees currently employed that will be allocated to the contract work including any apprentices and on-the-job trainees currently employed.
 - Table C - Indicate the racial breakdown of the total apprentices and on-the-job trainees shown in Table A.

RETURN WITH BID

ADDITIONAL FEDERAL REQUIREMENTS

In addition to the Required Contract Provisions for Federal-Aid Construction Contracts (FHWA 1273), all bidders make the following certifications.

- A. By the execution of this proposal, the signing bidder certifies that the bidding entity has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action, in restraint of free competitive bidding in connection with the submitted bid. This statement made by the undersigned bidder is true and correct under penalty of perjury under the laws of the United States.
- B. CERTIFICATION, EQUAL EMPLOYMENT OPPORTUNITY:
1. Have you participated in any previous contracts or subcontracts subject to the equal opportunity clause. YES _____ NO _____
 2. If answer to #1 is yes, have you filed with the Joint Reporting Committee, the Director of OFCC, any Federal agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements of those organizations? YES _____ NO _____

RETURN WITH BID

**Contract No. 60H20
COOK County
Section 98-B
Project F-0343(017)
Route FAP 343
District 1 Construction Funds**

PROPOSAL SIGNATURE SHEET

The undersigned bidder hereby makes and submits this bid on the subject Proposal, thereby assuring the Department that all requirements of the Invitation for Bids and rules of the Department have been met, that there is no misunderstanding of the requirements of paragraph 3 of this Proposal, and that the contract will be executed in accordance with the rules of the Department if an award is made on this bid.

(IF AN INDIVIDUAL)

Firm Name _____
Signature of Owner _____
Business Address _____

(IF A CO-PARTNERSHIP)

Firm Name _____
By _____
Business Address _____
Name and Address of All Members of the Firm: _____

(IF A CORPORATION)

Corporate Name _____
By _____
Signature of Authorized Representative _____
Typed or printed name and title of Authorized Representative _____
Attest _____
Signature _____
(IF A JOINT VENTURE, USE THIS SECTION FOR THE MANAGING PARTY AND THE SECOND PARTY SHOULD SIGN BELOW)
Business Address _____

(IF A JOINT VENTURE)

Corporate Name _____
By _____
Signature of Authorized Representative _____
Typed or printed name and title of Authorized Representative _____
Attest _____
Signature _____
Business Address _____

If more than two parties are in the joint venture, please attach an additional signature sheet.

PROPOSAL ENVELOPE



PROPOSALS

for construction work advertised for bids by the
Illinois Department of Transportation

Item No.	Item No.	Item No.

Submitted By:

Name:
Address:
Phone No.

Bidders should use an IDOT proposal envelope or affix this form to the front of a 10" x 13" envelope for the submittal of bids. If proposals are mailed, they should be enclosed in a second or outer envelope addressed to:

Engineer of Design and Environment - Room 326
Illinois Department of Transportation
2300 South Dirksen Parkway
Springfield, Illinois 62764

NOTICE

Individual bids, including Bid Bond and/or supplemental information if required, should be securely stapled.

CONTRACTOR OFFICE COPY OF CONTRACT SPECIFICATIONS

NOTICE

None of the following material needs to be returned with the bid package unless the special provisions require documentation and/or other information to be submitted.

Contract No. 60H20
COOK County
Section 98-B
Project F-0343(017)
Route FAP 343
District 1 Construction Funds



Illinois Department of Transportation

SUBCONTRACTOR DOCUMENTATION

Public Acts 96-0795 and 96-0920, enacted substantial changes to the provisions of the Illinois Procurement Code (30 ILCS 500). Among the changes are provisions affecting subcontractors. The Contractor awarded this contract will be required as a material condition of the contract to implement and enforce the contract requirements applicable to subcontractors approved in accordance with article 108.01 of the Standard Specifications for Road and Bridge Construction.

If the Contractor seeks approval of subcontractors to perform a portion of the work, and approval is granted by the Department, the Contractor shall provide a copy of the subcontract to the Chief Procurement Officer within 20 calendar days after execution of the subcontract.

The subcontract shall contain the certifications required to be made by subcontractors pursuant to Article 50 of the Illinois Procurement Code. This Notice to Bidders includes a document incorporating all required subcontractor certifications and disclosures for use by the Contractor in compliance with this mandate. The document is entitled State Required Ethical Standards Governing Subcontractors.

STATE ETHICAL STANDARDS
GOVERNING SUBCONTRACTORS

Article 50 of the Illinois Procurement Code establishes the duty of all State chief procurement officers, State purchasing officers, and their designees to maximize the value of the expenditure of public moneys in procuring goods, services, and contracts for the State of Illinois and to act in a manner that maintains the integrity and public trust of State government. In discharging this duty, they are charged by law to use all available information, reasonable efforts, and reasonable actions to protect, safeguard, and maintain the procurement process of the State of Illinois.

The certifications hereinafter made by the subcontractor are each a material representation of fact upon which reliance is placed should the Department approve the subcontractor. The chief procurement officer may terminate or void the subcontract approval if it is later determined that the bidder or subcontractor rendered a false or erroneous certification.

Section 50-2 of the Illinois Procurement Code provides that every person that has entered into a multi-year contract and every subcontractor with a multi-year subcontract shall certify, by July 1 of each fiscal year covered by the contract after the initial fiscal year, to the responsible chief procurement officer whether it continues to satisfy the requirements of Article 50 pertaining to the eligibility for a contract award. If a contractor or subcontractor is not able to truthfully certify that it continues to meet all requirements, it shall provide with its certification a detailed explanation of the circumstances leading to the change in certification status. A contractor or subcontractor that makes a false statement material to any given certification required under Article 50 is, in addition to any other penalties or consequences prescribed by law, subject to liability under the Whistleblower Reward and Protection Act for submission of a false claim.

A. Bribery

1. The Illinois Procurement Code provides:

Section 50-5. Bribery.

(a) Prohibition. No person or business shall be awarded a contract or subcontract under this Code who:

(1) has been convicted under the laws of Illinois or any other state of bribery or attempting to bribe an officer or employee of the State of Illinois or any other state in that officer's or employee's official capacity; or

(2) has made an admission of guilt of that conduct that is a matter of record but has not been prosecuted for that conduct.

(b) Businesses. No business shall be barred from contracting with any unit of State or local government, or subcontracting under such a contract, as a result of a conviction under this Section of any employee or agent of the business if the employee or agent is no longer employed by the business and:

(1) the business has been finally adjudicated not guilty; or

(2) the business demonstrates to the governmental entity with which it seeks to contract, or which is signatory to the contract to which the subcontract relates, and that entity finds that the commission of the offense was not authorized, requested, commanded, or performed by a director, officer, or high managerial agent on behalf of the business as provided in paragraph (2) of subsection (a) of Section 5-4 of the Criminal Code of 1961.

(c) Conduct on behalf of business. For purposes of this Section, when an official, agent, or employee of a business committed the bribery or attempted bribery on behalf of the business and in accordance with the direction or authorization of a responsible official of the business, the business shall be chargeable with the conduct.

(d) Certification. Every bid submitted to and contract executed by the State, and every subcontract subject to Section 20-120 of the Procurement Code shall contain a certification by the contractor or the subcontractor, respectively, that the contractor or subcontractor is not barred from being awarded a contract or subcontract under this Section and acknowledges that the chief procurement officer may declare the related contract void if any certifications required by this Section are false. A contractor who makes a false statement, material to the certification, commits a Class 3 felony.

2. The contractor or subcontractor certifies that it is not barred from being awarded a contract under Section 50.5.

B. Felons

1. The Illinois Procurement Code provides:

Section 50-10. Felons. Unless otherwise provided, no person or business convicted of a felony shall do business with the State of Illinois or any State agency, or enter into a subcontract, from the date of conviction until 5 years after the date of completion of the sentence for that felony, unless no person held responsible by a prosecutorial office for the facts upon which the conviction was based continues to have any involvement with the business.

2. Certification. Every bid submitted to and contract executed by the State and every subcontract subject to Section 20-120 of the Procurement Code shall contain a certification by the bidder or contractor or subcontractor, respectively, that the bidder, contractor, or subcontractor is not barred from being awarded a contract or subcontract under this Section and acknowledges that the chief procurement officer may declare the related contract void if any of the certifications required by this Section are false.

C. Debt Delinquency

1. The Illinois Procurement Code provides:

Section 50-11 and 50-12. Debt Delinquency.

The contractor or bidder or subcontractor, respectively, certifies that it, or any affiliate, is not barred from being awarded a contract or subcontract under the Procurement Code. Section 50-11 prohibits a person from entering into a contract with a State agency, or entering into a subcontract, if it knows or should know that it, or any affiliate, is delinquent in the payment of any debt to the State as defined by the Debt Collection Board. Section 50-12 prohibits a person from entering into a contract with a State agency, or entering into a subcontract, if it, or any affiliate, has failed to collect and remit Illinois Use Tax on all sales of tangible personal property into the State of Illinois in accordance with the provisions of the Illinois Use Tax Act. The bidder or contractor or subcontractor, respectively, further acknowledges that the chief procurement officer may declare the related contract void if this certification is false or if the bidder, contractor, or subcontractor, or any affiliate, is determined to be delinquent in the payment of any debt to the State during the term of the contract.

D. Prohibited Bidders, Contractors and Subcontractors

1. The Illinois Procurement Code provides:

Section 50-10.5 and 50-60(c). Prohibited bidders, contractors and subcontractors.

The bidder or contractor or subcontractor, respectively, certifies in accordance with 30 ILCS 500/50-10.5 that no officer, director, partner or other managerial agent of the contracting business has been convicted of a felony under the Sarbanes-Oxley Act of 2002 or a Class 3 or Class 2 felony under the Illinois Securities Law of 1953 or if in violation of Subsection (c) for a period of five years from the date of conviction.. Every bid submitted to and contract executed by the State and every subcontract subject to Section 20-120 of the Procurement Code shall contain a certification by the bidder, contractor, or subcontractor, respectively, that the bidder, contractor, or subcontractor is not barred from being awarded a contract or subcontract under this Section and acknowledges that the chief procurement officer shall declare the related contract void if any of the certifications completed pursuant to this Section are false.

E. Section 42 of the Environmental Protection Act

The bidder or contractor or subcontractor, respectively, certifies in accordance with 30 ILCS 500/50-12 that the bidder, contractor, or subcontractor, is not barred from being awarded a contract or entering into a subcontract under this Section which prohibits the bidding on or entering into contracts with the State of Illinois or a State agency, or entering into any subcontract, that is subject to the Procurement Code by a person or business found by a court or the Pollution Control Board to have committed a willful or knowing violation of Section 42 of the Environmental Protection Act for a period of five years from the date of the order. The bidder or contractor or subcontractor, respectively, acknowledges that the chief procurement officer may declare the contract void if this certification is false.

The undersigned, on behalf of the subcontracting company, has read and understands the above certifications and makes the certifications as required by law.

<hr/>		
Name of Subcontracting Company		
<hr/>		<hr/>
Authorized Officer		Date

RETURN WITH SUBCONTRACT
SUBCONTRACTOR DISCLOSURES

I. DISCLOSURES

- A.** The disclosures hereinafter made by the subcontractor are each a material representation of fact upon which reliance is placed. The subcontractor further certifies that the Department has received the disclosure forms for each subcontract.

The chief procurement officer may void the bid, contract, or subcontract, respectively, if it is later determined that the bidder or subcontractor rendered a false or erroneous disclosure. A contractor or subcontractor may be suspended or debarred for violations of the Procurement Code. Furthermore, the chief procurement officer may void the contract or subcontract.

B. Financial Interests and Conflicts of Interest

1. Section 50-35 of the Illinois Procurement Code provides that all subcontracts with a total value of \$25,000 or more, from subcontractors identified in Section 20-120 of the Illinois Procurement Code, shall be accompanied by disclosure of the financial interests of the subcontractor. This disclosed information for the subcontractor, will be maintained as public information subject to release by request pursuant to the Freedom of Information Act, filed with the Procurement Policy Board, and shall be incorporated as a material term of the Prime Contractor's contract. Furthermore, pursuant to this Section, the Procurement Policy Board may recommend to allow or void a contract or subcontract based on a potential conflict of interest.

The financial interests to be disclosed shall include ownership or distributive income share that is in excess of 5%, or an amount greater than 60% of the annual salary of the Governor, of the subcontracting entity or its parent entity, whichever is less, unless the subcontractor is a publicly traded entity subject to Federal 10K reporting, in which case it may submit its 10K disclosure in place of the prescribed disclosure. If a subcontractor is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. The disclosure shall include the names, addresses, and dollar or proportionate share of ownership of each person making the disclosure, their instrument of ownership or beneficial relationship, and notice of any potential conflict of interest resulting from the current ownership or beneficial interest of each person making the disclosure having any of the relationships identified in Section 50-35 and on the disclosure form.

The current annual salary of the Governor is \$177,412.00.

In addition, all disclosures shall indicate any other current or pending contracts, subcontracts, proposals, leases, or other ongoing procurement relationships the subcontracting entity has with any other unit of state government and shall clearly identify the unit and the contract, subcontract, proposal, lease, or other relationship.

2. **Disclosure Forms.** Disclosure Form A is attached for use concerning the individuals meeting the above ownership or distributive share requirements. Subject individuals should be covered each by one form. In addition, a second form (Disclosure Form B) provides for the disclosure of current or pending procurement relationships with other (non-IDOT) state agencies.

C. Disclosure Form Instructions

Form A Instructions for Financial Information & Potential Conflicts of Interest

If the subcontractor is a publicly traded entity subject to Federal 10K reporting, the 10K Report may be submitted to meet the requirements of Form A. If a subcontractor is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. If a subcontractor is not subject to Federal 10K reporting, the subcontractor must determine if any individuals are required by law to complete a financial disclosure form. To do this, the subcontractor should answer each of the following questions. A "YES" answer indicates Form A must be completed. If the answer to each of the following questions is "NO", then the **NOT APPLICABLE STATEMENT** on the second page of Form A must be signed and dated by a person that is authorized to execute contracts for the subcontracting company. Note: These questions are for assistance only and are not required to be completed.

1. Does anyone in your organization have a direct or beneficial ownership share of greater than 5% of the bidding entity or parent entity? YES ___ NO ___
2. Does anyone in your organization have a direct or beneficial ownership share of less than 5%, but which has a value greater than 60% of the annual salary of the Governor? YES ___ NO ___
3. Does anyone in your organization receive more than 60% of the annual salary of the Governor of the subcontracting entity's or parent entity's distributive income? YES ___ NO ___

(Note: Distributive income is, for these purposes, any type of distribution of profits. An annual salary is not distributive income.)

4. Does anyone in your organization receive greater than 5% of the subcontracting entity's or parent entity's total distributive income, but which is less than 60% of the annual salary of the Governor? YES ___ NO ___

(Note: Only one set of forms needs to be completed per person per subcontract even if a specific individual would require a yes answer to more than one question.)

A "YES" answer to any of these questions requires the completion of Form A. The subcontractor must determine each individual in the subcontracting entity or the subcontracting entity's parent company that would cause the questions to be answered "Yes". Each form must be signed and dated by a person that is authorized to execute contracts for your organization. **Photocopied or stamped signatures are not acceptable.** The person signing can be, but does not have to be, the person for which the form is being completed. The subcontractor is responsible for the accuracy of any information provided.

If the answer to each of the above questions is "NO", then the **NOT APPLICABLE STATEMENT** on page 2 of Form A must be signed and dated by a person that is authorized to execute contracts for your company.

RETURN WITH SUBCONTRACT

Form B: Instructions for Identifying Other Contracts & Procurement Related Information

Disclosure Form B must be completed for each subcontract submitted by the subcontracting entity. *Note: Checking the NOT APPLICABLE STATEMENT on Form A does not allow the subcontractor to ignore Form B. Form B must be completed, checked, and dated or the subcontract will not be approved.*

The Subcontractor shall identify, by checking Yes or No on Form B, whether it has any pending contracts, subcontracts, leases, bids, proposals, or other ongoing procurement relationship with any other (non-IDOT) State of Illinois agency. If "No" is checked, the subcontractor only needs to complete the check box on the bottom of Form B. If "Yes" is checked, the subcontractor must list all non-IDOT State of Illinois agency pending contracts, subcontracts, leases, bids, proposals, and other ongoing procurement relationships. These items may be listed on Form B or on an attached sheet(s). Contracts with cities, counties, villages, etc. are not considered State of Illinois agency contracts and are not to be included. Contracts or subcontracts with other State of Illinois agencies such as the Department of Natural Resources or the Capital Development Board must be included.

ILLINOIS DEPARTMENT OF TRANSPORTATION

Form A Subcontractor: Financial Information & Potential Conflicts of Interest Disclosure

Subcontractor Name, Legal Address, City, State, Zip, Telephone Number, Email Address, Fax Number (if available)

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Code (30 ILCS 500). Subcontractors desiring to enter into a subcontract of a State of Illinois contract must disclose the financial information and potential conflict of interest information as specified in this Disclosure Form. This information shall become part of the publicly available contract file. This Form A must be completed for subcontracts with a total value of \$25,000 or more, from subcontractors identified in Section 20-120 of the Illinois Procurement Code, and for all open-ended contracts. A publicly traded company may submit a 10K disclosure (or equivalent if applicable) in satisfaction of the requirements set forth in Form A. See Disclosure Form Instructions.

The current annual salary of the Governor is \$177,412.00.

DISCLOSURE OF FINANCIAL INFORMATION

1. Disclosure of Financial Information. The individual named below has an interest in the SUBCONTRACTOR (or its parent) in terms of ownership or distributive income share in excess of 5%, or an interest which has a value of more than 60% of the annual salary of the Governor. (Make copies of this form as necessary and attach a separate Disclosure Form A for each individual meeting these requirements)

FOR INDIVIDUAL (type or print information) NAME: ADDRESS Type of ownership/distributable income share: stock sole proprietorship Partnership other: (explain on separate sheet): % or \$ value of ownership/distributable income share:

2. Disclosure of Potential Conflicts of Interest. Check "Yes" or "No" to indicate which, if any, of the following potential conflict of interest relationships apply. If the answer to any question is "Yes", please attach additional pages and describe.

(a) State employment, currently or in the previous 3 years, including contractual employment of services. Yes ___ No ___

If your answer is yes, please answer each of the following questions.

- 1. Are you currently an officer or employee of either the Capitol Development Board or the Illinois State Toll Highway Authority? Yes ___ No ___
2. Are you currently appointed to or employed by any agency of the State of Illinois? If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor, provide the name the State agency for which you are employed and your annual salary.

RETURN WITH SUBCONTRACT

3. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor, are you entitled to receive (i) more than 7 1/2% of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of 100% of the annual salary of the Governor?
Yes ___ No ___

4. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds 60% of the annual salary of the Governor, are you and your spouse or minor children entitled to receive (i) more than 15 % in the aggregate of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of two times the salary of the Governor?
Yes ___ No ___

(b) State employment of spouse, father, mother, son, or daughter, including contractual employment services in the previous 2 years.

Yes ___ No ___

If your answer is yes, please answer each of the following questions.

1. Is your spouse or any minor children currently an officer or employee of the Capitol Development Board or the Illinois State Toll Highway Authority?
Yes ___ No ___

2. Is your spouse or any minor children currently appointed to or employed by any agency of the State of Illinois? If your spouse or minor children is/are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, provide the name of your spouse and/or minor children, the name of the State agency for which he/she is employed and his/her annual salary. _____

3. If your spouse or any minor children is/are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, are you entitled to receive (i) more than 7 1/2% of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of 100% of the annual salary of the Governor?
Yes ___ No ___

4. If your spouse or any minor children are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds 60% of the annual salary of the Governor, are you and your spouse or minor children entitled to receive (i) more than 15 % in the aggregate of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of two times the salary of the Governor?
Yes ___ No ___

(c) Elective status; the holding of elective office of the State of Illinois, the government of the United States, any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois currently or in the previous 3 years.
Yes ___ No ___

(d) Relationship to anyone holding elective office currently or in the previous 2 years; spouse, father, mother, son, or daughter.
Yes ___ No ___

(e) Appointive office; the holding of any appointive government office of the State of Illinois, the United States of America, or any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois, which office entitles the holder to compensation in excess of the expenses incurred in the discharge of that office currently or in the previous 3 years.
Yes ___ No ___

(f) Relationship to anyone holding appointive office currently or in the previous 2 years; spouse, father, mother, son, or daughter.
Yes ___ No ___

(g) Employment, currently or in the previous 3 years, as or by any registered lobbyist of the State government.
Yes ___ No ___

RETURN WITH SUBCONTRACT

(h) Relationship to anyone who is or was a registered lobbyist in the previous 2 years; spouse, father, mother, son, or daughter. Yes ___ No ___

(i) Compensated employment, currently or in the previous 3 years, by any registered election or reelection committee registered with the Secretary of State or any county clerk of the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections. Yes ___ No ___

(j) Relationship to anyone; spouse, father, mother, son, or daughter; who was a compensated employee in the last 2 years by any registered election or re-election committee registered with the Secretary of State or any county clerk of the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections. Yes ___ No ___

3. Communication Disclosure.

Disclose the name and address of each lobbyist and other agent of the bidder or offeror who is not identified in Section 2 of this form, who is has communicated, is communicating, or may communicate with any State officer or employee concerning the bid or offer. This disclosure is a continuing obligation and must be promptly supplemented for accuracy throughout the process and throughout the term of the contract. If no person is identified, enter "None" on the line below:

Name and address of person(s): _____

RETURN WITH SUBCONTRACT

4. Debarment Disclosure. For each of the persons identified under Sections 2 and 3 of this form, disclose whether any of the following has occurred within the previous 10 years: debarment from contracting with any governmental entity; professional licensure discipline; bankruptcies; adverse civil judgments and administrative findings; and criminal felony convictions. This disclosure is a continuing obligation and must be promptly supplemented for accuracy throughout the procurement process and term of the contract. If no person is identified, enter "None" on the line below:

Name of person(s): _____

Nature of disclosure: _____

APPLICABLE STATEMENT

This Disclosure Form A is submitted on behalf of the INDIVIDUAL named on previous page. Under penalty of perjury, I certify the contents of this disclosure to be true and accurate to the best of my knowledge.

Completed by: _____ Date _____
Signature of Individual or Authorized Officer

NOT APPLICABLE STATEMENT

Under penalty of perjury, I have determined that no individuals associated with this organization meet the criteria that would require the completion of this Form A.

This Disclosure Form A is submitted on behalf of the SUBCONTRACTOR listed on the previous page.

_____ Date _____
Signature of Authorized Officer

RETURN WITH SUBCONTRACT

ILLINOIS DEPARTMENT
OF TRANSPORTATION

Form B
Subcontractor: Other Contracts &
Procurement Related Information
Disclosure

Subcontractor Name		
Legal Address		
City, State, Zip		
Telephone Number	Email Address	Fax Number (if available)

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Act (30 ILCS 500). This information shall become part of the publicly available contract file. This Form B must be completed for subcontracts with a total value of \$25,000 or more, from subcontractors identified in Section 20-120 of the Illinois Procurement Code, and for all open-ended contracts.

DISCLOSURE OF OTHER CONTRACTS, SUBCONTRACTS, AND PROCUREMENT RELATED INFORMATION

1. Identifying Other Contracts & Procurement Related Information. The SUBCONTRACTOR shall identify whether it has any pending contracts, subcontracts, including leases, bids, proposals, or other ongoing procurement relationship with any other State of Illinois agency: Yes ___ No ___

If "No" is checked, the subcontractor only needs to complete the signature box on the bottom of this page.

2. If "Yes" is checked. Identify each such relationship by showing State of Illinois agency name and other descriptive information such as bid or project number (attach additional pages as necessary). SEE DISCLOSURE FORM INSTRUCTIONS:

THE FOLLOWING STATEMENT MUST BE CHECKED

<input type="checkbox"/>	_____	_____
	Signature of Authorized Officer	Date



NOTICE TO BIDDERS

- 1. TIME AND PLACE OF OPENING BIDS.** Sealed proposals for the improvement described herein will be received by the Department of Transportation at the Harry R. Hanley Building, 2300 South Dirksen Parkway, in Springfield, Illinois until 10:00 o'clock a.m., January 21, 2011. All bids will be gathered, sorted, publicly opened and read in the auditorium at the Department of Transportation's Harry R. Hanley Building shortly after the 10:00 a.m. cut off time.
- 2. DESCRIPTION OF WORK.** The proposed improvement is identified and advertised for bids in the Invitation for Bids as:

**Contract No. 60H20
COOK County
Section 98-B
Project F-0343(017)
Route FAP 343
District 1 Construction Funds**

Water main relocation and replacement of the existing structure carrying IL Route 68 (Dundee Road) over the Wheeling Drainage Ditch (SN 016-0525) with a three-sided precast concrete structure 36' X 11', located west of Dundee Road and Wolf Road in Wheeling.

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

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

By Order of the
Illinois Department of Transportation

Gary Hannig,
Secretary

INDEX
 FOR
 SUPPLEMENTAL SPECIFICATIONS
 AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2011

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

ERRATA Standard Specifications for Road and Bridge Construction (Adopted 1-1-07) (Revised 1-1-11)

SUPPLEMENTAL SPECIFICATIONS

<u>Std. Spec. Sec.</u>	<u>Page No.</u>
201 Clearing, Tree Removal and Protection	1
205 Embankment	2
251 Mulch	3
253 Planting Woody Plants	4
280 Temporary Erosion Control	6
406 Hot-Mix Asphalt Binder and Surface Course	7
420 Portland Cement Concrete Pavement	11
443 Reflective Crack Control Treatment	12
501 Removal of Existing Structures	15
502 Excavation for Structures	16
503 Concrete Structures	17
504 Precast Concrete Structures	18
505 Steel Structures	19
508 Reinforcement Bars	20
540 Box Culverts	21
581 Waterproofing Membrane System	22
606 Concrete Gutter, Curb, Median, and Paved Ditch	23
630 Steel Plate Beam Guardrail	24
633 Removing and Reerecting Guardrail and Terminals	25
637 Concrete Barrier	26
664 Chain Link Fence	27
669 Removal and Disposal of Regulated Substances	28
672 Sealing Abandoned Water Wells	29
701 Work Zone Traffic Control and Protection	30
720 Sign Panels and Appurtenances	32
721 Sign Panel Overlay	33
722 Demountable Sign Legend Characters and Arrows	34
726 Mile Post Marker Assembly	35
733 Overhead Sign Structures	36
780 Pavement Striping	37
782 Prismatic Reflectors	42
783 Pavement Marking and Marker Removal	43
801 Electrical Requirements	44
805 Electrical Service Installation – Traffic Signals	45
821 Roadway Luminaires	46
836 Pole Foundation	47
838 Breakaway Devices	48
843 Removal of Navigational Obstruction Warning Lighting System	49
862 Uninterruptable Power Supply	50
873 Electric Cable	52
878 Traffic Signal Concrete Foundation	54
1003 Fine Aggregates	55
1004 Coarse Aggregates	56
1005 Stone and Broken Concrete	57
1006 Metals	58
1008 Structural Steel Coatings	60

FAP 343 (IL 68)
Project F-0343 (017)
Section 98-B
Cook County
Contract 60H20

1010	Finely Divided Materials	65
1020	Portland Cement Concrete	66
1022	Concrete Curing Materials	77
1024	Nonshrink Grout	78
1026	Concrete Sealer	79
1030	Hot-Mix Asphalt	80
1032	Bituminous Materials	87
1042	Precast Concrete Products	90
1062	Reflective Crack Control System	92
1069	Pole and Tower	94
1074	Control Equipment	97
1076	Wire and Cable	102
1077	Post and Foundation	103
1080	Fabric Materials	105
1081	Materials for Planting	106
1083	Elastomeric Bearings	108
1090	Sign Base	109
1091	Sign Face	111
1092	Sign Legend and Supplemental Panels	119
1093	Sign Supports	120
1094	Overhead Sign Structures	122
1095	Pavement Markings	128
1097	Reflectors	136
1101	General Equipment	137
1102	Hot-Mix Asphalt Equipment	138
1103	Portland Cement Concrete Equipment	140
1105	Pavement Marking Equipment	141
1106	Work Zone Traffic Control Devices	143

RECURRING SPECIAL PROVISIONS

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

<u>CHECK SHEET #</u>	<u>PAGE NO.</u>
1 X Additional State Requirements For Federal-Aid Construction Contracts (Eff. 2-1-69) (Rev. 1-1-10)	145
2 X Subletting of Contracts (Federal-Aid Contracts) (Eff. 1-1-88) (Rev. 5-1-93)	148
3 X EEO (Eff. 7-21-78) (Rev. 11-18-80)	149
4 Specific Equal Employment Opportunity Responsibilities Non Federal-Aid Contracts (Eff. 3-20-69) (Rev. 1-1-94)	159
5 Required Provisions - State Contracts (Eff. 4-1-65) (Rev. 1-1-10)	164
6 Reserved	169
7 Reserved	170
8 X Haul Road Stream Crossings, Other Temporary Stream Crossings, and In-Stream Work Pads (Eff. 1-2-92) (Rev. 1-1-98)	171
9 Construction Layout Stakes Except for Bridges (Eff. 1-1-99) (Rev. 1-1-07)	172
10 X Construction Layout Stakes (Eff. 5-1-93) (Rev. 1-1-07)	175
11 Use of Geotextile Fabric for Railroad Crossing (Eff. 1-1-95) (Rev. 1-1-07)	178
12 Subsealing of Concrete Pavements (Eff. 11-1-84) (Rev. 1-1-07)	180
13 Hot-Mix Asphalt Surface Correction (Eff. 11-1-87) (Rev. 1-1-09)	184
14 Pavement and Shoulder Resurfacing (Eff. 2-1-00) (Rev. 1-1-09)	186
15 PCC Partial Depth Hot-Mix Asphalt Patching (Eff. 1-1-98) (Rev. 1-1-07)	187
16 Patching with Hot-Mix Asphalt Overlay Removal (Eff. 10-1-95) (Rev. 1-1-07)	189
17 Polymer Concrete (Eff. 8-1-95) (Rev. 1-1-08)	190
18 PVC Pipeliner (Eff. 4-1-04) (Rev. 1-1-07)	192
19 X Pipe Underdrains (Eff. 9-9-87) (Rev. 1-1-07)	193
20 X Guardrail and Barrier Wall Delineation (Eff. 12-15-93) (Rev. 1-1-97)	194
21 Bicycle Racks (Eff. 4-1-94) (Rev. 1-1-07)	198
22 Temporary Modular Glare Screen System (Eff. 1-1-00) (Rev. 1-1-07)	200
23 Temporary Portable Bridge Traffic Signals (Eff. 8-1-03) (Rev. 1-1-07)	202
24 Work Zone Public Information Signs (Eff. 9-1-02) (Rev. 1-1-07)	204
25 X Night Time Inspection of Roadway Lighting (Eff. 5-1-96)	205
26 English Substitution of Metric Bolts (Eff. 7-1-96)	206
27 English Substitution of Metric Reinforcement Bars (Eff. 4-1-96) (Rev. 1-1-03)	207
28 Calcium Chloride Accelerator for Portland Cement Concrete (Eff. 1-1-01)	208
29 Reserved	209
30 Quality Control of Concrete Mixtures at the Plant (Eff. 8-1-00) (Rev. 1-1-11)	210
31 X Quality Control/Quality Assurance of Concrete Mixtures (Eff. 4-1-92) (Rev. 1-1-11)	218
32 X Asbestos Bearing Pad Removal (Eff. 11-1-03)	230
33 Asbestos Hot-Mix Asphalt Surface Removal (Eff. 6-1-89) (Rev. 1-1-09)	231

TABLE OF CONTENTS

LOCATION OF PROJECT	1
DESCRIPTION OF PROJECT	1
MAINTENANCE OF ROADWAYS	2
STATUS OF UTILITIES TO BE ADJUSTED	2
RESTRICTION ON WORKING DAYS AFTER A COMPLETION DATE	3
COMPLETION DATE PLUS WORKING DAYS	3
AGGREGATE SUBGRADE, 12" (300 MM)	4
RECLAIMED ASPHALT PAVEMENT FOR NON-POROUS EMBANKMENT AND BACKFILL	5
AGGREGATE SURFACE COURSE FOR TEMPORARY ACCESS	6
WORK ZONE TRAFFIC CONTROL (LUMP SUM PAYMENT)	7
TRAFFIC CONTROL PLAN	7
COARSE AGGREGATE FOR HOT-MIX ASPHALT (HMA) (D-1)	8
EPOXY COATING ON REINFORCEMENT (DISTRICT ONE)	11
BITUMINOUS PRIME COAT FOR HOT-MIX ASPHALT PAVEMENT (FULL DEPTH) (D-1)	11
FINE AGGREGATE FOR HOT- MIX ASPHALT (HMA) (D-1)	11
TEMPERATURE CONTROL FOR CONCRETE PLACEMENT (DISTRICT ONE)	12
TEMPORARY PAVEMENT	12
HOT MIX ASPHALT MIXTURES, EGA MODIFIED PERFORMANCE GRADED (PG) ASPHALT BINDER	13
USE OF RAP (DIST 1)	14
USE OF RAS (D-1)	19
EMBANKMENT II	23
HOT-MIX ASPHALT PAVEMENT REMOVAL	24
HOT-MIX ASPHALT DRIVEWAY PAVEMENT REMOVAL	24
APPROACH SLAB REMOVAL	24
TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)	25
CHAIN LINK FENCE REMOVAL	25
MANHOLES, TYPE A, 9'-DIAMETER, TYPE 1 FRAME, CLOSED LID	25
VILLAGE OF WHEELING WATER SYSTEMS	26
VALVE VAULTS, MANHOLES, CATCH BASINS AND INLETS	32
TRENCHING, BACKFILLING AND COMPACTING	38
DISINFECTION OF POTABLE WATER MAINS	48
HYDROSTATIC TESTS FOR PRESSURE MAINS	51
SUBMITTALS	53
TRAFFIC REGULATION	60
REMOVE EXISTING PARKING BLOCKS	64
CONCRETE PARKING BLOCKS	64
CORED DRAIN HOLES	65

PARKING LOT PAVEMENT REMOVAL 65

GENERAL ELECTRICAL REQUIREMENTS..... 65

TEMPORARY WOOD POLE, INSTALL ONLY..... 69

SELECTIVE CLEARING 70

TRAFFIC SIGNAL SPECIFICATIONS..... 70

TYPE III TEMPORARY TAPE FOR WET CONDITIONS 120

TEMPORARY INFORMATION SIGNING 120

THREE SIDED PRECAST CONCRETE STRUCTURE 121

TEMPORARY SHEET PILING..... 124

TEMPORARY SOIL RETENTION SYSTEM 125

DEMOLITION PLANS FOR REMOVAL OF EXISTING STRUCTURES 126

ALKALI-SILICA REACTION FOR CAST-IN-PLACE CONCRETE (BDE) 127

APPROVAL OF PROPOSED BORROW AREAS, USE AREAS, AND/OR WASTE AREAS (BDE) 129

AUTOMATED FLAGGER ASSISTANCE DEVICES (BDE)..... 130

CEMENT (BDE) 131

CONCRETE ADMIXTURES (BDE) 134

CONCRETE JOINT SEALER (BDE) 136

CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)..... 137

CONSTRUCTION AIR QUALITY - DIESEL VEHICLE EMISSIONS CONTROL (BDE) 139

CONSTRUCTION AIR QUALITY - IDLING RESTRICTIONS (BDE)..... 140

DETERMINATION OF THICKNESS (BDE)..... 141

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE) 151

ENGINEER’S FIELD OFFICE TYPE A (BDE) 159

EQUIPMENT RENTAL RATES (BDE)..... 161

FLAGGER AT SIDE ROADS AND ENTRANCES (BDE) 162

FRAMES AND GRATES (BDE)..... 162

FRICTION AGGREGATE (BDE) 162

HMA - HAULING ON PARTIALLY COMPLETED FULL-DEPTH PAVEMENT (BDE) 165

HOT-MIX ASPHALT – ANTI-STRIPPING ADDITIVE (BDE)..... 166

HOT-MIX ASPHALT - DENSITY TESTING OF LONGITUDINAL JOINTS (BDE) 167

HOT-MIX ASPHALT – DROP-OFFS (BDE) 167

IMPACT ATTENUATORS, TEMPORARY (BDE)..... 168

LIQUIDATED DAMAGES (BDE)..... 169

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM / EROSION AND SEDIMENT CONTROL DEFICIENCY DEDUCTION (BDE) 170

PAVEMENT MARKING REMOVAL (BDE)..... 171

PAYMENTS TO SUBCONTRACTORS (BDE)..... 171

POST MOUNTING OF SIGNS (BDE)..... 172

RAISED REFLECTIVE PAVEMENT MARKERS (BDE)..... 172

SEEDING (BDE) 173
SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE) 175
TEMPORARY EROSION CONTROL (BDE) 175
TRAFFIC BARRIER TERMINAL, TYPE 6 (BDE) 178
BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE) (RETURN FORM WITH BID) 178
FUEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID) 181
STEEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID) 185
STORM WATER POLLUTION PREVENTION PLAN 189
STORM WATER POLLUTION PREVENTION PLAN 189

STATE OF ILLINOIS

SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction", adopted January 1, 2007, the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways", and the "Manual of Test Procedures for Materials" in effect on the date of the invitation for bids; and the Supplemental Specifications and Recurring Special Provisions indicated on the Check Sheet included herein which apply to and govern the construction of FAP 343 (IL 68), Project F-0343 (017), Section 98-B, in Cook County, Contract 60H20 and in case of conflict with any part or parts of said Specifications, the said Special Provisions shall take precedence and shall govern.

FAP 343 (ILLINOIS ROUTE 68)
Project: F-0343 (017)
Section No.: 98-B
Cook County
Contract No.: 60H20

LOCATION OF PROJECT

The Wheeling Drainage Ditch Bridge is located on IL Route 68, Dundee Road 550 feet west of the Dundee and Wolf Road intersection. The bridge is located within the Village of Wheeling, in Cook County.

DESCRIPTION OF PROJECT

The Illinois Department of Transportation Division of Highways/Region One is proposing to replace the existing 39'-6" back to back of abutment single span concrete deck beam bridge structure (Structure 016-0525) due to the deteriorated state of the existing structure. This bridge carries Illinois Route 68 over the Wheeling Drainage Ditch.

The proposed structure (Structure 016-2302) is a three sided structure that is 38'-4" back to back of abutment, and 86'-0" out-to-out of deck. The proposed roadway profile is raised by approximately one foot to meet hydraulic requirements. The structure will carry two 12-foot wide lanes in each direction with a 12-foot two way left turn lane. A 10-foot bike path is proposed on the north side of the structure and an 8-foot sidewalk is proposed on the south side of the structure.

The bridge (existing S.N. 016-0525: proposed S.N. 016-2302) work consists of the complete removal of the entire bridge, including superstructure and abutments. The new bridge will be a three sided structure. The project length is 943 feet. The existing length of the bridge is 36'-6". The proposed length of the bridge is 38'-4".

The roadway work consists of removal of existing pavement, commercial driveways, curb and gutter, approach slabs, and sidewalk, milling the pavement surface, hot-mix asphalt resurfacing, constructing new concrete curb and gutter, sidewalks, bike path, hot-mix asphalt binder and surface courses, water main relocation, landscaping, erosion control, traffic control, pavement marking, and all miscellaneous items necessary for completion of the projects as shown on the plans and as described herein.

MAINTENANCE OF ROADWAYS

Effective: September 30, 1985

Revised: November 1, 1996

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

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

STATUS OF UTILITIES TO BE ADJUSTED

Effective: January 30, 1987

Revised: July 1, 1994

Utility companies involved in this project have provided the following estimated dates:

Name of Utility	Type	Location	Estimated Dates for Start and Completion of Relocation or Adjustments
Commonwealth Edison	Electric	114+45, 32.7 LT 116+11, 31.9 LT 117+30, 33.7 LT 118+72, 35.9 LT 120+11, 38.5 LT 121+55, 38.7 LT 122+51, 39.1 LT	Utility poles to be relocated to the north, north of project work area.
Comcast	Telephone	ComEd Poles	Relocation to be coordinated with ComEd.
AT&T	Cable	North side of bridge superstructure 113+64, 19.4 RT 113+76, 19.6 RT 118+84, 38.8 RT 118+87, 19.5 RT 120+11, 21.5 RT	Utility to be relocated prior to project start.
Nicor	Gas	South side	Status Unknown

Village of Wheeling	Water	North curb line Hyd 114+95, 32.3 LT Hyd 118+24, 42.5 LT VV 118+90, 41.8 LT VV 119+83, 41.7 LT Hyd 121+54, 45.0 LT VV 122+30, 40.4 LT	WM relocation plan to be included in plan set
	Sanitary	119+07, 47.2 RT	Sanitary MH adj included
	Monitor station	SE wingwall	Monitoring Station to be removed and replaced by Village; temp sta possible

The above represents the best information available to the Department and is included for the convenience of the bidder. The applicable portions of Articles 105.07 and 107.31 of the Standard Specifications shall apply.

RESTRICTION ON WORKING DAYS AFTER A COMPLETION DATE

Effective: January 21, 2003

Revised: January 1, 2007

All temporary lane closures during the period governed by working days after a completion date will not be permitted during the hours of 6:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m. Monday through Friday.

All lane closure signs shall not be erected any earlier than one-half (1/2) hour before the starting hours listed above. Also, these signs should be taken down within one-half (1/2) hour after the closure is removed.

Failure to Open Traffic Lanes to Traffic: Should the Contractor fail to completely open and keep open all the traffic lanes to traffic in accordance with the limitations specified above, the Contractor shall be liable and shall pay to the Department the amount of \$250 per lane blocked, not as a penalty but as liquidated and ascertained damages, for each and every 15 minute interval or a portion thereof that a lane is blocked outside the allowable time limitations. The Department may deduct such damages from any monies due the Contractor. These damages shall apply during the period governed by working days after a completion date and any extensions of that contract time.

COMPLETION DATE PLUS WORKING DAYS

Effective: September 30, 1985

Revised: January 1, 2007

Revise Article 108.05 (b) of the Standard Specifications as follows:

"When a completion date plus working days is specified, the Contractor shall complete all contract items and safely open all roadways to traffic by 11:59 PM on, October 31, 2011, except as specified herein.

The Contractor will be allowed to complete all clean-up work and punch list items within 5 working days after the completion date for opening the roadway to traffic.

Under extenuating circumstances the Engineer may direct that certain items of work, not affecting the safe opening of the roadway to traffic, may be completed within the working days allowed for clean-up work and punch list items. Temporary lane closures for this work may be allowed at the discretion of the Engineer.

Article 108.09 or the Special Provision for "Failure to Complete the Work on Time", if included in this contract, shall apply to both the completion date and the number of working days.

AGGREGATE SUBGRADE, 12" (300 MM)

Effective: May 1, 1990

Revised: August 1, 2008

This work shall be done in accordance with the applicable portions of Section 207 of the Standard Specifications. The material shall conform to Article 1004.05 of the Standard Specifications except as follows:

1. Crushed Stone, Crushed Blast Furnace Slag, and Crushed Concrete will be permitted. Steel slag and other expansive materials as determined through testing by the Department will not be permitted.

<u>Sieve Size</u>	<u>Percent Passing</u>
6 in. (150 mm)	97 ± 3
4 in. (100 mm)	90 ± 10
2 in. (50 mm)	45 ± 25
No. 200 (75 µm)	5 ± 5

2. Gravel* and Crushed Gravel

<u>Sieve Size</u>	<u>Percent Passing</u>
6 in. (150 mm)	97 ± 3
4 in. (100 mm)	90 ± 10
2 in. (50 mm)	55 ± 25
No. 4 (4.75 mm)	30 ± 20
No. 200 (75 µm)	5 ± 5

3. Crushed Concrete with Bituminous Materials**

<u>Sieve Size</u>	<u>Percent Passing</u>
6 in. (150 mm)	97 ± 3
4 in. (100 mm)	90 ± 10
2 in. (50 mm)	45 ± 25
No. 4 (4.75 mm)	20 ± 20
No. 200 (75 µm)	5 ± 5

* Not to be used in 30 or 40 year extended life concrete pavement or extended life bituminous concrete pavement (full depth).

** The Bituminous material shall be separated and mechanically blended with the crushed concrete so that the bituminous material does not exceed 40% of the final products. The top size of the bituminous material in the final product shall be less than 4 inches (100 mm) and shall not contain more than 10.0% steel slag RAP or any material that is considered expansive by the Department.

The Aggregate subgrade shall be placed in two lifts consisting of a 9 inch (225 mm) and variable nominal thickness lower lift and a 3 inch (75 mm) nominal thickness top lift of capping aggregate having a gradation of CA 6. The CA 6 may be blended as follows. The bituminous materials shall be separated and mechanically blended with interlocking feeders with crushed concrete or natural aggregate, in a manner that the bituminous material does not exceed 40% of the final product. This process shall be approved by the engineer prior to start of production. The top side of the bituminous material in the final products shall be less than 1 ½ inches (37.5 mm) and shall not contain any material considered expansive by the department. Reclaimed Asphalt Pavement (RAP) (having a maximum of 10% steel slag RAP) meeting the requirements of Section 1031 and having 100% passing the 1 ½ inches (37.5 mm) sieve and well graded down through fines may also be used as capping aggregate. IDOT testing of the RAP material will be used in determining the percent of steel slag RAP or Expansive Material. When the contract specifies that an aggregate subbase is to be placed on the Aggregate Subgrade, the 3 inches (75 mm) of capping aggregate will be eliminated. A vibratory roller meeting the requirements of Article 1101.01(g) of the Standard Specifications shall be used to roll each lift of material to obtain the desired keying or interlock and necessary compaction. The Engineer will verify that adequate keying has been obtained.

When a recommended remedial treatment for unstable subgrades is included in the contract, the lower lift of Aggregate Subgrade may be placed simultaneously with the material for Porous Granular Embankment, Subgrade when the total thickness to be placed is 2 feet (600 mm) or less.

Method of Measurement.

Contract Quantities. Contract quantities shall be in accordance with Article 202.07 of the Standard Specifications.

Measured Quantities. Aggregate subgrade will be measured in place and the area computed in square yards (square meters).

Basis of Payment. This work will be paid for at the contract unit price per square yard (square meter) for AGGREGATE SUBGRADE, 12" (AGGREGATE SUBGRADE, 300 mm).

RECLAIMED ASPHALT PAVEMENT FOR NON-POROUS EMBANKMENT AND BACKFILL

Effective: April 1, 2001

Revised: January 1, 2007

Add the following sentence to Article 1004.05 (a) of the Standard Specifications:

"Reclaimed Asphalt Pavement (RAP) may be used as aggregate in Non-porous Granular Embankment and Backfill. The Rap material shall be reclaimed asphalt pavement material resulting from the cold milling or crushing of an existing hot-mix bituminous concrete pavement structure, including shoulders. RAP containing contaminants such as earth, brick, concrete, sheet asphalt, sand, or other materials identified by the Department will be unacceptable until the contaminants are thoroughly removed.

Add the following sentence to Article 1004.05 (c)(2) of the Standard Specifications:

"One hundred percent of the RAP when used shall pass the 3 inch (75 mm) sieve. The RAP shall be well graded from coarse to fine. RAP that is gap-graded or single-sized will not be accepted."

AGGREGATE SURFACE COURSE FOR TEMPORARY ACCESS

Effective: April 1, 2001

Revised: January 2, 2007

Revise Article 402.10 of the Standard Specifications to read:

"402.10 For Temporary Access. The contractor shall construct and maintain aggregate surface course for temporary access to private entrances, commercial entrances and roads according to Article 402.07 and as directed by the Engineer.

The aggregate surface course shall be constructed to the dimensions and grades specified below, except as modified by the plans or as directed by the Engineer.

- (a) Private Entrance. The minimum width shall be 12 ft (3.6 m). The minimum compacted thickness shall be 6 in. (150 mm). The maximum grade shall be eight percent, except as required to match the existing grade.
- (b) Commercial Entrance. The minimum width shall be 24 ft (7.2 m). The minimum compacted thickness shall be 9 in. (230 mm). The maximum grade shall be six percent, except as required to match the existing grade.
- (c) Road. The minimum width shall be 24 ft (7.2 m). The minimum compacted thickness shall be 9 in. (230 mm). The grade and elevation shall be the same as the removed pavement, except as required to meet the grade of any new pavement constructed.

Maintaining the temporary access shall include relocating and/or regrading the aggregate surface course for any operation that may disturb or remove the temporary access. The same type and gradation of material used to construct the temporary access shall be used to maintain it.

When use of the temporary access is discontinued, the aggregate shall be removed and utilized in the permanent construction or disposed of according to Article 202.03."

Add the following to Article 402.12 of the Standard Specifications:

"Aggregate surface course for temporary access will be measured for payment as each for every private entrance, commercial entrance or road constructed for the purpose of temporary access. If a residential drive, commercial entrance, or road is to be constructed under multiple stages, the aggregate needed to construct the second or subsequent stages will not be measured for payment but shall be included in the cost per each of the type specified."

Revise the second paragraph of Article 402.13 of the Standard Specifications to read:

"Aggregate surface course for temporary access will be paid for at the contract unit price per each for TEMPORARY ACCESS (PRIVATE ENTRANCE), TEMPORARY ACCESS (COMMERCIAL ENTRANCE) or TEMPORARY ACCESS (ROAD).

Partial payment of the each amount bid for temporary access, of the type specified, will be paid according to the following schedule:

- (a) Upon construction of the temporary access, sixty percent of the contract unit price per each, of the type constructed, will be paid.
- (b) Subject to the approval of the Engineer for the adequate maintenance and removal of the temporary access, the remaining forty percent of the pay item will be paid upon the permanent removal of the temporary access.”

WORK ZONE TRAFFIC CONTROL (LUMP SUM PAYMENT)

Effective: February 1, 1996

Revised: January 1, 2007

Specific traffic control plan details and Special Provisions have been prepared for this contract. This work shall include all labor, materials, transportation, handling and incidental work necessary to furnish, install, maintain and remove all traffic control devices required as indicated in the plans and as approved by the Engineer.

Method of Measurement: All traffic control (except traffic control pavement marking) indicated on the traffic control plan details and specified in the Special Provisions will be measured for payment on a lump sum basis. Traffic control pavement markings will be measured per foot (meter).

Basis of Payment: All traffic control and protection will be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION (SPECIAL).

SHORT TERM PAVEMENT MARKING, TEMPORARY PAVEMENT MARKING and PAVEMENT MARKING TAPE TYPE III will be paid for separately.

TRAFFIC CONTROL PLAN

Effective: September 30, 1985

Revised: January 1, 2007

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

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

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

STANDARDS:

701602 701801 701901 704001

DETAILS:

Traffic Control and Protection for Side Roads, Intersections, and Driveways (TC-10)
 Typical Applications Raised Reflective Pavement Markers (Snow-Plow Resistant) (TC-11)
 Typical Pavement Markings (TC-13)
 Arterial Road Information Sign (TC-22)
 Driveway Entrance Signing (TC-26)

SUPPLEMENTAL SPECIFICATIONS:

Work Zone Traffic Control and Protection
 Pavement Marking and Marker Removal
 Traffic Signal Concrete Foundation
 Pavement Markings
 Work Zone Traffic Control Devices

RECURRING SPECIAL PROVISIONS:

Night Time Inspection of Roadway Lighting

SPECIAL PROVISIONS:

Maintenance of Roadways
 Work Zone Traffic Control (Lump Sum)
 Temporary Information Signing
 Type III Temporary Tape For Wet Conditions
 Impact Attenuators, Temporary
 Automated Flagger Assistance Device
 Flagger at Side Roads and Entrances
 Post Mounting of Signs

COARSE AGGREGATE FOR HOT-MIX ASPHALT (HMA) (D-1)

Effective: March 16, 2009

Revise Article 1004.03 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	Gravel Crushed Gravel Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete

Use	Mixture	Aggregates Allowed
HMA All Other	Stabilized Subbase Shoulders	or Gravel Crushed Gravel Crushed Stone Crushed Sandstone Crushed Slag Crushed Concrete The coarse aggregate for stabilized subbase, if approved by the Engineer, may be produced by blending aggregates according to Article 1004.04(a).
HMA High ESAL Low ESAL	IL-25.0, IL-19.0, or IL-19.0L	Crushed Gravel Crushed Stone Crushed Sandstone Crushed Slag (ACBF)
HMA High ESAL Low ESAL	C Surface IL-12.5,IL-9.5, or IL-9.5L	Gravel (only when used in IL-9.5L) Crushed Gravel Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag (except when used as leveling binder)
HMA High ESAL	D Surface IL-12.5 or IL-9.5	Crushed Gravel Crushed Stone (other than Limestone) Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag (except when used as leveling binder) Limestone may be used in Mixture D if blended by volume in the following coarse aggregate percentages: Up to 25% Limestone with at least 75% Dolomite. Up to 50% Limestone with at least 50% any aggregate listed for Mixture D except Dolomite. Up to 75% Limestone with at least 25% Crushed Slag (ACBF) or Crushed Sandstone.

Use	Mixture	Aggregates Allowed
HMA High ESAL	E Surface IL-12.5 or IL-9.5	<p>Crushed Gravel Crushed Stone (other than Limestone and Dolomite) Crushed Sandstone</p> <p>No Limestone.</p> <p>Dolomite may be used in Mixture E if blended by volume in the following coarse aggregate percentages: Up to 75% Dolomite with at least 25% Crushed Sandstone, Crushed Slag (ACBF), or Crushed Steel Slag. When Crushed Slag (ACBF) or Crushed Steel Slag are used in the blend, the blend shall contain a minimum of 25% to a maximum of 75% of either Slag by volume. Up to 50% Dolomite with at least 50% of any aggregate listed for Mixture E.</p> <p>If required to meet design criteria, Crushed Gravel or Crushed Stone (other than Limestone or Dolomite) may be blended by volume in the following coarse aggregate percentages: Up to 75% Crushed Gravel or Crushed Stone (other than Limestone or Dolomite) with at least 25% Crushed Sandstone, Crushed Slag (ACBF), or Crushed Steel Slag. When Crushed Slag (ACBF) or Crushed Steel Slag are used in the blend, the blend shall contain a minimum of 25% to a maximum of 50% of either Slag by volume.</p>
HMA High ESAL	F Surface IL-12.5 or IL-9.5	<p>Crushed Sandstone</p> <p>No Limestone.</p> <p>Crushed Gravel, Crushed Concrete, or Crushed Dolomite may be used in Mixture F if blended by volume in the following coarse aggregate percentages: Up to 50% Crushed Gravel, Crushed Concrete or Crushed Dolomite with at least 50% Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or any Other Crushed Stone (to include Granite, Diabase, Rhyolite or Quartzite). When Crushed Slag (ACBF) or Crushed Steel Slag are used in the blend, the blend shall contain a minimum of 50% to a maximum of 75% of either Slag by volume.</p>

(b) Quality. For surface courses and binder courses when used as surface course, the coarse aggregate shall be Class B quality or better. For Class A (seal or cover coat), other binder courses, and surface course IL-9.5L (Low ESAL), the coarse aggregate shall be Class C quality or better. For All Other courses, the coarse aggregate shall be Class D quality or better.

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

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-25.0 IL-19.0 IL-12.5 IL-9.5	CA 7 ^{1/} or CA 8 ^{1/} CA 11 ^{1/} CA 16 and/or CA 13 CA 16
HMA Low ESAL	IL-19.0L IL-9.5L	CA 11 ^{1/} CA 16
HMA All Other	Stabilized Subbase or Shoulders	CA 6 ^{2/} , CA 10, or CA 12

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

2/ CA 6 will not be permitted in the top lift of shoulders.

EPOXY COATING ON REINFORCEMENT (DISTRICT ONE)

Effective: January 1, 2007

For work outside the limits of bridge approach pavement, all references in the Highway Standards and Standard Specifications for reinforcement, dowel bars, tie bars and chair supports for pavement, shoulders, curb, gutter, combination curb and gutter and median shall be epoxy coated, unless noted on the plan.

BITUMINOUS PRIME COAT FOR HOT-MIX ASPHALT PAVEMENT (FULL DEPTH) (D-1)

Effective: May 1, 2007

Revise Article 407.06(b) of the Standard Specifications to read:

“A bituminous prime coat shall be applied between each lift of HMA according to Article 406.05(b) at a rate of 0.02 to 0.05 gal/sq yd (0.1 to 0.2 L/sq m), the exact rate to be determined by the Engineer.”

Revise the second paragraph of Article 407.12 of the Standard Specifications to read:

“Prime Coat will be paid for at the contract unit price per gallon (liter) or per ton (metric ton) for BITUMINOUS MATERIALS (PRIME COAT).”

FINE AGGREGATE FOR HOT- MIX ASPHALT (HMA) (D-1)

Effective: May 1, 2007

Revised: January 15, 2010

Add the following to the gradation tables of Article 1003.01(c) of the Standard Specifications:

FINE AGGREGATE GRADATIONS					
Grad No.	Sieve Size and Percent Passing				
	3/8	No. 4	No. 8	No. 16	No. 200
FA 22	100	6/	6/	8±8	2±2

FINE AGGREGATE GRADATIONS (metric)					
Grad No.	Sieve Size and Percent Passing				
	9.5 mm	4.75 mm	2.36 mm	1.16 mm	75 µm
FA 22	100	6/	6/	8±8	2±2

6/ For the fine aggregate gradations FA 22, the aggregate producer shall set the midpoint percent passing, and the Department will apply a range of ± ten percent. The midpoint shall not be changed without Department approval.

Revise Article 1003.03(a) of the Standard Specifications to read:

“ (a) Description. Fine aggregate for HMA shall consist of sand, stone sand, chats, slag sand, or steel slag sand. For gradation FA 22, uncrushed material will not be permitted.”

Revise Article 1003.03 (c) of the Standard Specifications to read:

“ (c) Gradation. The fine aggregate gradation for all HMA shall be FA1, FA 2, FA 20, FA 21 or FA 22. When Reclaimed Asphalt Pavement (RAP) is incorporated in the HMA design, the use of FA 21 Gradation will not be permitted.

Gradation FA 1, FA 2, or FA 3 shall be used when required for prime coat aggregate application for HMA.”

TEMPERATURE CONTROL FOR CONCRETE PLACEMENT (DISTRICT ONE)

Effective: May 1, 2007

Delete the second and third sentences of the second paragraph of Article 1020.14(a) of the Standard Specifications

TEMPORARY PAVEMENT

Effective: March 1, 2003

Revised: April 10, 2008

Description. This work shall consist of constructing a temporary pavement at the locations shown on the plans or as directed by the engineer.

The contractor shall use either Portland cement concrete according to Sections 353 and 354 of the Standard Specifications or HMA according to Sections 355, 356, 406 of the Standard Specifications, and other applicable HMA special provisions as contained herein. The HMA mixtures to be used shall be specified in the plans. The thickness of the Temporary Pavement shall be as described in the plans. The contractor shall have the option of constructing either material type if both Portland cement concrete and HMA are shown in the plans.

Articles 355.08 and 406.11 of the Standard Specifications shall not apply.

The removal of the Temporary Pavement, if required, shall conform to Section 440 of the Standard Specification.

Method of Measurement. Temporary pavement will be measured in place and the area computed in square yards (square meters).

Basis of Payment. This work will be paid for at the contract unit price per square yard (square meter) for TEMPORARY PAVEMENT and TEMPORARY PAVEMENT (INTERSTATE).

Removal of temporary pavement will be paid for at the contract unit price per square yard (square meter) for PAVEMENT REMOVAL.

HOT MIX ASPHALT MIXTURES, EGA MODIFIED PERFORMANCE GRADED (PG) ASPHALT BINDER

Effective: March 16, 2009

Description. This work shall consist of constructing Hot Mix Asphalt (HMA) mixtures containing ethylene-glycidyl-acrylate (EGA) Modified Performance Graded (PG) Asphalt Binder. Work shall be according to Sections 406, 1030, and 1032 of the Standard Specifications, except as modified herein.

The asphalt binder shall meet the following requirements:

EGA Modified Performance Graded (PG) Asphalt Binder. The asphalt binder shall meet the requirements of AASHTO M 320, Table 1 "Standard Specification for Performance Graded Asphalt Binder" for the grade shown on the plans. An ethylene-glycidyl-acrylate (EGA) terpolymer with a maximum of 0.3 percent polyphosphoric acid by weight of asphalt binder, shall be added to the base asphalt binder to achieve the specified performance grade. Asphalt modification at hot-mix asphalt plants will not be allowed. The modified asphalt binder shall be smooth, homogeneous, and be according to the requirements shown in the following table for the grade shown on the plans.

Ethylene-Glycidyl-Acrylate (EGA) Modified Asphalt Binders		
Test	Asphalt Grade EGA PG 70-22 EGA PG 70-28	Asphalt Grade EGA PG 76-22 EGA PG 76-28
Separation of Polymer Illinois Test Procedure, "Separation of Polymer from Asphalt Binder" Difference in °F (°C) of the softening point between top and bottom portions.	4 (2) max.	4 (2) max.
TEST ON RESIDUE FROM ROLLING THIN FILM OVEN TEST (AASHTO T 240)		
Elastic Recovery ASTM D 6084, Procedure A, 77 °F (25 °C), 100 mm elongation, %	60 min.	70 min.

USE OF RAP (DIST 1)

Effective: January 1, 2007
2010

Revised: September 15,

In Article 1030.02(g) of the Standard Specifications, delete the last sentence of the first paragraph in (Note 2).

Revise Section 1031 of the Standard Specifications to read:

“SECTION 1031. RECLAIMED ASPHALT PAVEMENT

1031.01 Description. Reclaimed Asphalt Pavement (RAP) results from the cold milling or crushing of an existing Hot-Mix Asphalt (HMA) pavement. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction. The contractor can also request that a processed pile be tested by the Department to determine the aggregate quality as described in Article 1031.04, herein.

1031.02 Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. No additional RAP shall be added to the pile after the pile has been sealed. Stockpiles shall be sufficiently separated to prevent intermingling at the base. Stockpiles shall be identified by signs indicating the type and size as listed below (i.e. “Homogenous Surface”).

Prior to milling or removal of an HMA pavement, the Contractor may request the District to provide verification of the existing mix composition to clarify appropriate stockpile.

(a) Homogeneous. Homogeneous RAP stockpiles shall consist of RAP from Class I, Superpave (High ESAL), HMA (High ESAL), or equivalent mixtures and represent: 1) the same aggregate quality, but shall be at least C quality; 2) the same type of crushed aggregate (either crushed natural aggregate, ACBF slag, or steel slag); 3) similar gradation; and 4) similar asphalt binder content. If approved by the Engineer, combined single pass surface/binder millings may be considered “homogenous” with a quality rating dictated by the lowest coarse aggregate quality present in the mixture.

(b) Conglomerate 5/8. Conglomerate 5/8 RAP stockpiles shall consist of RAP from Class I, Superpave (High ESAL), HMA (High 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 5/8 RAP shall be processed prior to testing by crushing to where all RAP shall pass the 5/8 in. (16 mm) or smaller screen.

(c) Conglomerate 3/8. Conglomerate 3/8 RAP stockpiles shall consist of RAP from Class I, Superpave (High ESAL), HMA (High 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 B quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate 3/8 RAP shall be processed prior to testing by crushing to where all RAP shall pass the 3/8 in (9.5 mm) or smaller screen.

(d) Conglomerate Variable Size. Conglomerate variable size RAP shall consist of RAP from Class I, Superpave (High ESAL), HMA (High 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 B quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate variable size RAP shall be processed prior to testing by crushing and screening to where all RAP is separated into various sizes. All the conglomerate variable size RAP shall pass the 3/4 in. (19 mm) screen and shall be a minimum of two sizes.

(e) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP from Class I, Superpave (High or Low ESAL), HMA (High or Low Esal), or equivalent mixtures. The coarse aggregate in this RAP may be crushed or round but shall be at least D quality. This RAP may have an in consistent gradation and/or asphalt binder content.

(f) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Non-Quality".

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

1031.03 Testing. When used in HMA, the RAP shall be sampled and tested either during or after 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).

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 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 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.

(a) Testing Conglomerate 3/8 and Conglomerate Variable Size. In addition to the requirements above, conglomerate 3/8 and variable size RAP shall be tested for maximum theoretical specific gravity (G_{mm}) at a 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).

(b) Evaluation of Test Results. All of the extraction results shall be compiled and averaged for asphalt binder content and gradation and, when applicable G_{mm} . Individual extraction test results, when compared to the averages, will be accepted if within the tolerances listed below.

Parameter	Homogeneous/ Conglomerate	Conglomerate "D" Quality
1 in. (25 mm)		± 5%
3/4 in. (19 mm)		
1/2 in. (12.5 mm)	± 8%	± 15%
No. 4 (4.75 mm)	± 6%	± 13%
No. 8 (2.36 mm)	±5%	
No. 16 (1.18 mm)		± 15%
No. 30 (600 μm)	± 5%	
No. 200 (75 μm)	± 2.0%	± 4.0%
Asphalt Binder	± 0.4% ^{1/}	± 0.5%
G_{mm}	±0.02 ^{2/}	
G_{mm}	±0.03 ^{3/}	

- 1/ The tolerance for conglomerate 3/8 shall be ± 0.3 %.
- 2/ Applies only to conglomerate 3/8. When variation of the G_{mm} exceeds the ± 0.02 tolerance, a new conglomerate 3/8 stockpile shall be created which will also require an additional mix design.
- 3/ Applies only to conglomerate variable size. When variation of the G_{mm} exceeds the ± 0.03 tolerance, a new conglomerate variable size stockpile shall be created which will also require an additional mix design.

If more than 20 percent of the individual sieves are out of the gradation tolerances, or if more than 20 percent of the asphalt binder content test results fall outside the appropriate tolerances, the RAP shall not be used in HMA unless the RAP representing the failing tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

With the approval of the Engineer, the ignition oven may be substituted for extractions according to the Illinois Test Procedure, "Calibration of the Ignition Oven for the Purpose of Characterizing Reclaimed Asphalt Pavement (RAP)".

1031.04 Quality Designation of Aggregate in RAP. The quality of the RAP shall be set by the lowest quality of coarse aggregate in the RAP stockpile and are designated as follows.

- (a) RAP from Class I, Superpave (High ESAL), or HMA (High ESAL) surface mixtures are designated as containing Class B quality coarse aggregate.
- (b) RAP from Superpave (Low ESAL)/HMA (Low ESAL) IL-19.0L binder and IL-9.5L surface mixtures are designated as Class D quality coarse aggregate.
- (c) RAP from Class I, Superpave (High ESAL), or HMA (High ESAL) binder mixtures, bituminous base course mixtures, and bituminous base course widening mixtures are designated as containing Class C quality coarse aggregate.

- (d) RAP from bituminous stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate.

Aggregate Quality Testing of RAP:

The processed pile shall have a maximum tonnage of 5,000 tons (4500 metric tons). The pile shall be crushed and screened with 100 percent of the material passing the 3/4 in. (19 mm) sieve. The pile shall be tested for AC content and gradation and shall conform to all requirements of Article 1031.03 Testing, herein. Once the uniformity of the gradation and AC content has been established, the Contractor shall obtain a representative sample with district oversight of the sampling. This sample shall be no less than 50 lbs (25 kg) and this sample shall be delivered to a Consultant Lab, prequalified by the Department for extraction testing according to Illinois Modified AASHTO T 164. After the AC has been extracted, the Consultant Lab shall submit the test results along with the recovered aggregate to the District Office. The cost for this testing shall be paid directly by the Contractor. The District will forward the sample to the BMPR Aggregate Lab for MicroDeval Testing, according to Illinois Modified AASHTO T 327. A maximum loss of 15.0 percent will be applied for all HMA applications.

1031.05 Use of RAP in HMA. The use of RAP in HMA shall be as follows.

- (a) Coarse Aggregate Size. The coarse aggregate in all RAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.
- (b) Use in HMA Surface Mixtures (High and Low ESAL). RAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall be either homogeneous or conglomerate 3/8 or variable size in which the coarse aggregate is Class B quality or better.
- (c) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. RAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be homogeneous, conglomerate 5/8, or conglomerate 3/8, conglomerate variable size, in which the coarse aggregate is Class C quality or better.
- (d) Use in Shoulders and Subbase. RAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be homogeneous, conglomerate 5/8, conglomerate 3/8, conglomerate variable size, or conglomerate DQ.
- (e) The use of RAP shall be a contractor's option when constructing HMA in all contracts. When the Contractor chooses the RAP option, the percentage of RAP shall not exceed the amounts indicated in the table for a given N Design.

Maximum Mixture RAP Percentage

HMA Mixtures ^{1/3/}		Maximum % RAP	
Ndesign	Binder/Leveling Binder	Surface	Polymer Modified
30	30/40 ^{2/}	30	10
50	25/40 ^{2/ 4/}	15/25 ^{2/}	10 ^{4/}
70	25/30 ^{2/}	10/20 ^{2/}	10
90	25/30 ^{2/}	10/15 ^{2/}	10
105	25/30 ^{2/}	10/15 ^{2/}	10

- 1/ For HMA Shoulder and Stabilized Sub-Base (HMA) N-30, the amount of RAP shall not exceed 50 percent of the mixture.
- 2/ Value of Max percent RAP if 3/8 Rap or conglomerate variable size RAP is utilized.
- 3/ When RAP exceeds 20 percent the AC shall be PG58 -22. However, when RAP exceeds 20 percent and is used in full depth HMA pavement the AC shall be PG58 -28.
- 4/ Polymerized Leveling Binder, IL-4.75 is 15 percent

1031.06 HMA Mix Designs. At the Contractor's option, HMA mixtures may be constructed utilizing RAP material meeting the above detailed requirements.

RAP designs shall be submitted for volumetric verification. If additional RAP stockpiles are tested and found that no more than 20 percent of the results, as defined under "Testing" herein, are outside of the control tolerances set for the original RAP stockpile and HMA mix design, and meets all of the requirements herein, the additional RAP stockpiles may be used in the original mix design at the percent previously verified.

1031.07 HMA Production. The coarse aggregate in all RAP used shall be equal to or less than the nominal maximum size requirement for the HMA mixture being produced.

To remove or reduce agglomerated material, a scalping screen, crushing unit, or comparable sizing device approved by the Engineer shall be used in the RAP 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 the RAP control tolerances or QC/QA test results require corrective action, the Contractor shall cease production of the mixture containing RAP and either switch to the virgin aggregate design or submit a new RAP design. When producing mixtures containing conglomerate 3/8 or conglomerate variable size RAP, a positive dust control system shall be utilized.

HMA plants utilizing RAP shall be capable of automatically recording and printing the following information.

(a) Drier Drum Plants

- (1) Date, month, year, and time to the nearest minute for each print.
- (2) HMA Mix number assigned by the Department
- (3) Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton)
- (4) Accumulated dry weight of RAP in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton)

(5) Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.

(6) Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.

(7) Residual asphalt binder in the RAP material (per size) as a percent of the total mix to the nearest 0.1 unit.

(8) Aggregate and RAP moisture compensators in percent as set on the control panel (Required when accumulated or individual aggregate and RAP are printed in wet condition).

(b) Batch Plants

(1) Date, month, year, and time to the nearest minute for each print.

(2) HMA mix number assigned by the Department.

(3) Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram)

(4) Mineral filler weight to the nearest pound (kilogram).

(5) Individual RAP Aggregate weight to the nearest pound (kilogram).

(6) Virgin asphalt binder weight to the nearest pound (kilogram)

(7) Residual asphalt binder of each RAP size 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.

1031.08 RAP in Aggregate Surface Course and Aggregate Shoulders. The use of RAP 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 "Other". The testing requirements of Article 1031.03 shall not apply.

(b) Gradation. One hundred percent of the RAP material shall pass the 1 1/2 in. (37.5 mm) sieve. The RAP material shall be reasonably well graded from coarse to fine. RAP material that is gap-graded or single sized will not be accepted."

USE OF RAS (D-1)

Effective: August 15, 2010

Revised: October 25, 2010

Description. Reclaimed asphalt shingles (RAS) meeting Type I or Type 2 requirements will be permitted in HMA mixtures as specified herein for overlay applications only. RAS shall not be used in full depth HMA pavement. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable materials, as defined in Bureau of Materials and Physical Research Policy Memorandum 28-10.0, by weight of RAS. All RAS used shall come from a BMPR approved processing facility.

Definitions. RAS shall meet either Type I or Type 2 requirements as specified herein.

- (a) Type I. Type I RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.
- (b) 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).

Stockpiles. RAS shall be ground and processed to 100 percent passing the 3/8 in. sieve and 93 percent passing the #4 sieve based on a dry shake gradation. RAS shall be uniform in gradation and asphalt binder content and shall meet the testing requirements specified herein. Type 1 and Type 2 RAS shall be stockpiled separately and shall not be intermingled. Each stockpile shall be signed indicating what type of RAS is present.

Unless otherwise approved by the Engineer, mechanically blending a maximum of 5.0 percent by weight of the aggregate blend in HMA design, manufactured sand (FM20 or FM 22) with the processed RAS will be permitted to improve workability. The sand shall be "B Quality" or better from an approved Aggregate Gradation Control System source. The sand shall be 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 filed by Department contract number and kept for a minimum of 3 years.

Testing. RAS shall be sampled and tested during stockpiling.

For testing during stockpiling, washed extraction, G_{mm} 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 250 tons (225 metric tons) thereafter. A minimum of five tests are required to establish an average gradation and asphalt cement content of the RAS for use in an HMA mix design. A Bulk Specific Gravity value of 2.300 shall be used for RAS when used in an HMA mix design. Other Gravity Values maybe used in an HMA design but shall be verified by the Department.

Before testing, each field sample shall be split to obtain two samples. 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.

Evaluation of Test Results. All of the test results, with the exception of percent unacceptable materials, shall be compiled and averaged for asphalt binder content, gradation and G_{mm} . Individual test results, when compared to the averages, 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)	± 2.0 %
Asphalt Binder Content	± 1.5 %
G_{mm}	± 0.04

If more than 20 percent of the individual sieves are out of the gradation tolerances, or if more than 20 percent of the asphalt binder content, or G_{mm} test results fall outside the specified tolerance, or if the percent unacceptable materials exceeds 0.5 percent by weight of material retained on the #4 sieve, the RAS shall not be used in Department projects. All test data and acceptance ranges shall be sent to the District for evaluation.

Use of RAS in HMA. Type 1 or Type 2 RAS may be used in All HMA Mixtures as follows:

(a) SMA and High ESAL Surface Mixes:

(1) The maximum allowable RAS usage in SMA and IL 4.75 shall be as follows:

- a. RAS shall not exceed 5.0 percent by weight of total mix.
- b. If used in conjunction with Reclaimed Asphalt Pavement (RAP) the contribution of asphalt binder from the RAS and RAP combined shall not exceed 20 percent of the total asphalt binder.

(2) The virgin asphalt binder grade shall be as follows:

Mix Type	Percent RAS/RAP Asphalt Binder Replacement			
	< 10%		10-20%	
	Type 1	Type 2	Type 1	Type 2
SMA and High ESAL Surface Mixes	No grade ^{1/} bump	No grade ^{1/} bump	Reduce high temperature by one grade ^{1/}	Reduce high temperature by one grade ^{1/}

1/ One asphalt binder grade bump represents a change of 6° Celsius.

b) High ESAL Binder and Leveling Binder Mixes:

(1) The maximum allowable RAS usage in HMA High ESAL Binder and Leveling Binder Mixes shall be as follows:

- a. RAS shall not exceed 5.0 percent by total weight of mix.
- b. If used in conjunction with RAP the contribution of asphalt binder from the RAS and RAP combined shall not exceed 30 percent of the total asphalt binder.

(2) Virgin asphalt binder grade shall be as follows:

Mix Type	Percent RAS/RAP Asphalt Binder Replacement			
	10-19%		20-30%	
	Type 1	Type 2	Type 1	Type 2
High ESAL Binder and Leveling Binder Mixes	No grade ^{1/} bump	Reduce high temperature by one grade ^{1/}	Reduce high & low temperature by one grade ^{1/}	Reduce high & low temperature by one grade ^{1/}

1/ One asphalt binder grade bump represents a change of 6° Celsius.

2/ No grade bump necessary for percent RAS/RAP/FRAP asphalt binder replacement less than 10 percent

c) HMA Low ESAL and HMA “All Other”

(1) The maximum allowable RAS usage in HMA Low ESAL and HMA “All Other” mixtures shall be as follows:

- a. RAS shall not exceed 5.0 percent by total weight of mix.
- b. If used in conjunction with RAP the contribution of asphalt binder from the RAS and RAP combined shall not exceed 40 percent of the total asphalt binder.

(2) Virgin asphalt binder grade shall be as follows:

Mix Type	Percent RAS/RAP Asphalt Binder Replacement			
	< 20%		20-40%	
	Type 1	Type 2	Type 1	Type 2
HMA Low ESAL and HMA “All Other”	No grade ^{1/} bump	Reduce low temperature by one grade ^{1/}	Reduce high & low temperature by one grade ^{1/}	Reduce high & low temperature by one grade ^{1/}

1/ One asphalt binder grade bump represents a change of 6° Celsius.

HMA Mix Designs. RAS and RAS/RAP designs shall be submitted for volumetric verification. Type 1 and Type 2 RAS are not interchangeable in a mix design.

HMA Production. 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 mixture production is halted when RAS flow is interrupted.

When producing HMA containing RAS, a positive dust control system shall be utilized.

HMA plants utilizing RAS shall be capable of automatically recording and printing the following information.

(a) Dryer Drum Plants.

(1) Date, month, year, and time to the nearest minute for each print.

(2) HMA mix number assigned by the Department.

(3) Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).

(4) Accumulated dry weight of RAS in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).

(5) Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.

(6) Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.

(7) Residual asphalt binder in the RAS material as a percent of the total mix to the nearest 0.1 percent.

(8) Aggregate and RAS moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAS are printed in wet condition.)

(b) Batch Plants.

(1) Date, month, year, and time to the nearest minute for each print.

(2) HMA mix number assigned by the Department.

(3) Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).

(4) Mineral filler weight to the nearest pound (kilogram).

(5) RAS weight to the nearest pound (kilogram).

(6) Virgin asphalt binder weight to the nearest pound (kilogram).

(7) Residual asphalt binder in the RAS 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.”

EMBANKMENT II

Effective: January 1, 2007

Description. This work shall be according to Section 205 of the Standard Specifications except for the following.

Material. Reclaimed asphalt shall not be used within the ground water table or as a fill if ground water is present.

CONSTRUCTION REQUIREMENTS

Samples. Embankment material shall be sampled and tested before use. The contractor shall identify embankment sources, and provide equipment as the Engineer requires, for the collection of samples from those sources. Samples will be furnished to the Geotechnical Engineer a minimum of three weeks prior to use in order that laboratory tests for compaction can be performed. Embankment material placement cannot begin until tests are completed.

Placing Material. In addition to Article 202.03, broken concrete, reclaimed asphalt with no expansive aggregate or uncontaminated dirt and sand generated from construction or demolition activities shall be placed in 150 mm (6 in.) lifts and disked with the underlying lift until a uniform homogenous material is formed.

This process also applies to the overlaying lifts. The disk must have a minimum of 600 mm (24 in.) diameter blade.

Compaction. Soils classification for moisture content control will be determined by the Soils Inspector using visual field examination techniques and the IDH Textural Classification Chart.

When tested for density in place each lift shall have a maximum moisture content as follows:

- a) A maximum of 110 percent of the optimum moisture for all forms of clay soils.
- b) A maximum of 105 percent of the optimum moisture for all forms of clay loam soils.

HOT-MIX ASPHALT PAVEMENT REMOVAL

Description. This work shall be done in accordance with the applicable portions of Section 440 of the Standard Specifications.

Hot-Mix Asphalt Pavement Removal shall include Portland cement concrete or HMA bases, overlays, and stabilized subbase.

Method of Measurement. This work shall be measured according to Section 440.07 of the Standard Specification.

Basis of Payment. This work shall be paid at the contract unit price per square yard for HOT-MIX ASPHALT PAVEMENT REMOVAL.

HOT-MIX ASPHALT DRIVEWAY PAVEMENT REMOVAL

Description. This work shall be done in accordance with the applicable portions of Section 440 of the Standard Specifications.

Hot-Mix Asphalt Driveway Pavement Removal shall include Portland cement concrete or HMA bases, overlays, and stabilized subbase.

Method of Measurement. This work shall be measured according to Section 440.07 of the Standard Specification.

Basis of Payment. This work shall be paid at the contract unit price per square yard for HOT-MIX ASPHALT DRIVEWAY PAVEMENT REMOVAL.

APPROACH SLAB REMOVAL

Description. This work shall be done in accordance with the applicable portions of Section 440 of the Standard Specifications. The work shall include the removal and proper disposal of the approach slabs.

Method of Measurement. This work will be measured for payment in square yards approach slab to be removed.

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

TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)

Description. This work shall consist of a parallel guardrail terminal installation in accordance with IDOT Highway Standard 630301 and Section 631 of the Standard Specifications.

Method of Measurement and Basis of Payment. This work shall be measured and paid for according to Section 631 of the Standard Specifications.

CHAIN LINK FENCE REMOVAL

Description. This work shall consist of the removal and disposal of existing chain link fence at the locations shown on the plans and as directed by the Engineer. The work shall include the removal and disposal of the fence, posts, post foundations, and any other appurtenances.

Disposal shall be according to Article 202.03 of the Standard Specifications.

All holes left by the removal of the fence posts and post foundations shall be filled with crushed stone screening. The furnishing and placement of the crushed stone screenings will not be paid for separately but shall be considered as incidental to the fence removal.

Method of Measurement. This work will be measured for payment in feet along the top of the fence of the area to be removed.

Basis of Payment. This work will be paid for at the contract unit price per foot for CHAIN LINK FENCE REMOVAL, which price shall be payment in full for all labor, equipment and materials necessary to complete the work as specified herein.

MANHOLES, TYPE A, 9'-DIAMETER, TYPE 1 FRAME, CLOSED LID

Description. This work shall be done in accordance with the applicable portions of Section 602 of the Standard Specifications.

Method of Measurement. This work will be measured for payment per each manhole, type A, 9'-diameter, type 1 frame, closed lid constructed.

Basis of Payment. This work will be paid for at the contract unit price per each for MANHOLES, TYPE A, 9'-DIAMETER, TYPE 1 FRAME, CLOSED LID.

VILLAGE OF WHEELING WATER SYSTEMS

PART 1 GENERAL

1.01 REFERENCES

A. American Water Works Association (AWWA):

1. AWWA C104 - Cement Mortar Lining for Ductile Iron Pipe and Fittings for Water.
2. AWWA C110 - Ductile Iron and Gray Iron Fittings, 3-in. Through 48-in., for Water and Other Liquids.
3. AWWA C111 - Rubber Gasket Joints for Ductile Iron and Gray Iron Pressure Pipe and Fittings.
4. AWWA C150 - Thickness Design of Ductile Iron Pipe.
5. AWWA C151 - Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand Lined Molds, for Water and Other Liquids.
6. AWWA C600 - Installation of Ductile Iron Water Mains and Their Appurtenances.
7. AWWA C651 - Standard for Disinfecting Water Mains.

B. American Society for Testing and Materials (ASTM):

1. ASTM B88 - Specification for Seamless Copper Water Tube.

1.02 QUALITY ASSURANCE

A. Regulatory Requirements:

1. Illinois State Plumbing Code, latest edition.
2. Standard Specifications for Water and Sewer Main Construction in Illinois, latest edition.

PART 2 PRODUCTS

2.01 DUCTILE IRON PIPE

A. Conform to AWWA C151.

1. Cement lined in accordance with AWWA C104.
2. Bituminous coated.

B. Minimum Thickness:

1. Standard thickness Class 52 for push-on joint piping.
2. Standard thickness Class 52 U.S. Pipe TR-Flex or approved equal for mechanical joint piping.

C. Fittings:

1. Provide fittings required to provide complete and operational system.
2. Provide mechanical joint fittings.
3. Fittings shall be ductile iron in accordance with AWWA C110 and AWWA C151.
4. Fitting Pressure Rating: 250 psi.
5. Cement lined in accordance with AWWA C104.

D. Push-On Joints:

1. Provide in accordance with AWWA C111.

E. Restrained Joints

1. Provide for fittings and pipe as required to restrain thrust in piping system due to bends, valves, hydrants, and dead ends.
 2. Provide restrained joint piping system suitable for absorbing thrust.
- a. Restrained joints using "set screws" which screw into the pipe wall are not allowed unless specifically shown on the Drawings.
- b. Nuts, bolts, washers, and tie rods shall be A-304 stainless steel.
- 1) Bolts and tie rods shall have sufficient length to extend 1/2 in. beyond the end of the nut.
3. Provide restrained joints on either side of fittings for a minimum of one pipe length each side and as shown on the details.
 - a. Restrained joints not located at fittings may be "TR Flex" type as manufactured by U.S. Pipe for installation in casing and Megalug at other locations.

F. Mechanical Joints.

1. Meet AWWA requirements.
2. Nuts, bolts, washers, and tie rods shall be A-304 stainless steel.
 - a. Bolts and tie rods shall have sufficient length to extend 1/2 in. beyond the end of the nut.

G. Gaskets

1. Neoprene or other synthetic rubber meeting AWWA C111 requirements, except as noted on the Drawings. Natural rubber not acceptable.
2. Fluorocarbon, other synthetic material meeting AWWA C111 requirements at locations noted on the Drawings. Gaskets shall be resistant to gasoline.

2.02 COPPER SERVICE PIPE

- A. Conform to ASTM B88.
- B. Type K, copper water tube, soft temper, diameter as specified.

2.03 PVC PRESSURE PIPING

- A. Piping for replacement of storm and sanitary sewers at water main crossings:
 - 1. Polyvinyl Chloride (PVC) Pipe: AWWA C900, Class 150, DR-18.
 - 2. Joints: Push-on with integral bell and slip-type elastomeric gasket.
 - 3. Transition Couplings: Provide transition couplings as required to join to existing pipe.

2.04 VENT PIPING

- A. Vents for casing pipe and air release valves.
- B. D.I.P. housing Type K Copper vent pipe.

2.05 STOPS AND FITTINGS

- A. Corporation and Curb Stops:
 - 1. Acceptable Manufacturer.
 - a. Ford.
 - 2. Brass.
 - 3. Suitable for copper connections.
 - 4. Curb stops shall be roadway type.
- B. Fittings:
 - 1. Copper.
 - 2. Flare.

2.06 GATE VALVES

- A. Acceptable Manufacturers:
 - 1. Mueller
 - 2. Clow
- B. Cast iron, bronze-mounted, bronze stems with resilient seal.
- C. Rated for 300 psi test pressure and 150 psi working pressure.

2.07 THRUST BLOCKS

- A. IDOT Class SI concrete.

2.08 FIRE HYDRANTS

- A. Acceptable Manufacturers:

- 1. Mueller.
 - a. Super Centurion 250, A423.

- B. Break flange type.

C. Valve opening of 5-1/4 in. and equipped with two 2-1/2 in. hose connections and one 4-1/2 in. male pumper connection.

D. Outside dia of male thread on 2-1/2 in. hose connection shall be National Standard threads.

- E. Hose caps shall be fastened to barrel with steel chain of at least 1/8 in. thickness.

F. Hydrants shall be supplied with 6-in. auxiliary gate valve bolted to the hydrant base.

- 1. Mueller 6" Gate Valve.

G. Auxiliary gate valves shall be secured to watermain using restraint joints per the Village Standard shown on the plan sheet.

- H. Auxiliary valves shall be provided with valve boxes with covers marked "WATER".

2.09 VALVE BOXES

- A. Provide cast iron valve box compatible with valve supplier.
- B. Covers marked "WATER".
- C. 3-piece, screw type boxes with 5 1/4 in. shaft and no tilt drop cover.

2.10 BUTTERFLY VALVES

- A. Manufacturers:

- 1. Henry Pratt

- B. General:

- 1. Proportion parts of valve for stresses occurring during continuous operation, and stresses occurring during fabrication or erection.
- 2. Provide tight-closing, rubber seat type with seats fastened to valve body or valve disk.

C. Valve Bodies:

1. Valves shall be short bodied pattern.
2. Cast Iron: ASTM A126, Class B or ASTM A48, Class 40.
3. Mechanical Joint and Bell Ends: ANSI A21.11 standard.
4. All bolts, nuts and washers shall be 316 stainless steel.

D. Valve Shafts: Type 304 stainless steel.

E. Valve Seats:

1. Natural rubber for water service.
2. Replaceable valve seats.
3. No. 18-8 stainless steel mating seat surfaces.
4. Valve Seat in-Place: ASTM D429, Method A or B.
5. Do not use metal to metal.

F. Valve Discs:

1. Valve Sizes Through 48 in.:
 - a. Cast iron: ASTM A48, Class 40.
 - b. Ductile iron: ASTM A536, Grade 65-45-12.
 - c. Alloy cast iron: ASTM A436, Type 1.
2. Attach to valve shaft with No. 18-8 stainless steel taper pins.
3. Valve discs that seat at angle to axis of pipe line other than 90 degrees not accepted.
4. Valve discs shall rotate 90 degrees from full open position to tight shut position.

G. Valve Bearings:

1. Sleeve type, self-lubricating, corrosion resistant, bronze, woven, oriented teflon or nylon.
2. Bearing load shall not exceed 1/5 of compressive strength of bearing or shaft material.
3. Valve bearings for odorous air service valves shall be teflon coated stainless steel.

H. Valve Shaft Seals:

1. 4-in. through 24-in. Line Sizes: O-ring contained in removable corrosion-resistant cartridges.
 2. 30-in. and Larger Valves: Self-compensating V-type packing, replaceable (buried service excluded), without removing operator.

I. Manual Valve Operators:

1. Actuator:
 - a. 2-in. operating unit.
 - b. Gear actuator permanently sealed against ground water infiltration.

- c. Enclose gearing in semi-steel housing suitable for running in lubricant with seals provided on shafts to prevent entry of dirt and water into actuator.
- d. Support actuator shaft and quadrant on permanently lubricated bronze bearings.
- e. Provide seals on shafts and gaskets on valve and actuator covers to prevent entry of water. Provide mounting brackets with gasket seals.

J. Surface preparation, priming and finish coating shall be bituminous coating suitable for submerged, vault, or buried service.

2.11 AIR RELEASE VALVE

A. Manufacturer:

- 1. APCO.
- 2. Val-Matic.
- 3. Or equal.

B. Air Release Valve:

- 1. Provide 1-in. air release valve, APCO Model 200A.
- 2. Design valve to release accumulated air under pressure.
- 3. Design components for stresses occurring during continuous operation and additional stresses during fabrication or erection.

4. One-inch NPT inlet connection.

5. 3/16-inch orifice.

C. Cast iron body and cover.

D. Stainless steel float and leverage mechanism.

E. Viton orifice button.

F. Provide corporation stop valve at main connection.

G. Provide Schedule 80 PVC vent from valve as shown on Drawings.

1. Provide fittings and supports as required for installation.

H. Coating: Shop primed and final coat with Manufacturers standard coating system.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install watermain and appurtenances as specified and shown on Drawings and in accordance with AWWA C600, Illinois State Plumbing Code, and local municipality code.

B. Take care to prevent dirt or other debris from entering water piping.

1. Plug end of water main piping with watertight plug at end of each day's construction and during stoppages in construction during work day.

C. Trench, backfill, and compact in accordance with TRENCHING, BACKFILLING AND COMPACTING specification.

D. New hydrants and existing hydrants taken out of service shall be covered with a plastic bag until new water main is in service.

E. Thrust Restraint:

1. Provide thrust restraint on pressure pipe tees, plugs, caps, bends, and other locations where unbalanced forces exist.
2. Conform to details on Drawings.
3. Place thrust blocks between undisturbed ground and fitting to be restrained.
4. Valves located less than 30 ft from plugged end of dead-end lines shall be restrained by means of rodding and clamps or restrained joint pipes.

F. Provide restrained joints on all pipe sections installed in a casing pipe.

G. Provide hydrant extensions where required to meet grade.

3.02 FIELD QUALITY CONTROL

A. Testing shall be in accordance with HYDROSTATIC TESTS FOR PRESSURE MAINS specification.

3.03 DISINFECTING

A. Disinfect in accordance with DISINFECTION OF POTABLE WATER MAINS specification.

VALVE VAULTS, MANHOLES, CATCH BASINS AND INLETS

PART 1 GENERAL

1.01 SUMMARY

A. Precast concrete units as shown on Drawings.

B. Measurement and Payment:

1. Include cost of Work specified in this section in appropriate unit price specified in Bid Form.

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. ASTM A48 - Standard Specification for Gray Iron Castings.
2. ASTM C478 - Standard Specification for Precast Reinforced Concrete Manhole Sections.
3. ASTM C923 - Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals.

1.03 DEFINITIONS

A. IDOTSPECS: Illinois Department of Transportation, "Standard Specifications for Road and Bridge Construction", adopted January 1, 2007.

B. Standard Specifications for Water and Sewer Main Construction in Illinois, May 1996.

PART 2 PRODUCTS

2.01 NONSHRINK GROUT

A. Manufacturers:

1. Five Star Grout, U.S. Grout Corporation.

B. Use for grouting concrete masonry units.

2.02 CASTINGS

A. Manufacturers:

1. Neenah Foundry.

B. ASTM A48, Class 35.

C. Free from cracks, holes, swells, and cold shuts and patches.

D. Do not coat or paint.

E. Provide structural capacity, hydraulic capacity, watertightness, interior clearance dimensions, approximate vertical height, and range of adjustment equal to following:

1. Frames and lids for valve vaults, manholes, catch basin and inlets shown on the construction plan shall be used:

2.03 ADJUSTING RINGS

A. Precast concrete with sufficient steel reinforcement to prevent cracking in normal handling and use.

B. Mating Faces:

1. Smooth.

2. Parallel.
3. Free from cracks, chips, spalls or casting irregularities interfering with watertight mating to structure top or casting.
4. Provide grooves in faces to contain extrudible preformed plastic gasket material when possible.

C. Thickness Range:

1. 2-in. minimum.
2. 12-in. maximum.

2.04 GASKET MATERIALS

A. Flexible Boots:

1. ASTM C923.
2. Synthetic rubber resistant to sanitary sewage.
3. Manufacturers:
 - a. Kor-N-Seal or equal.

B. Mastic Joint Sealant:

1. Manufacturers:
 - a. Trowelable EZ-Stik by Press Seal Gasket Company.
2. Butyl rubber.

C. Materials shall be new and provided in unopened containers where applicable.

2.05 VALVE VAULTS

A. Precast Concrete Section and Components:

1. ASTM C478.
2. Mark sections and component parts by manufacturer with trade name or trademark and ASTM designation.

B. Elevations on Drawings designate water main elevations at center of structure. Adjust elevations of openings for incoming and outgoing pipes in accordance with water main shown on Drawings.

1. Holes shall be smooth, radial to centerline of valve vault, and perpendicular to valve vault wall.
2. Holes for Water Pipes:
 - a. Integral Base Vault: Circular.

C. Vaults:

1. Integral Base: 6-in. minimum thickness.
2. Pipe Connection: Hole or width of horseshoe 1-1/2 in. to 3 in. larger than actual outside dia of water pipe.
3. Flat bottom.
4. Section Joints: Tongue and groove.
5. Eccentric manhole opening.

D. Wall Thickness:

1. For 5 ft-0 in. ID: 5-in. minimum wall.
2. For 6 ft-0 in. ID: 7-in. minimum wall.

2.06 MANHOLES & CATCH BASINS

A. Precast Concrete Section and Components:

1. ASTM C478.
2. Mark sections and component parts by manufacturer with trade name or trademark and ASTM designation.

B. Elevations on Drawings designate storm sewer elevations at center of structure. Adjust elevations of openings for incoming and outgoing pipes in accordance with existing storm sewer elevation shown on Drawings.

1. Holes shall be smooth, radial to centerline of manholes & catch basins, and perpendicular to the wall of manholes & catch basins.
 - a. Integral Base Vault: Circular.

C. Barrel & Cone Section:

1. Integral Base: 6-in. minimum thickness
2. Pipe Connection: Hole or width of horseshoe 1-1/2 in. to 3 in. larger than actual outside dia of storm sewer pipe.
3. Flat bottom.
4. Section Joints: Tongue and groove.
5. Eccentric manhole opening.

D. Wall Thickness:

1. For 4 ft-0 in. ID: 4-in. minimum wall.
2. For 5 ft-0 in. ID: 5-in. minimum wall.
3. For 6 ft-0 in. ID: 7-in. minimum wall.

2.07 INLETS

A. Precast Concrete Section and Components:

1. ASTM C478.
2. Mark sections and component parts by manufacturer with trade name or trademark and ASTM designation.

B. Elevations on Drawings designate storm sewer elevations at center of structure. Adjust elevations of openings for incoming and outgoing pipes in accordance with existing storm sewer elevation shown on Drawings.

1. Holes shall be smooth, radial to centerline of inlets, and perpendicular to the wall of inlets.

C. Barrel Section:

1. Integral Base: 4-in. minimum thickness
2. Wall: 3-in minimum thickness
3. 24" Clear Inside Diameter
4. Pipe Connection: Hole or width of horseshoe 1-1/2 in. to 3 in. larger than actual outside dia of storm sewer pipe.
5. Flat bottom with slope.

PART 3 EXECUTION

3.01 VALVE VAULTS

- A. Place where shown on Drawings and in accordance with details.
- B. Excavate in accordance with TRENCHING, BACKFILLING AND COMPACTING specification.
- C. Place double row of extrudable preform plastic gasket between manhole sections.
- D. Place appropriate top section cone, as indicated on Drawings.
- E. Place one adjusting ring (only) on valve vault top. Select thickness of adjusting ring to bring completed valve vault to elevation shown on Drawings.
 1. Place extrudable preformed plastic gasket material between adjusting ring and valve vault top, and between adjusting ring and manhole frame.
 2. Avoid use of overly thick gasket material which will likely produce after-settlement of valve vault frame due to long-term cold flow of gasket materials.
 3. For ungrooved adjusting ring, provide two rows of 1/2 inch by 1/2 inch or 3/4 inch by 3/4 inch gasket material.
 4. For grooved adjusting rings, provide size gasket material recommended by ring manufacturer. Single or multiple grooved rings permitted. Where multiple grooved rings used, place gasket material in each groove.
- F. Install valve vault frame and cover.

G. Backfill in accordance with TRENCHING, BACKFILLING AND COMPACTING specification.

H. Pipe Connection:

1. Center pipe in hole through base section and pack annular space with extrudible preformed plastic gasket material. Seal connection on interior and exterior with mastic joint sealant.
2. Annular space shall be uniform around pipe and gasket material evenly distributed.
3. Ensure watertight connection.

3.02 MANHOLES, CATCH BASINS, & INLETS

A. Place where shown on Drawings and in accordance with details.

B. Excavate in accordance with TRENCHING, BACKFILLING AND COMPACTING specification.

C. Place double row of extrudable preform plastic gasket between manhole sections.

D. Place appropriate top section cone, as indicated on Drawings.

E. Place one adjusting ring (only) on valve vault top. Select thickness of adjusting ring to bring completed valve vault to elevation shown on Drawings.

1. Place extrudable preformed plastic gasket material between adjusting ring and valve vault top, and between adjusting ring and manhole frame.
2. Avoid use of overly thick gasket material which will likely produce after-settlement of valve vault frame due to long-term cold flow of gasket materials.
3. For ungrooved adjusting ring, provide two rows of 1/2 inch by 1/2 inch or 3/4 inch by 3/4 inch gasket material.
4. For grooved adjusting rings, provide size gasket material recommended by ring manufacturer. Single or multiple grooved rings permitted. Where multiple grooved rings used, place gasket material in each groove.

F. Install vault frame and cover.

G. Backfill in accordance with TRENCHING, BACKFILLING AND COMPACTING specification.

H. Pipe Connection:

1. Center pipe in hole through base section and pack annular space with extrudible preformed plastic gasket material. Seal connection on interior and exterior with mastic joint sealant.
2. Annular space shall be uniform around pipe and gasket material evenly distributed.
3. Ensure watertight connection.

3.03 FIELD QUALITY CONTROL

A. Precast reinforced concrete bases, risers, tops, adjusting rings, and gray or ductile iron castings shall be subject to rejection for failure to conform to Specifications.

B. Individual sections of bases, risers, and tops may be rejected for following.

1. Fractures or cracks passing through bell, except for single end crack not exceeding joint depth.
2. Excessive patching.
3. Grouted pipe openings.
4. Defects indicating imperfect proportioning, mixing, and molding.
5. Surface defects indicating honeycombed or open texture.
6. Damaged ends, where such damage prevents making satisfactory joint.
7. Continuous crack having surface width of 0.01 in. or more and extending for length of 12 in. or more, regardless of position.

C. Installation may be rejected for following.

1. Use of individual components subject to rejection.
2. Failure to conform to installation requirements.
3. Visible infiltration.
4. Variation from true vertical alignment by more than 2% of depth.
5. Variations in pipe and rim elevations greater than 0.5 in. from elevations shown on Drawings.

TRENCHING, BACKFILLING AND COMPACTING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Trenching, backfilling, and compacting including dewatering, sheeting, shoring, bracing, excavation, backfilling, compacting, disposing of surplus materials, and other Work incidental to construction of trenches, including any additional excavation required for valve vaults or other utilities relocated for construction of the water main.

B. Measurement and Payment:

1. Include cost of Work specified in this section in appropriate unit price specified in Bid Form.

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. ASTM D1557 - Standard Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-lb (4.54-kg) Rammer and 18-in. (457-mm) Drop.

B. American Institute of Steel Construction (AISC):

1. Manual of Steel Construction, latest edition.

C. American Institute of Timber Construction (AITC):

1. Timber Construction Manual, latest edition.

D. Standard Specifications for Water and Sewer Main Construction in Illinois, May 1996.

1.03 DEFINITIONS

A. Influence Zone Around Piping: Area below limits bounded by a line 12 in. above pipe and by one horizontal to two vertical slope extending outward from that line 1 ft beyond outer edge of pipe.

B. Influence Zone Under Foundations, Pavements, or Sidewalks: Area below foundation or pavement and sidewalk base bounded by a 1 horizontal to 2 vertical slope extending outward from 1 ft beyond outer edges of foundation, pavement, or sidewalk.

C. Existing Utilities: Includes, but not limited to piping, wiring, conduit, and related structures situated underground and above ground for conveyance or transmission of water, sewage, storm water, electricity, telephone signals, television signals, natural gas, oil, gasoline or other substances or signals.

D. Bedding Section: That portion of backfill adjacent to pipe which is critical to structural integrity of pipe. Limits of section, and specifications for various types of sections are contained within.

E. Unsuitable Material: Topsoil, peat, organic soils, and materials containing slag, cinders, foundry sand, debris, and rubble, or soil with less than required bearing capacity as determined by ENGINEER.

1.04 SUBMITTALS

A. Test results.

B. Submit in accordance with SUBMITTALS specification.

1.05 QUALITY ASSURANCE

A. Regulatory Requirements:

1. IDOT SPECS: Illinois Department of Transportation, "Standard Specifications for Road and Bridge Construction, adopted January 1, 2007 or latest edition.

B. Testing: Testing shall be provided by CONTRACTOR.

1. One sieve analysis and plasticity index for each source of granular backfill, bedding material, and cover material. Additional analysis as required by ENGINEER to verify gradation and plasticity index.
2. Modified Protector Density testing data as specified elsewhere in this section.

C. Trenching Tolerances:

1. Excavate so pipes, ducts, and conduits can be laid straight at uniform grade, without sags or humps, between elevations shown on Drawings.
2. Trench Width in Bedding Section: Outside pipe diameter plus maximum of 24 in. minimum trench width shall be outside pipe diameter plus 18 in.
3. Where trench width for that portion of trench depth between trench bottom and outside top of pipe barrel, for any reason within CONTRACTOR'S control, exceeds specified limits, CONTRACTOR, at his expense, shall furnish pipe with strength adequate for actual trench width.
4. Maximum width at surface of ground shall not exceed width of trench at top of pipe by more than 2 ft without permission of ENGINEER.

1.06 PROJECT/SITE CONDITIONS

A. Notify corporations, companies, individuals, or authorities owning above or below ground conduits, wires, pipes, or other utilities encountered during construction operations. Protect, support, and maintain conduits, wires, pipes, and other utilities to remain in accordance with requirements of owners of said services.

B. Utility Notice and Location:

1. Drawings indicate existence of some utilities and related structures situated underground and above ground. Existing utilities, structures, and their locations established from available records which may or may not be accurate. Other utilities and structures may also be present. Accordingly, bear sole responsibility to determine exact location of existing utilities and related structures and their effect on construction operations.
2. Provide minimum 48-hr notice to owners of utilities (above or below ground) prior to excavating to locate said utilities or beginning other construction activities.
3. Furnish labor, equipment, materials, services, and perform Work necessary to locate existing utilities at each site, or acquire services of respective owners of existing utilities to locate existing utilities at each site at no additional cost to OWNER.
4. CONTRACTOR shall not be relieved from liability for damage to existing utilities if he chooses to have utility owners locate existing utilities except as said utilities waive liability for damages.

C. Utility Protection and Relocation:

1. Storm Sewers:

- a. It is expected some storm sewers will be in conflict with new water main and appurtenances. Drawings indicate locations where storm sewers may be in conflict with respective relocation work which is proposed.
- b. As construction approaches these locations (and in timely manner to order components for utility relocation), expose storm sewers and verify they will be in conflict with new water main.
- c. Notify ENGINEER when storm sewers will be exposed so ENGINEER may verify proposed relocation work is appropriate based on exact location and condition of existing storm sewers.
- d. Expose other storm sewers as construction approaches (and in timely manner to order components for utility relocation) to verify existing storm sewers will not be in conflict with new water main and appurtenances. Notify ENGINEER if storm sewers will be in conflict. ENGINEER will determine relocation procedure.
- e. Protect existing storm sewers not in conflict with new water main and appurtenances.

2. Sanitary Services:

- a. It is expected some sanitary services may be in conflict with new water main and appurtenances. Drawings do not indicate locations where these conflicts occur.
- b. As services are exposed during installation of water main and appurtenances, notify ENGINEER which services will be in conflict. ENGINEER will determine which relocation procedures should be utilized to eliminate conflict.
 - 1) Lowering of watermain.
 - 2) Replacing service.
- c. Protect sanitary services not in conflict with new water main and appurtenances.

3. Other Utilities:

- a. Locate other utilities.
- b. Notify utility owners of conflicts with new storm sewers and appurtenances.
- c. Acquire services of utility owners to relocate utilities in conflict.
- d. Costs to CONTRACTOR for relocating utilities in direct conflict with new water main and appurtenances will be reimbursed by OWNER in accordance with General Conditions, Article 11. Notify ENGINEER and OWNER in writing prior to relocating any utility for which OWNER will bear relocation cost. CONTRACTOR shall not be reimbursed for costs incurred in relocating any utility prior to notifying ENGINEER and OWNER.

- e. Costs to CONTRACTOR for relocating utilities not in direct conflict with new watermain and appurtenances which are relocated for CONTRACTOR'S convenience shall be borne by CONTRACTOR at no additional cost to OWNER.
- f. Protect other utilities.

D. Excavated Material:

- 1. Do not block or obstruct pavements with excavated material, except as authorized by OWNER.
- 2. Trim banks to minimize inconvenience to travel.
- 3. Transport surplus material and excavated material unsuitable for backfilling off-site daily.

1.05 SHORING AND BRACING

A. CONTRACTOR shall bear sole responsibility for protecting adjacent areas, facilities, and structures from construction operations. Shoring, and bracing are integral part of CONTRACTOR'S construction methods.

- 1. Structural requirements, installation, and removal techniques for shoring and bracing depend on specific construction procedures employed by CONTRACTOR.
- 2. Design by an engineer registered in Illinois.

1.06 TRAFFIC CONTROL

A. Provide traffic control and public protection for excavation and backfilling operations in accordance with TRAFFIC REGULATION specification.

1.07 PROTECTION OF ENVIRONMENT

A. Conduct excavation and backfilling operations in accordance with Section 01560.

PART 2 MATERIALS

2.01 GENERAL REQUIREMENTS

A. Granular materials shall conform to IDOTSPECS (see Section 1.05.A.1 for Regulatory Requirements) standard coarse aggregate (CA) and fine aggregate (FA) gradations listed.

B. Materials shall be compacted by means employed by CONTRACTOR to densities specified.

C. Where alternate gradations listed, CONTRACTOR may select gradation best suiting construction procedures he intends to employ. Do not intermix alternate gradations.

2.02 BEDDING AND COVER

A. See standard bedding detail.

1. Concrete Pipe

- a. Bedding Material: CA-6 crushed limestone, Grade 8.
- b. Cover Material: CA-6 crushed limestone, Grade 8.

2. Ductile Iron Pipe

- a. Bedding Material: CA-6 crushed limestone, Grade 8.
- b. Cover Material: CA-6 crushed limestone, Grade 8.

3. Copper Water Services

- a. Bedding Material: CA-6 crushed limestone, Grade 8.
- b. Cover Material: CA-6 crushed limestone, Grade 8.

4. PVC Pipe

- a. Bedding Material: CA-6 crushed limestone, Grade 8.
- b. Cover Material: CA-6 crushed limestone, Grade 8.

B. Crushed concrete will not be allowed.

2.03 BACKFILL

A. Utility Trenches Beneath Proposed Utilities and Beneath Permanent Streets, Alleys, Sidewalks or Driveways: CA-6, Grade 8, crushed limestone.

B. Other Non-Paved Areas: CA-6 & 1' thick excavated earth free from organic materials per detail on Sheet 9.

PART 3 EXECUTION

3.01 PREPARATION

A. Dewatering:

1. Surface Waters: Keep construction site free-draining.
2. Subsurface Waters:
 - a. Keep excavations free from water.
 - b. Maintain groundwater minimum of 12 in. below excavations.
 - c. Install and operate dewatering system to lower groundwater table to required depth prior to commencement of excavation. In general, dewatering shall commence minimum 2 days prior to excavation in given area, and shall extend minimum 100 ft ahead and behind pipe installation operations. Determine specific requirements and procedures for each particular segment of pipe installation.

- d. Prevent displacement of surrounding soils.
- e. Remove soil disturbed by pressure or flow of groundwater and replace with free-draining material.
- f. Maintain dewatering systems to prevent uplifting of structures.
- g. Protect adjacent properties from damage resulting from dewatering operations.
- h. Drill, maintain, and abandon dewatering wells in accordance with federal, state, and local ordinances.

B. Line and Grade for Open-Cut Construction:

1. Install piping to line and grade shown on Drawings.

3.02 SHORING AND BRACING

A. Design:

1. Prepare designs of shoring and bracing in accordance with AITC Timber Construction Manual and AISC Manual of Steel Construction.

B. Shoring and Bracing:

1. Install shoring and bracing as necessary in areas where CONTRACTOR'S construction procedures may cause movement in adjacent soils and where such movement could damage existing landscaping, piping, or roadways.
2. Install in other areas for CONTRACTOR'S convenience.

3.03 EXCAVATION

A. Excavate to elevations and dimensions necessary to complete construction.

1. Where working space permits, trenches may be excavated by machine provided existing piping and structures not subjected to damage.
2. When excavation by machine methods cannot be made without material damage being done to existing piping and structures, employ other appropriate excavation methods as necessary to prevent damage.

B. Do not advance excavation of trenches more than 100 ft ahead of completed pipe installation at any time. Conduct excavation operations so at end of each day's Work, no more than 20 ft of trench is excavated ahead of completed pipe installation.

C. Do not excavate for manholes and other structures until scheduled for construction.

D. Do not excavate within influence zone of existing footings or foundations without providing shoring and bracing or other procedures to ensure against displacement of footings or foundations.

E. Excavation in Roadways: Excavation, backfill, and surface replacement shall conform to requirements of local authority. In no case shall replacement edges bear on less than 12 in. of undisturbed soil.

F. Construction on Site:

1. Place no material closer than 2 ft-0 in. to edge of excavation.
2. Leave fire hydrants, valve pit covers, valve boxes or other utility controls unobstructed and accessible until Work complete.
3. Keep ditches and inlet clear or make other satisfactory provisions for drainage.
4. Do not obstruct natural water courses.

G. Provide erosion control measures.

3.04 INSPECTION PRIOR TO BEDDING AND BACKFILLING

A. Examine surfaces to receive bedding or backfill to determine extent of areas loosened by frost action, softened by flooding or weather, or of unsuitable materials.

B. At time of use, granular bedding and backfill shall be free of frozen and foreign materials that may have become mixed with it during handling.

3.05 UNSUITABLE MATERIALS

A. Remove and replace or compact natural soils or previously compacted fills softened by frost, flooding or weather.

B. Remove unsuitable material from within trenches. Notify ENGINEER prior to excavating.

C. Stabilize trench bottom by replacing unsuitable material with CA-6 crushed limestone, Grade 8.

D. Replacement of unsuitable materials shall be paid for in accordance with Article 11 of General Conditions.

3.06 PLACING BEDDING AND COVER

A. Compacted Section for Rigid Pipes:

1. Commonly referred to as Class B bedding.
2. Spread bedding material over bottom of trench so after pipe placed thereon, imbedded and aligned, there remains 6-in. minimum depth of bedding material below pipe barrel and minimum 5 in. below bell.
3. If excavation carried deeper than 6 in. below pipe barrel, excess depth shall be filled with CA-6, crushed limestone, Grade 8.
4. Ensure pipe supported on entire length, not on bell.
5. Place bedding material of required depth up to level even with spring line of pipe.

6. After pipe laid and jointed, place and compact (mechanically) cover material in 8 in. lifts to level 12 in. above pipe barrel.
7. Minimum Compaction: 90% Modified Proctor density.

B. Compacted Section for Flexible Pipes:

1. Place bedding material specified below and around pipe up to spring line to provide adequate side support and prevent lateral movement.
2. Place and compact (mechanically) cover material specified in two stages. Extend first stage to top of pipe, and second to level from top of pipe to at least 6 in. above pipe. In order to provide lateral support for pipe, compact with each stage of cover material to minimum of 90% Modified Proctor density. If remaining backfill material contains large rocks or boulders, extend second stage of cover material to 12 in. above pipe.
3. If, for any reason, trench width exceeds that allowed in Part 1, extend bedding and cover material, as required above, at least two pipe dia from either side of pipe or to undisturbed trench walls, whichever is closer. This pipe zone shall contain only undisturbed soil or bedding.

3.07 BACKFILLING

A. Backfill Material:

1. Excavated Material Backfill:
 - a. Backfill trenches with excavated material from trenches, unless granular backfill is required as specified below.
 - b. Excavated material shall consist of loam, clay or other materials which, in judgement of ENGINEER, are suitable for backfilling. Unsuitable backfill materials not acceptable.
 - c. Extend backfill from surface of cover material to ground surface, making allowance for surface restoration.
2. Granular Material Backfill:
 - a. Place granular backfill within influence zone under new or existing roads, sidewalks, paved surfaces or foundations and footings.
 - b. Extend backfill from surface or cover material to top of subgrade under aggregate base course.
3. Support of Underground Structures:
 - a. Place granular backfill within influence zone under piping and other utilities. Compact mechanically to 95% of maximum density as determined by ASTM D1557, Method D (Modified Proctor).
 - b. CONTRACTOR may submit alternate design for support of underground facilities to ENGINEER for approval. Submittal shall contain documentation to verify adequacy of design.

B. Placing Backfill:

1. Do not use frozen material or place backfill on frozen subgrade.
2. Do not exert undue stresses on new piping or existing utilities when dumping, spreading, and compacting backfill materials. Hand spreading and hand tamping may be required to adequately protect new pipe or existing utilities.
3. Where pipes leave structures, protect by backfilling pipe influence zone down to undisturbed soil as specified above for support of underground structure. Extend this backfilling to point 5 ft from structure.
4. Do not backfill structures until new concrete has properly cured.

C. Compacting Backfill:

1. Mechanical compaction recommended for cohesive materials; and mechanical or vibratory compaction recommended for granular materials.
 - a. Due to variations in gradation and content of local deposits, materials meeting backfill standards specified may not be compatible to requirements of Specifications. Therefore, as part of testing and acceptance of backfill material, demonstrate that in actual pipeline installation, backfill can be compacted to requirements of Specifications.
 - b. Vary methods and materials, within limits of Specifications, as necessary to achieve required compaction without extra cost to OWNER.
 - c. Do not induce by mechanical or vibratory compaction procedures, stress beyond normal working strengths of pipes, structures, or adjacent existing structures.
2. Start trench compaction at point of lowest elevation of trench and work along trench.
3. Backfill pipe immediately after installation unless delay is approved by ENGINEER.
4. Lift Thickness and Compaction: Place and compact backfill materials in maximum lift thickness (mechanical or vibratory compaction only) and to minimum densities listed below:

<u>Lift Location</u>	<u>Thickness (in.)</u>	<u>Modified Proctor (%)</u>
Granular backfill in footing, foundation slab, piping, roadway, driveway, sidewalk, or electrical duct influence zone	8	95
Other granular backfill	12	90

Lawns and landscaped areas	12	80
Cultivated lands	--	80

3.08 FIELD QUALITY CONTROL

- A. Degree of Compaction: ASTM D1557, Method D (Modified Proctor).
- B. Moisture Content: Within 3% of optimum when placed and compacted.
- C. Compaction Testing:
 - 1. Granular Materials:
 - a. Testing will be done by the Village
 - b. Location of test determined by ENGINEER.
 - c. Contractor to provide Protector Number determined by the Testing Lab.
 - 2. Perform compaction in accordance with best practices of industry.
 - 3. CONTRACTOR may submit alternate backfill compaction testing procedure to ENGINEER for approval. Submittal shall contain documentation verifying accuracy of alternate compaction testing procedure.

DISINFECTION OF POTABLE WATER MAINS

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Requirements for disinfection of new water mains and existing water mains which have been relocated or contaminated by construction operations.
- B. Measurement and Payment:
 - 1. Include cost of Work specified in this section in appropriate unit price specified in Bid Form.

1.02 REFERENCES

- A. American Water Works Association (AWWA):
 - 1. AWWA C651 - Standard for Disinfecting Water Mains.

1.03 SUBMITTALS

A. Prior to starting disinfection work, furnish detailed outline of proposed sequence of operation, manner of filling and flushing units, source and quality of water to be used, and disposal of wasted water.

B. Submit in accordance with SUBMITTALS specification.

1.04 QUALITY ASSURANCE

A. Regulatory Requirements:

1. Disinfection work shall be acceptable to OWNER. If requirements of this section are in conflict with requirements of regulatory agencies, latter shall govern.

B. Source Quality Assurance:

1. Perform Work in connection with disinfection under direction of experienced supervisor.
2. Use equipment in proper working condition and adequate for specified Work.

PART 2 PRODUCTS

2.01 CHLORINE

A. Chlorine gas-water solution or direct chlorine feed is preferred for disinfection.

B. Use of high test calcium hypochlorite or tablet method of disinfection shall be approved by OWNER and in accordance with AWWA procedures.

PART 3 EXECUTION

3.01 GENERAL

A. Method of disinfection for water containment devices and piping systems shall conform to AWWA C651.

3.02 CHLORINE PREPARATION

A. Liquid Chlorine:

1. Apply chlorine gas-water solution by means of solution feed chlorinating device or, if approved by ENGINEER, dry gas may be fed directly through proper devices for regulating rate of flow and providing effective diffusion of gas into water within unit being treated.
2. Provide chlorinating devices for feeding solutions of chlorine gas that prevent backflow of water into chlorine cylinder.

B. Calcium Hypochlorite:

1. Prepare granular calcium hypochlorite as water mixture before introduction into unit. Make dry powder into paste and thin to approximately 1% chlorine solution.
2. To prepare chlorine solution, add 1 lb of calcium hypochlorite (65% to 70% available Cl₂ to 7-1/2 gal of water).

3.03 PIPELINE PREPARATION

A. After pressure and leakage tests complete, flush units thoroughly to remove foreign material.

B. Release entrapped air at high points and fill units with disinfecting agent and water to allow disinfecting agent to come in contact with interior surfaces.

C. If complete venting cannot be accomplished through available outlets, provide necessary corporation cocks and vent piping.

3.04 APPLICATION OF DISINFECTANT

A. Point of Application:

1. Apply chlorinating agent at supply end of unit being disinfected.
2. For pipes, apply disinfectant through corporation cock installed in top of pipe.

B. Rate of Application:

1. Introduce water at controlled rate in order to regulate chlorine dosage.
2. Proportion rate of chlorine mixture flow to rate of water entering unit so chlorine dose applied produces at least 25 mg/l chlorine residual after period of 24 hrs.
3. Method of determining rate of flow of water into unit being disinfected shall be approved by ENGINEER.

C. Isolating Systems:

1. Keep chlorine gas-water disinfecting solution and contaminated water from flowing into units previously chlorinated and flushed.

D. Quality:

1. Retain chlorinated water in unit long enough to destroy nonspore-forming bacteria.
2. Minimum retention period shall be 24 hrs with chlorine residual at end of this period of not less than 25 mg/l (ppm).

E. Disinfecting Valves:

1. Operate valves and appurtenances while line or unit is being disinfected to ensure surfaces of valves are disinfected.

F. Swabbing:

1. Flush and swab pipe, fittings or valves that must be placed in service immediately with 5% solution of calcium hypochlorite immediately prior to assembly.
2. Secure approval from ENGINEER before using this method of disinfection.

G. Valve Operation: Performed by CONTRACTOR.

3.05 FINAL FLUSHING AND TEST

A. Following chlorination, flush unit or system until replacement water in system is proven to be comparable in quality to water which will enter unit or system. Note that water has to be de-chlorinated before being discharged.

B. Above acceptable condition of water delivered by each unit or system shall continue for at least 2 days, as demonstrated by laboratory examination of samples. Laboratory tests shall show chlorine residual, after final flushing, of less than 1 mg/l (ppm).

C. Repetition of Flushing and Testing:

1. If initial treatment results in unsatisfactory bacterial test, repeat disinfection until satisfactory results obtained.

D. Prevent entry of contaminated water into previously disinfected units or systems.

HYDROSTATIC TESTS FOR PRESSURE MAINS

PART 1 GENERAL

1.01 SUMMARY

A. Measurement and Payment

1. Separate payment will not be made for hydrostatic testing of water mains. Include costs for testing, repair of defects, and retesting required in this section in appropriate unit prices bid for water main construction.

1.02 REFERENCES

A. American Water Works Association (AWWA):

1. AWWA C600 - Standard for Installation of Ductile Iron Water Mains and Their Appurtenances.

1.03 QUALITY ASSURANCE

- A. Perform hydrostatic tests on water mains in accordance with AWWA C600.

PART 2 PRODUCTS

(Not Used)

PART 3 EXECUTION

3.01 GENERAL

A. Conduct pressure and leakage tests in accordance with Section 4 of AWWA C600 and these Specifications.

- B. Commence test procedures when following conditions met.

1. Pipe section to be tested is clean and free of dirt, sand or other foreign material.
2. Pipe outlets plugged with test plugs. Plugs, pipes, fittings, and valves secured to prevent blowouts.
3. Value of applied test pressure checked at each point in test section to ensure it does not exceed maximum allowable pressure of pipes, valves, fittings, and appurtenances.

C. Safety: Perform pressure testing in accordance with OSHA requirements and in manner protecting workers, bystanders, and adjacent property.

- D. Correct leaks and defects, and retest until acceptable results obtained.

3.02 PRESSURE TEST

- A. Test pressures shall be as follows.

1. Water Main Test Pressure: 150 psi at lowest elevation in test section.

- B. Test Procedure:

1. Add water to expel air.
2. Pressurizing equipment shall include regulator set to avoid over pressurizing and damaging otherwise acceptable line.
3. Make test connection, subject main to normal water pressure, and examine for leaks.
4. Apply test pressure by means of force pump of design and capacity that required pressure can be applied and maintained without interruption for duration of test.
5. Measure test pressure by means of tested and properly calibrated pressure gauge.
6. Maintain initial test pressure for sufficient length of time to permit inspecting piping under test, but not less than 30 min.

7. In case repairs are required, repeat pressure test until pipe installation conforms to specified requirements.
8. Perform final test at required test pressure for 1 hr.

C. Water main considered to have failed pressure test if applied pressure drops 1 psi.

3.03 LEAKAGE TEST

A. Conduct pressure test and initial leakage test concurrently. Final leakage test may be waived by ENGINEER if found unnecessary to add water during duration of final pressure test.

B. Leakage defined as quantity of water to be supplied into newly laid pipe, or section thereof, necessary to maintain specified leakage test pressure after main has been filled with water and entrapped air expelled.

1. Leakage shall not exceed number of gph as determined by following formula for rubber-sealed joints.

$$gph \equiv \frac{ND\sqrt{P}}{7400}$$

Where:

- gph* = gallons per hour
- N* = number of joints under test
- D* = nominal diameter of water main in inches.
- P* = average pressure in lbs/sq in. gauge during leakage test

2. If section under test contains joints of various dia, allowable leakage will be sum of computed leakage for each size of joint.

C. Test Procedure:

1. Submit test section to approximately 150 psi gauge pressure at highest elevation of water main under test.
2. Conduct final leakage test for 1 hr.
3. Repair defects and retest until acceptable results obtained.

SUBMITTALS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Procedural requirements for Work-related submittals including Construction Progress Schedules, Shop Drawings, product data, samples, construction photographs, and other miscellaneous Work-related submittals.

B. Measurement and Payment:

1. Comply with Section 01025.

1.02 DEFINITIONS

A. Submittal for Review:

1. Submittal for ENGINEER'S review in accordance with requirements of Contract Documents.

B. Submittal for Record:

1. Submittal for inclusion into OWNER'S records prior to Substantial Completion. Submittal will not be reviewed by ENGINEER.

1.03 CONSTRUCTION PROGRESS SCHEDULES

A. Prepare and submit Construction Progress Schedule to ENGINEER for review, within 30 days after effective date of Contract.

B. Unless specified in Section 01000, no Work shall be done between 6:00 p.m. and 7:00 a.m., nor on Sundays, Saturdays or legal holidays without written permission of OWNER. Emergency work may be done without prior permission.

C. Night work may be established by CONTRACTOR as regular procedure with written permission of OWNER. Such permission may be revoked at any time by OWNER.

D. Prepare schedules in form of horizontal bar chart.

1. Provide separate horizontal bar for each operation.
2. Horizontal Time Scale: Identify first Work day of each week.
3. Scale and spacings to allow space for notations and future revisions.
4. Arrange listings in order of start of each item of Work.

E. Construction Progress Schedule:

1. Show complete sequence of construction by activity.
2. Show dates for beginning and completion of each major element of construction and installation dates for major items. Elements shall include, but not be limited to, following.
 - a. Performance tests and supervisory services activity.
 - b. Water main laying schedule.
 - c. Excavation, backfilling, paving.

- d. Connection to existing water main.
- e. Subcontractor's items of Work.
- f. Restoration.
- g. Final cleanup.
- h. Allowance for inclement weather.
- i. Miscellaneous items.

3. Show projected percentage of completion for each item as of first day of each month.

F. Schedule Revisions:

1. CONTRACTOR shall provide a revised Construction Progress Schedule should any of the following occur:

- a. Major changes in scope.
- b. Activities modified since original submittal.
- c. Revised projections of progress and completion.

2. Provide narrative report as needed to define following.

- a. Problem areas, anticipated delays, and impact on schedule.
- b. Corrective action recommended and its effect.
- c. Effect of changes on schedules of other Contractors.

3. Pay estimate processing may be suspended if the CONTRACTOR has not provided revised project schedules when requested by OWNER or ENGINEER.

1.04 SHOP DRAWINGS AND PRODUCT DATA

A. Scheduling:

1. CONTRACTOR is not required to submit preliminary or final schedule of Shop Drawing submissions as required in Subparagraph 2.05.A.2 and Paragraph 2.07 of the General Conditions.

B. CONTRACTOR'S Responsibilities:

1. Review Shop Drawings and product data prior to submittal.
2. Determine and verify following:

- a. Field measurements.
- b. Field construction criteria.
- c. Catalog numbers and similar data.
- d. Conformance with Specifications.

3. Coordinate each submittal with requirements of Work and Contract Documents.

4. Notify ENGINEER in writing, at time of submittal, of deviations in submittals from requirements of Contract Documents.

5. Begin no fabrication or Work requiring submittals until return of submittals with ENGINEER approval.
6. Designate in Construction Progress Schedule, dates for submittal and receipt of reviewed shop drawings and samples.
7. Submittals received but not requested in Specifications shall be returned without review.

C. Submittals shall contain:

1. Date of submittal and dates of previous submittals.
2. Project title and number.
3. Contract identification.
4. Names of:
 - a. CONTRACTOR.
 - b. Supplier.
 - c. Manufacturer.
5. Identification of product, with identification numbers, and Drawing and Specification section numbers.
6. Field dimensions, clearly identified.
7. Identify details required on Drawings and in Specifications.
8. Show manufacturer and model number, give dimensions, and provide clearances.
9. Relation to adjacent or critical features of Work or materials.
10. Applicable standards, such as ASTM or Federal Specification numbers. Identification of deviations from Contract Documents.
11. Identification of revisions on resubmittals.
12. 8-in. by 3-in. blank space for CONTRACTOR and ENGINEER stamps.
13. CONTRACTOR'S stamp, signed, certifying to review of submittal, verification of products, field measurement, field construction criteria, and coordination of information within submittal with requirements of Work and Contract Documents.

D. Resubmittal Requirements:

1. Comply with submittal requirements.
2. Make corrections or changes in submittals required by ENGINEER. Resubmittals required until approved.
3. Identify on transmittal form submittal is resubmission.
4. Shop Drawings and Product Data:
 - a. Revise initial drawings or data and resubmit as specified for initial submittal.
 - b. Indicate changes made other than those requested by ENGINEER.
 - c. ENGINEER'S responsibility for variation or revisions from previously reviewed submittal is established in Article 6.17E of General Conditions.

E. Distribute reproductions of Shop Drawings and copies of product data which carry ENGINEER'S stamp approval to following.

1. Jobsite file.
2. Record documents file.
3. Other affected Contractors.
4. Subcontractors.
5. Supplier or fabricator.

F. ENGINEER'S Duties:

1. Review submittals in accordance with schedule.
2. Affix stamp and signature, and indicate requirements for resubmittal or approval of submittal.
3. Return submittals to CONTRACTOR for distribution or for resubmittal.

1.05 TEST RESULTS AND CERTIFICATIONS

- A. Submit test results and certifications required in Specification sections.
- B. Submit test results upon completion of test or submittal of results from testing laboratory.
- C. Test results and certifications are submitted for review of conformance with specified requirements and information.

1.06 CONSTRUCTION PHOTOGRAPHS

- A. Provide photographs taken at each major stage of construction.
 1. Before commencement of construction.
 2. Completion of site clearing.
 3. During excavation and laying of pipe.
 4. Installation of manholes.
 5. Completion of restoration.
 6. At other appropriate stages of construction.
- B. Negatives:
 1. Remain property of photographer.
 2. Maintain negatives for 2 yrs from date of Substantial Completion of entire Project.
 3. Furnish additional prints to OWNER and ENGINEER at commercial rates applicable at time of purchase.
- C. Notify ENGINEER at least 5 days prior to taking construction photographs.
- D. Provide color prints of photographs taken as specified.
 1. Prints:
 - a. Paper: Single weight, white base.
 - b. Finish: Smooth surface, glossy.
 - c. Size: 3-in. by 5-in.

2. Identify each print on back. Identification required:

- a. Name of project.
- b. ENGINEER'S Project number.
- c. Orientation of view.
- d. Date and time of exposure.
- e. Name and address of CONTRACTOR.
- f. Photographer's numbered identification of exposure.

E. Photograph from locations to adequately illustrate condition of site before and after construction and at appropriate intervals during construction. Provide prints with maximum depth of field and minimum distortion.

F. Deliver to OWNER 7 days after photographs are taken.

1.07 GUARANTEE, WARRANTIES, MAINTENANCE AGREEMENTS, AND WORKMANSHIP BONDS

A. Refer to Specification sections for requirements. Submittal considered final when submittal is returned by ENGINEER, marked "Approved" or "Approved as Noted."

B. In addition to copies desired for CONTRACTOR'S use, furnish 2 executed copies.

1.08 ACTION ON SUBMITTALS

A. ENGINEER'S Action:

1. General:

- a. Except for submittals for record and similar purposes, where action and return on submittals required or requested, ENGINEER will review each submittal, mark with appropriate action, and return. Where submittal must be held for coordination, ENGINEER will so advise CONTRACTOR without delay.
- b. ENGINEER will stamp each submittal with action stamp, appropriately marked with submittal action.

B. Action Stamp:

1. Marking: Approved.

- a. Final Unrestricted Release: Where submittals are marked as "Approved," Work covered by submittal may proceed provided it complies with Contract Documents. Acceptance of Work depends on that compliance.

2. Marking: Approved With Noted Exceptions.

a. Final-But-Restricted Release: When submittals are marked as "Approved With Noted Exceptions," Work covered by submittal may proceed provided it complies with ENGINEER'S notations or corrections on submittal and with Contract Documents. Acceptance of Work depends on that compliance. Resubmittal not required.

3. Marking: Not Approved.

a. Submittal Not Accepted: When submittals are marked as "Not Approved," do not proceed with Work covered by submittal. Work covered by submittal does not comply with Contract Documents.

b. Prepare new submittal for different material or equipment supplier or different product line or material of same supplier complying with Contract Documents.

4. Marking: Revise and Resubmit.

a. Returned for Resubmittal: When submittals are marked as "Revise and Resubmit," do not proceed with Work covered by submittal. Do not permit Work covered by submittals to be used at Project site or elsewhere where Work is in progress.

b. Revise submittal or prepare new submittal in accordance with ENGINEER'S notations. Resubmit without delay. Repeat if required to obtain different action marking.

PART 2 PRODUCTS

(Not Used)

PART 3 EXECUTION

3.01 SUBMITTAL REQUIREMENTS

A. Provide complete copies of required submittals as follows.

1. Construction Progress Schedule:

- a. 2 copies of initial schedule.
- b. 2 copies of each revision.

2. Shop Drawings and Product Data: 6 copies.

3. Test Results: 3 copies.

4. Construction Photos: 2 prints of each view.

5. Other Required Submittals:

- a. 6 copies if required for review.
- b. 3 copies if required for record.

B. Deliver required copies of submittals to ENGINEER.

TRAFFIC REGULATION

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Barricades, beacons, warning signs, temporary pavement markings, lane delineators, guardrails, handrails, temporary fencing, flag persons, and other appurtenances required to protect pedestrian traffic, vehicular traffic, and CONTRACTOR'S own work forces during Work.

2. Removal of temporary equipment and facilities when no longer required; restoration of area to original condition.

B. Payments:

1. Consider Work specified in this section incidental and include payments as part of appropriate unit price specified in Bid Form.

1.02 DEFINITIONS

A. IDOTSPECS: Illinois Department of Transportation, "Standard Specifications for Road and Bridge Construction", January 1, 2007.

B. ILHWSTDS: Illinois Department of Transportation, Highway Standards.

C. Illinois Department of Transportation, Supplemental Specifications and Recurring Special Provisions.

D. MUTCD: Federal Highway Administration, Manual on Uniform Traffic Control Devices.

E. Maintaining Agency: Agency having maintenance jurisdiction over roadway or existing signals and may include, IDOT, County Highway Department, and/or Village.

F. IDOT: Illinois Department of Transportation.

1.03 SUBMITTALS

A. Traffic Control Schedule:

1. Submit traffic control schedule of street and walkway closings, partial closings, and detours.

2. Submit updates as necessary to keep OWNER fully informed of traffic routing.

3. No construction will be allowed prior to approval by maintaining agency of the traffic control schedule and the traffic control is in place.

B. OWNER will review schedules and updates only for maintenance of adequate traffic patterns within and through construction areas.

1. OWNER'S review and acceptance shall not be construed as confirming adequacy of protection measures proposed.
2. OWNER will notify residents of construction schedules and traffic plans. CONTRACTOR shall be solely responsible for full protection of public and CONTRACTOR'S own forces.

C. Submit in accordance with SUBMITTALS specification.

1.04 PROJECT/SITE CONDITIONS

A. Keep Work areas open to pedestrian and vehicular traffic to maximum extent practical. Provide safe passage of such traffic and continuous access for emergency vehicles.

PART 2 PRODUCTS

2.01 MATERIALS

A. Traffic control materials shall conform to following.

1. IDOTSPECS, Section 1084.
2. ILHWSTDS.
3. MUTCD.

PART 3 EXECUTION

3.01 TRAFFIC CONTROL SCHEDULE

A. Prepare plan for pedestrian and vehicular traffic control compatible with construction procedures employed in each construction area. Incorporate proposed construction sequencing to form continuous traffic control schedule.

1. Include detailed descriptions of proposed procedures for pedestrian and vehicular traffic routing and protection in immediate construction area and surrounding area during working and nonworking hours.
2. Schedule shall include:
 - a. Dates and duration of stages and closures.
 - b. CONTRACTOR'S contact person(s) with 24-hour telephone number.
 - c. Contact agencies with telephone numbers as applicable: OWNER, Maintaining Agency, Engineering Department, Fire Department, Public Works Department, Police Department, Bus Companies, Schools, Hospitals, Transit Companies, Railroads, and other affected agencies.

3.02 VEHICULAR TRAFFIC CONTROL

A. Provide traffic control for Work in or adjacent to streets, alleys, and highways.

B. General Requirements:

1. For streets or alleys along or in which construction is occurring, and for areas where construction vehicles are entering or leaving streets or alleys:
 - a. Warning signs informing traffic of construction activities ahead and restricting roadway to local traffic only.
2. For roadway restricted to one-way travel:
 - a. Traffic control signs at cross-streets, alleys, and 100-ft intervals between.
3. For unpaved trenches and other disturbed areas in pavement:
 - a. Flashing light barricades, Type I or II, to channelize traffic into undisturbed pavement.
4. At cross-streets and alleys:
 - a. Flashing light barricades, Type III, to screen off disturbed areas in trenches.
5. Provide temporary type pavement markings on replacement pavement surfaces. Markings shall match existing marking patterns. Place markings on temporary bituminous pavements, base courses of bituminous final pavements to be left more than 3 days without applying final courses, and final bituminous and concrete pavement surfaces.

C. During Working Hours:

1. 2-Lane Streets: One lane continuously open in alternating directions controlled by flagpersons; or restricted to 1-way travel in normal travel direction of open lane.
2. Multi-lane Streets: One lane continuously open in each direction.
3. Alleys: Closed to through traffic; open to adjoining property to maximum practical extent.
4. Driveways: Open to maximum practical extent. Maximum duration of closure - 4 hrs.
5. Sidewalks and Cross-Walks: Open to maximum practical extent.

D. During Nonworking Hours:

1. 2-Lane Streets: One lane continuously open restricted to 1-way travel in normal travel direction of open lane.
2. Multi-lane Streets: One lane open in each direction.
3. Alleys: Open, 1-way travel restriction permitted.
4. Driveways: Open.
5. Sidewalks and Cross-Walks: Open.

E. Barricade and warning sign arrangements shall conform to following ILHWSTDS as minimum.

1. Construction completed in single day:

- a. Shoulder work: 701011 and 701701.
- b. Single-lane closure: 701201 and 701501.
- c. Multi-lane closure: 701431 and 701606.
- d. Divided highway single-lane closure: 701406 with arrow boards.
- e. Divided highway multi-lane closure: 701416.
- f. Full closure local traffic permitted BLR Standard 17.
- g. Full closure no traffic permitted BLR Standard 17.
- h. Turn lane closure: 701701.
- i. Sidewalk closure: 701801.

2. Construction period greater than one day:

- a. Shoulder work: 701011 and 701701.
- b. Single-lane closure: 701201.
- c. Multi-lane closure: 701431 with arrow boards, and 710606.
- d. Divided highway single-lane closure: 701406.
- e. Divided highway multi-lane closure: 701416 with temporary concrete barriers.
- f. Full closure local traffic permitted BLR Standard 21.
- g. Full closure no traffic permitted BLR Standard 21.
- h. Turn lane closure: 701701.
- i. Sidewalk closure: 701801.

F. Specific Requirements:

1. Elmhurst Road & Valley Stream Drive Intersections
& Elmhurst Road & Lock-Up Self Storage Driveway :

- a. Strictly follow IDOT permit conditions.
- b. One lane open in each travel direction.

2. Other Streets and Alleys - Crossing Construction:

- a. During working hours as construction crosses road, 2-way traffic, one lane open with flagpersons to alternate traffic flow.
- b. Other times, all traffic lanes open.

3.03 PEDESTRIAN TRAFFIC CONTROL

A. Protect pedestrians and residents from construction operations and vehicular traffic traveling through construction area.

B. During working hours, provide Type I or II barricades to protect public from open excavations, wet paint, wet concrete and other construction operations, stockpiled materials, construction equipment, and vehicular traffic.

C. Control excavation operations so size of open excavation at end of each Work day is minimum.

D. Upon stopping construction operations for day, provide temporary fencing, 4-ft high minimum, around open excavations and rough terrain areas. Lock and shutter construction equipment.

E. Stockpile materials so as not to block streets, gutter flow lines, alleys, drives, sidewalks, and cross-walks. Grade backfilled trenches uniformly and install temporary pavements as required to permit safe crossing by vehicles. Install bridging and handrails where necessary for safe passage by pedestrians over sewer trenches or other disturbed surfaces.

3.04 TRAFFIC CONTROL FOR CONTRACTOR'S EQUIPMENT

A. Operate construction equipment in accordance with applicable traffic laws and safety regulations.

B. Equip equipment with warning lights and audible warning devices as minimum.

C. Where equipment enters or leaves public roadways, provide warning signs or barricades. In moderate and high vehicular traffic volume areas, provide flagpersons or temporary traffic signals to control traffic and aid travel of construction equipment. In moderate or high pedestrian traffic areas, provide flagpersons to control traffic.

3.05 TRAFFIC SIGNALS

A. Comply with requirements of the IDOT.

REMOVE EXISTING PARKING BLOCKS

This work shall consist of the removal and disposal of existing parking blocks at the locations shown on the plans and as directed by the Engineer. The work shall include the removal and disposal of the parking blocks and any other appurtenances.

Disposal shall be according to Article 202.03 of the Standard Specifications.

Method of Measurement. This work will be measured for payment for each parking block to be removed.

Basis of Payment. This work will be paid for at the contract unit price per each for REMOVE EXISTING PARKING BLOCKS, which price shall be payment in full for all labor, equipment and materials necessary to complete the work as specified herein.

CONCRETE PARKING BLOCKS

This work shall consist of the supply and installation of concrete parking blocks at the locations shown on the plans and as directed by the Engineer.

The work shall include supplying the concrete parking blocks and any other appurtenances necessary for their installation.

Method of Measurement. This work will be measured for payment for each concrete parking block.

Basis of Payment. This work will be paid for at the contract unit price per each for CONCRETE PARKING BLOCKS, which price shall be payment in full for all labor, equipment and materials necessary to complete the work as specified herein.

CORED DRAIN HOLES

This work shall consist of the coring storm structures and existing storm sewer at the locations shown on the plans and as directed by the Engineer to allow storm and pipe underdrain connections. This work shall include all equipment, materials, etc necessary to core the drain hole as well as the proper disposal of any cored materials.

Method of Measurement. This work will be measured for payment per each cored drain hole.

Basis of Payment. This work will be paid for at the contract unit price per each for CORED DRAIN HOLES.

PARKING LOT PAVEMENT REMOVAL

This work shall consist of the removal and disposal of the existing parking lot pavement at the locations shown on the plans and as directed by the Engineer. The work shall include sawcut, the removal and disposal of the parking lot pavement.

Disposal shall be according to Article 202.03 of the Standard Specifications.

Method of Measurement. This work will be measured for payment for per square foot parking lot pavement removed.

Basis of Payment. This work will be paid for at the contract unit price per square foot for PARKING LOT PAVEMENT REMOVAL, which price shall be payment in full for all labor, equipment and materials necessary to complete the work as specified herein.

GENERAL ELECTRICAL REQUIREMENTS

Effective: June 1, 2009

Add the following to Article 801 of the Standard Specifications:

“Maintenance transfer and Preconstruction Inspection:

General. Before performing any excavation, removal, or installation work (electrical or otherwise) at the site, the Contractor shall request a maintenance transfer and preconstruction site inspection, to be held in the presence of the Engineer and a representative of the party or parties responsible for maintenance of any lighting and/or traffic control systems which may be affected by the work. The request for the maintenance transfer and preconstruction inspection shall be made no less than seven (7) calendar days prior to the desired inspection date. The maintenance transfer and preconstruction inspection shall:

Establish the procedures for formal transfer of maintenance responsibility required for the construction period.

Establish the approximate location and operating condition of lighting and/or traffic control systems which may be affected by the work

Marking of Existing Cable Systems. The party responsible for maintenance of any existing lighting and/or traffic control systems at the project site will, at the Contractor's request, mark and/or stake, once per location, all underground cable routes owned or maintained by the State. A project may involve multiple "locations" where separated electrical systems are involved (i.e. different controllers). The markings shall be taken to have a horizontal tolerance of at least 304.8 mm (one (1) foot) to either side.. The request for the cable locations and marking shall be made at the same time the request for the maintenance transfer and preconstruction inspection is made. The Contractor shall exercise extreme caution where existing buried cable runs are involved. The markings of existing systems are made strictly for assistance to the Contractor and this does not relieve the Contractor of responsibility for the repair or replacement of any cable run damaged in the course of his work, as specified elsewhere herein. Note that the contractor shall be entitled to only one request for location marking of existing systems and that multiple requests may only be honored at the contractor's expense. No locates will be made after maintenance is transferred, unless it is at the contractor's expense.

Condition of Existing Systems. The Contractor shall conduct an inventory of all existing electrical system equipment within the project limits, which may be affected by the work, making note of any parts which are found broken or missing, defective or malfunctioning. Megger and load readings shall be taken for all existing circuits which will remain in place or be modified. If a circuit is to be taken out in its entirety, then readings do not have to be taken. The inventory and test data shall be reviewed with and approved by the Engineer and a record of the inventory shall be submitted to the Engineer for the record. Without such a record, all systems transferred to the Contractor for maintenance during construction shall be returned at the end of construction in complete, fully operating condition."

Revise the 6th paragraph of Article 801.05(a) of the Standard Specifications to read:

"Resubmittals. All submitted items reviewed and marked 'APPROVED AS NOTED', or 'DISAPPROVED' are to be resubmitted in their entirety with a disposition of previous comments to verify contract compliance at no additional cost to the state unless otherwise indicated within the submittal comments."

Revise Article 801.11(a) of the Standard Specifications to read:

“Lighting Operation and Maintenance Responsibility. The scope of work shall include the assumption of responsibility for the continuing operation and maintenance the of existing, proposed, temporary, sign and navigation lighting, or other lighting systems and all appurtenances affected by the work as specified elsewhere herein. Maintenance of lighting systems will be paid for separately”

Add the following to Section 801.11(a) of the Standard Specifications:

“Energy and Demand Charges. The payment of basic energy and demand charges by the electric utility for existing lighting which remains in service will continue as a responsibility of the Owner, unless otherwise indicated. Unless otherwise indicated or required by the Engineer duplicate lighting systems (such as temporary lighting and proposed new lighting) shall not be operated simultaneously at the Owner's expense and lighting systems shall not be kept in operation during long daytime periods at the Owner's expense. Upon written authorization from the Engineer to place a proposed new lighting system in service, whether the system has passed final acceptance or not, (such as to allow temporary lighting to be removed), the Owner will accept responsibility for energy and demand charges for such lighting, effective the date of authorization. All other energy and demand payments to the utility shall be the responsibility of the Contractor until final acceptance.”

Add the following to Section 801 of the Standard Specifications:

“Lighting Cable Identification. Each wire installed shall be identified with its complete circuit number at each termination, splice, junction box or other location where the wire is accessible.”

“Lighting Cable Fuse Installation. Standard fuse holders shall be used on non-frangible (non-breakaway) light pole installations and quick-disconnect fuse holders shall be used on frangible (breakaway) light pole installations. Wires shall be carefully stripped only as far as needed for connection to the device. Over-stripping shall be avoided. An oxide inhibiting lubricant shall be applied to the wire for minimum connection resistance before the terminals are crimped-on. Crimping shall be performed in accordance with the fuse holder manufacturer's recommendations. The exposed metal connecting portion of the assembly shall be taped with two half-lapped wraps of electrical tape and then covered by the specified insulating boot. The fuse holder shall be installed such that the fuse side is connected to the pole wire (load side) and the receptacle side of the holder is connected to the line side.”

Revise the 2nd and 3rd sentences of the second paragraph of Article 801.02 of the Standard Specifications to read:

“Unless otherwise indicated, materials and equipment shall bear the UL label, or an approved equivalent, whenever such labeling is available for the type of material or equipment being furnished.”

Revise the 2nd paragraph of Article 801.16 of the Standard Specifications to read:

“When the work is complete, and seven days before the request for a final inspection, the full-size set of contract drawings. Stamped “RECORD DRAWINGS”, shall be submitted to the Engineer for review and approval and shall be stamped with the date and the signature of the Contractor’s supervising Engineer or electrician. The record drawings shall be submitted in PDF format on CDROM as well as hardcopy for review and approval. In addition to the record drawings, copies of the final catalog cuts which have been Approved or Approved as Noted shall be submitted in PDF format along with the record drawings. The PDF files shall clearly indicate either by filename or PDF table of contents the respective pay item number. Specific part or model numbers of items which have been selected shall be clearly visible.”

Add the following to Article 801.16 of the Standard Specifications:

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

- Last light pole on each circuit
- Handholes
- Conduit roadway crossings
- Controllers
- Control Buildings
- Structures with electrical connections, i.e. DMS, lighted signs.
- Electric Service locations
- CCTV Camera installations
- Fiber Optic Splice Locations

Datum to be used shall be North American 1983.

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

1. Description of item
2. Designation or approximate station if the item is undesignated
3. Latitude
4. Longitude

Examples:

Description	Designation	Latitude	Longitude
CCTV Camera pole	ST42	41.580493	-87.793378
FO mainline splice handhole	HHL-ST31	41.558532	-87.792571
Handhole	HH at STA 234+35	41.765532	-87.543571
Electric Service	Elec Srv	41.602248	-87.794053
Conduit crossing	SB IL83 to EB I290 ramp	41.584593	-87.793378
Light Pole	DA03	41.558532	-87.792571
Lighting Controller	X	41.651848	-87.762053
Sign Structure	FGD	41.580493	-87.793378
Video Collection Point	VCP-IK	41.558532	-87.789771
Fiber splice connection	Toll Plaza34	41.606928	-87.794053

Prior to the collection of data, the contractor shall provide a sample data collection of at least six data points of known locations to be reviewed and verified by the Engineer to be accurate within 100 feet. Upon verification, data collection can begin. Data collection can be made as construction progresses, or can be collected after all items are installed. If the data is unacceptable the contractor shall make corrections to the data collection equipment and or process and submit the data for review and approval as specified.

Accuracy. Data collected is to be mapping grade. A handheld mapping grade GPS device shall be used for the data collection. The receiver shall support differential correction and data shall have a minimum 5 meter accuracy after post processing.

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

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

TEMPORARY WOOD POLE, INSTALL ONLY

Effective: January 1, 2008

Description. This item shall consist of retrieving from storage, transporting, and installing a temporary wood pole, and mast as applicable, as specified herein and as indicated on the plans.

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

Item	Article/Section
(a) Light Pole Identification.....	1069.06

CONSTRUCTION REQUIREMENTS

Inspection And Acceptance. The Contractor shall examine the wood pole, and mast as applicable, in the presence of the Engineer and after accepting the pole(s) shall be held responsible for preservation of the condition of each pole, as it was at the time of acceptance, until the Final Acceptance Inspection.

Transportation. The Contractor shall transport, handle the wood pole in complete conformance with industry standard recommendations. The Contractor shall make arrangements to transfer the light poles from the State’s storage facility located within District 1 on weekdays between the hours of 8:00 a.m. and 4:00 p.m., excluding State holidays applicable to the Department.

Installation. Installation shall be as described in Article 830.03(c). Unless otherwise indicated, the Contractor shall provide all hardware to install the pole and mast arm as specified herein and indicated on the plans.

Unless otherwise indicated, the wood pole and mast arm, as applicable, shall remain the property of the owner and shall be removed as specified elsewhere herein.

Method Of Measurement. Wood poles shall be counted as, each installed.

Basis Of Payment. This item shall be paid at the contract unit price each for **TEMPORARY WOOD POLE**, of the mounting height, mast arm quantity and length indicated, **(INSTALL ONLY)**.

SELECTIVE CLEARING

Effective: February 8, 2007

Description. This work shall consist of extensive removal and disposal of shrubs, brush, debris (including rocks, bottles, etc.) and selected trees up to six (6) inches (150 mm) in diameter. All trees and shrubs to be saved shall be carefully protected as provided by Article 201.05 of the Standard Specifications. Locations for Selective Clearing and vegetation to be cleared or saved shall be designated by the Engineer.

The undesirable trees and brush (Siberian Elm, European Buckhorn, Mulberry, etc.) shall be cut flush with the ground and all stubs or stumps shall be treated with a re-sprout herbicide approved by the Engineer to prevent re-growth from the stumps. Trees of Tree of Heaven shall not be cut off as specified above, but shall be pulled or grubbed in such a manner as to insure complete removal. Branches on remaining trees shall be pruned off up to 6 feet (2 meters) from the ground.

All cleared areas shall be graded, trimmed, smoothed, and finished uniformly to the satisfaction of the Engineer with equipment approved by the Engineer. Disposal of material shall be done in accordance with Article 202.03.

Method of Measurement. Selective Clearing will be measured in units of 1,000 square feet (90 square meters). Areas not meeting the satisfaction of the Engineer shall not be measured for payment. Plan quantities are estimates only. Actual quantities will be measured in place. Agreement to plan quantities will not be allowed.

Basis of Payment. This work will be paid for at the contract unit price per unit for SELECTIVE CLEARING.

TRAFFIC SIGNAL SPECIFICATIONS

Effective: May 22, 2002

Revised: November 1, 2009

These Traffic Signal Special Provisions and the "District One Standard Traffic Signal Design Details" supplement the requirements of the State of Illinois "Standard Specifications for Road and Bridge Construction." The intent of these Special Provisions is to prescribe the materials and construction methods commonly used for traffic signal installations. All material furnished shall be new. The locations and the details of all installations shall be as indicated on the Plans or as directed by the Engineer. Traffic signal construction and maintenance work shall be performed by personnel holding IMSA Traffic Signal Technician Level II certification. The work to be done under this contract consists of furnishing and installing all traffic signal work as specified in the Plans and as specified herein in a manner acceptable and approved by the Engineer.

SECTION 720 SIGNING

MAST ARM SIGN PANELS

Add the following to Article 720.02 of the Standard Specifications:

Signs attached to poles or posts (such as mast arm signs) shall have mounting brackets and sign channels which are equal to and completely interchangeable with those used by the District Sign Shops. Signfix Aluminum Channel Framing System is currently recommended, but other brands of mounting hardware are acceptable based upon the Department's approval.

DIVISION 800 ELECTRICAL

SUBMITTALS

Revise Article 801.05 of the Standard Specifications to read:

The Contractor shall provide:

- a. All material approval requests shall be submitted at the preconstruction meeting, including major traffic signal items listed in the table in Article 801.05..
- b. All material or equipment which are similar or identical shall be the product of the same manufacturer, unless necessary for system continuity. Traffic signal materials and equipment shall bear the U.L. label whenever such labeling is available.
- c. Seven (7) copies of a letter from the Traffic Signal Contractor on company letterhead listing the contract number or permit number, project location/limits, pay item description, pay code number, manufacturer's name and model numbers of the proposed equipment and stating that the proposed equipment meets all contract requirements. The letter will be reviewed by the Traffic Design Engineer to determine whether the equipment to be used is approvable.
- d. Seven (7) copies of shop drawings for mast arm poles and assemblies, including combination mast arm poles, are required. A minimum of two (2) copies of all other material catalog cuts are required. Submittals for equipment and materials shall be complete. Partial or incomplete submittals will be returned without review.
- e. Certain non-standard mast arm poles and assemblies will require additional review from IDOT's Central Office. Examples include ornamental/decorative and non-standard length mast arm pole assemblies. The Contractor shall account for the additional review time in his schedule.
- f. The contract number or permit number, project location/limits and corresponding pay code number must be on each sheet of the letter, material catalog cuts and mast arm poles and assemblies drawings.
- g. Where certifications and/or warranties are specified, the information submitted for approval shall include certifications and warranties. Certifications involving inspections, and/or tests of material shall be complete with all test data, dates, and times.
- h. After the Engineer reviews the submittals for conformance with the design concept of the project, the Engineer will stamp the drawings indicating their status as 'Approved', 'Approved-As-Noted', 'Disapproved', or 'Information Only'.

Since the Engineer's review is for conformance with the design concept only, it is the Contractor's responsibility to coordinate the various items into a working system as specified. The Contractor shall not be relieved from responsibility for errors or omissions in the shop, working, layout drawings, or other documents by the Department's approval thereof. The Contractor must still be in full compliance with contract and specification requirements.

i. All submitted items reviewed and marked 'APPROVED AS NOTED', or 'DISAPPROVED' are to be resubmitted in their entirety, unless otherwise indicated within the submittal comments, with a disposition of previous comments to verify contract compliance at no additional cost to the contract.

j. Exceptions, Deviations and Substitutions. In general, exceptions to and deviations from the requirements of the Contract Documents will not be allowed. It is the Contractor's responsibility to note any deviations from Contract requirements at the time of submittal and to make any requests for deviations in writing to the Engineer. In general, substitutions will not be acceptable. Requests for substitutions must demonstrate that the proposed substitution is superior to the material or equipment required by the Contract Documents. No exceptions, deviations or substitutions will be permitted without the approval of the Engineer.

INSPECTION OF ELECTRICAL SYSTEMS.

Add the following to Article 801.10 of the Standard Specifications:

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

MAINTENANCE AND RESPONSIBILITY.

Revise Article 801.11 of the Standard Specifications to read:

a. Existing traffic signal installations and/or any electrical facilities at all or various locations may be altered or reconstructed totally or partially as part of the work on this Contract. The Contractor is hereby advised that all traffic control equipment, presently installed at these locations, may be the property of the State of Illinois, Department of Transportation, Division of Highways, County, Private Developer, or the Municipality in which they are located. Once the Contractor has begun any work on any portion of the project, all traffic signals within the limits of this contract or those which have the item "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," shall become the full responsibility of the Contractor. Automatic Traffic Enforcement equipment is not owned by the State and the Contractor shall not be responsible for maintaining it during construction. The Contractor shall supply the engineer and the Department's Electrical Maintenance Contractor a 24-hour emergency contact name and telephone number.

b. When the project has a pay item for "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," the Contractor must notify both the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 and the Department's Electrical Maintenance Contractor, of their intent to begin any physical construction work on the Contract or any portion thereof. This notification must be made a minimum of seven (7) working days prior to the start of construction to allow sufficient time for inspection of the existing traffic signal installation(s) and transfer of maintenance to the Contractor. If work is started prior to an inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection. The Contractor will become responsible for repairing or replacing all equipment that is not operating properly or is damaged at no cost to the owner of the traffic signal. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted.

c. Contracts such as pavement grinding or patching which result in the destruction of traffic signal loops do not require maintenance transfer, but require a notification of intent to work and an inspection. A minimum of seven (7) working days prior to the loop removal, the Contractor shall notify the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 and the Department's Electrical Maintenance Contractor, at which time arrangements will be made to adjust the traffic controller timing to compensate for the absence of detection. Damaged Automatic Traffic Enforcement equipment, including cameras, detectors, or other peripheral equipment, shall be replaced by others, per Permit agreement, at no cost to the contract. See additional requirements in these specifications under Inductive Loop Detector.

d. The Contractor is advised that the existing and/or temporary traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shutdown the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.

e. The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals. Any inquiry, complaint or request by the Department, the Department's Electrical Maintenance Contractor or the public, shall be investigated and repairs begun within one hour. Failure to provide this service will result in liquidated damages of \$500 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of \$500 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract.

The District's Electrical Maintenance Contractor may inspect any signaling device on the Department's highway system at any time without notification.

f. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.

DAMAGE TO TRAFFIC SIGNAL SYSTEM.

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

Any traffic signal control equipment damaged or not operating properly from any cause whatsoever shall be repaired with new equipment provided by the Contractor at no additional cost to the Contract and or owner of the traffic signal system, all as approved by the Engineer. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices outside the controller cabinet shall not be allowed.

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

TRAFFIC SIGNAL INSPECTION (TURN-ON).

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

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

When the road is open to traffic, except as otherwise provided in Section 850 of the Standard Specifications, the Contractor may request a turn-on and inspection of the completed traffic signal installation at each separate location. This request must be made to the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 a minimum of seven (7) working days prior to the time of the requested inspection. The Department will not grant a field inspection until notification is provided from the Contractor that the equipment has been field tested and the intersection is operating according to Contract requirements. The Department's facsimile number is (847) 705-4089.

The Contractor must invite local fire department personnel to the turn-on when Emergency Vehicle Preemption (EVP) is included in the project. When the contract includes the item RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM, OPTIMIZE TRAFFIC SIGNAL SYSTEM, or TEMPORARY TRAFFIC SIGNAL TIMINGS, the Contractor must notify the SCAT Consultant of the turn-on/detour implementation schedule, as well as stage changes and phase changes during construction.

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

The Contractor shall provide a representative from the control equipment vendor's office to attend the traffic signal inspection for both permanent and temporary traffic signal turn-ons. Upon demonstration that the signals are operating and all work is completed in accordance with the Contract and to the satisfaction of the Engineer, the Engineer will then allow the signals to be placed in continuous operation. The Agency that is responsible for the maintenance of each traffic signal installation will assume the maintenance upon successful completion of this inspection.

The District requires the following from the Contractor at traffic signal turn-ons.

1. One set of signal plans of record with field revisions marked in red ink.
2. Written notification from the Contractor and the equipment vendor of satisfactory field testing.
3. A knowledgeable representative of the controller equipment supplier shall be required at the traffic signal turn-on. The representative shall be knowledgeable of the cabinet design and controller functions.
4. A copy of the approved material letter.
5. One (1) copy of the operation and service manuals of the signal controller and associated control equipment.
6. Five (5) copies 11" x 17" (280 mm X 430 mm) of the cabinet wiring diagrams.
7. The controller manufacturer shall supply a printed form, not to exceed 11" x 17" (280 mm X 430 mm) for recording the traffic signal controller's timings; backup timings; coordination splits, offsets, and cycles; TBC Time of Day, Week and Year Programs; Traffic Responsive Program, Detector Phase Assignment, Type and Detector Switching; and any other functions programmable from the keyboard. The form shall include a location, date, manufacturer's name, controller model and software version. The form shall be approved by the Engineer and a minimum of three (3) copies must be furnished at each turn-on. The manufacturer must provide all programming information used within the controller at the time of turn-on.

Acceptance of the traffic signal equipment by the Department shall be based upon inspection results at the traffic signal "turn on." If approved, traffic signal acceptance shall be verbal at the "turn on" inspection followed by written correspondence from the Engineer. The Contractor shall be responsible for all traffic signal equipment and associated maintenance thereof until Departmental acceptance is granted.

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

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

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

LOCATING UNDERGROUND FACILITIES.

Revise Section 803 to the Standard Specifications to read:

If this Contract requires the services of an Electrical Contractor, the Contractor shall be responsible at his/her own expense for locating existing IDOT electrical facilities prior to performing any work. If this Contract does not require the services of an Electrical Contractor, the Contractor may request one free locate for existing IDOT electrical facilities from the District One Electrical Maintenance Contractor prior to the start of any work. Additional requests may be at the expense of the Contractor. The location of underground traffic facilities does not relieve the Contractor of their responsibility to repair any facilities damaged during construction at their expense.

The exact location of all utilities shall be field verified by the Contractor before the installation of any components of the traffic signal system. For locations of utilities, locally owned equipment, and leased enforcement camera system facilities, the local Counties or Municipalities may need to be contacted: in the City of Chicago contact Digger at (312) 744-7000 and for all other locations contact J.U.L.I.E. at 1-800-892-0123 or 811.

RESTORATION OF WORK AREA.

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

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

ELECTRIC SERVICE INSTALLATION.

Revise Section 805 of the Standard Specifications to read:

Description.

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

All installations shall meet the requirements of the details in the "District One Standard Traffic Signal Design Details" and applicable portions of the Specifications.

General.

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

The electric utility contact information is noted on the plans and represents the current information at the time of contract preparation. The Contractor must request in writing for service and/or service modification within 10 days of contract award and must follow-up with the electric utility to assure all necessary documents and payment are received by the utility. The Contractor shall forward copies of all correspondence between the contractor and utility company. The service agreement and sketch shall be submitted for signature to the Traffic Program's engineer.

Materials.

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

b. Enclosures.

1. Pole Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 4X, unfinished single door design, fabricated from minimum 0.080-inch (2.03 mm) thick Type 5052 H-32 aluminum. Seams shall be continuous welded and ground smooth. Stainless steel screws and clamps shall secure the cover and assure a watertight seal. The cover shall be removable by pulling the continuous stainless steel hinge pin. The cabinet shall have an oil-resistant gasket and a lock kit shall be provided with an internal O-ring in the locking mechanism assuring a watertight and dust-tight seal. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 14-inches (350 mm) high, 9-inches (225 mm) wide and 8-inches (200 mm) in depth is required. The cabinet shall be channel mounted to a wooden utility pole using assemblies recommended by the manufacturer.

2. Ground Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 3R unfinished single door design with back panel. The cabinet shall be fabricated from Type 5052 H-32 aluminum with the frame and door 0.125-inch (3.175 mm) thick, the top 0.250-inch (6.350 mm) thick and the bottom 0.500-inch (12.70 mm) thick. Seams shall be continuous welded and ground smooth. The door and door opening shall be double flanged. The door shall be approximately 80% of the front surface, with a full length tamperproof stainless steel .075-inch (1.91 mm) thick hinge bolted to the cabinet with stainless steel carriage bolts and nylocks nuts. The locking mechanism shall be slam-latch type with a keyhole cover. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 40-inches (1000 mm) high, 16-inches (400 mm) wide and 15-inches (375 mm) in depth is required. The cabinet shall be mounted upon a square Type A concrete foundation as indicated on the plans. The foundation is paid for separately.

c. Surge Protector. Overvoltage protection, with LED indicator, shall be provided for the 120 volt load circuit by the means MOV and thermal fusing technology. The response time shall be <5n seconds and operate within a range of -40C to +85C. The surge protector shall be UL 1449 Listed.

d. Circuit Breakers. Circuit breakers shall be standard UL listed molded case, thermal-magnetic bolt-on type circuit breakers with trip free indicating handles. 120 volt circuit breakers shall have an interrupting rating of not less than 65,000 rms symmetrical amperes. Unless otherwise indicated, the main disconnect circuit breaker for the traffic signal controller shall be rated 60 amperes, 120 V and the auxiliary circuit breakers shall be rated 10 amperes, 120 V.

e. Fuses, Fuseholders and Power Indicating Light. Fuses shall be small-dimensional cylindrical fuses of the dual element time-delay type. The fuses shall be rated for 600 V AC and shall have a UL listed interrupting rating of not less than 10,000 rms symmetrical amperes at rated voltage. The power indicating light shall be LED type with a green colored lens and shall be energized when electric utility power is present.

f. Ground and Neutral Bus Bars. A single copper ground and neutral bus bar, mounted on the equipment panel shall be provided. Ground and neutral conductors shall be separated on the bus bar. Compression lugs, plus 2 spare lugs, shall be sized to accommodate the cables with the heads of the connector screws painted green for ground connections and white for neutral connections.

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

h. Ground Rod. Ground rods shall be copper-clad steel, a minimum of 10 feet (3.0m) in length, and 3/4 inch (20mm) in diameter. Ground rod resistance measurements to ground shall be 25 ohms or less. If necessary additional rods shall be installed to meet resistance requirements at no additional cost to the contract.

Installation.

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

b. Pole Mounted. Brackets designed for pole mounting shall be used. All mounting hardware shall be stainless steel. Mounting height shall be as noted on the plans or as directed by the Engineer.

c. Ground Mounted. The service installation shall be mounted plumb and level on the foundation and fastened to the anchor bolts with hot-dipped galvanized or stainless steel nuts and washers.

The space between the bottom of the enclosure and the top of the foundation shall be caulked at the base with silicone.

Basis of Payment.

The service installation shall be paid for at the contract unit price each for SERVICE INSTALLATION of the type specified which shall be payment in full for furnishing and installing the service installation complete. The CONCRETE FOUNDATION, TYPE A, which includes the ground rod, shall be paid for separately. SERVICE INSTALLATION, POLE MOUNTED shall include the 3/4 inch (20mm) grounding conduit, ground rod, and pole mount assembly. Any charges by the utility companies shall be approved by the engineer and paid for as an addition to the contract according to Article 109.05 of the Standard Specifications.

GROUNDING OF TRAFFIC SIGNAL SYSTEMS.

Revise Section 806 of the Standard Specifications to read:

General.

All traffic signal systems, equipment and appurtenances shall be properly grounded in strict conformance with the NEC. See IDOT District One Traffic Signal detail plan sheets for additional information.

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

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

(a) The grounded conductor (neutral conductor) shall be white color coded. This conductor shall be bonded to the equipment grounding conductor only at the Electric Service Installation. All power cables shall include one neutral conductor of the same size.

(b) The equipment grounding conductor shall be green color coded. The following is in addition to Article 801.04 of the Standard Specifications.

1. Equipment grounding conductors shall be bonded to the grounded conductor (neutral conductor) only at the Electric Service Installation. The equipment grounding conductor is paid for separately and shall be continuous. The Earth shall not be used as the equipment grounding conductor.

2. Equipment grounding conductors shall be bonded, using a Listed grounding connector, to all traffic signal mast arm poles, traffic signal posts, pedestrian posts, pull boxes, handhole frames and covers, conduits, and other metallic enclosures throughout the traffic signal wiring system, except where noted herein. Bonding shall be made with a splice and pigtail connection, using a sized compression type copper sleeve, sealant tape, and heat-shrinkable cap. A Listed electrical joint compound shall be applied to all conductors' terminations, connector threads and contact points. Conduit grounding bushings shall be installed at all conduit terminations.

3. All metallic and non-metallic raceways containing traffic signal circuit runs shall have a continuous equipment grounding conductor, except raceways containing only detector loop lead-in circuits, circuits under 50 volts and/or fiber optic cable will not be required to include an equipment grounding conductor.

4. Individual conductor splices in handholes shall be soldered and sealed with heat shrink. When necessary to maintain effective equipment grounding, a full cable heat shrink shall be provided over individual conductor heat shrinks.

(c) The grounding electrode conductor shall be similar to the equipment grounding conductor in color coding (green) and size. The grounding electrode conductor is used to connect the ground rod to the equipment grounding conductor and is bonded to ground rods via exothermic welding, listed pressure connectors, listed clamps or other approved listed means.

GROUNDING EXISTING HANDHOLE FRAME AND COVER.

Description.

This work shall consist of all materials and labor required to bond the equipment grounding conductor to the existing handhole frame and handhole cover. All installations shall meet the requirements of the details in the "District One Standard Traffic Signal Design Details," and applicable portions of the Standard Specifications and these specifications.

The equipment grounding conductor shall be bonded to the handhole frame and to the handhole cover. Two (2) ½-inch diameter x 1 ¼-inch long hex-head stainless steel bolts, spaced 1.75-inches apart center-to-center shall be fully welded to the frame and to the cover to accommodate a heavy duty Listed grounding compression terminal (Burdny type YGHA or approved equal). The grounding compression terminal shall be secured to the bolts with stainless steel split-lock washers and nylon-insert locknuts.

Welding preparation for the stainless steel bolt hex-head to the frame and to the cover shall include thoroughly cleaning the contact and weldment area of all rust, dirt and contaminants. The Contractor shall assure a solid strong weld. The welds shall be smooth and thoroughly cleaned of flux and spatter. The grounding installation shall not affect the proper seating of the cover when closed.

The grounding cable shall be paid for separately.

Method of Measurement.

Units measured for payment will be counted on a per handhole basis, regardless of the type of handhole and its location.

Basis of Payment.

This work shall be paid for at the contract unit price each for GROUNDING EXISTING HANDHOLE FRAME AND COVER which shall be payment in full for grounding the handhole complete.

COILABLE NON-METALLIC CONDUIT.

Description.

This work shall consist of furnishing and installing empty coilable non-metallic conduit (CNC) for detector loop raceways.

General.

The CNC installation shall be in accordance with Sections 810 and 811 of the Standard Specifications except for the following:

Add the following to Article 810.03 of the Standard Specifications:

CNC meeting the requirements of NEC Article 353 shall be used for detector loop raceways to the handholes.

Add the following to Article 811.03 of the Standard Specifications:

On temporary traffic signal installations with detector loops, CNC meeting the requirements of NEC Article 353 shall be used for detector loop raceways from the saw-cut to 10 feet (3m) up the wood pole, unless otherwise shown on the plans

Basis of Payment.

All installations of CNC for loop detection shall be included in the contract and not paid for separately.

HANDHOLES.

Add the following to Section 814 of the Standard Specifications:

All handholes shall be concrete, poured in place, with inside dimensions of 21-1/2 inches (549mm) minimum. Frames and lid openings shall match this dimension. The cover of the handhole frame shall be labeled "Traffic Signals" with legible raised letters.

For grounding purposes the handhole frame shall have provisions for a 7/16 inch (15.875mm) diameter stainless bolt cast into the frame. The covers shall have a stainless steel threaded stint extended from the eye hook assembly for the purpose of attaching the grounding conductor to the handhole cover.

The minimum wall thickness for heavy duty hand holes shall be 12 inches (300mm).

All conduits shall enter the handhole at a depth of 30 inches (760mm) except for the conduits for detector loops when the handhole is less than 5 feet (1.52 m) from the detector loop. All conduit ends should be sealed with a waterproof sealant to prevent the entrance of contaminants into the handhole.

Steel cable hooks shall be coated with hot-dipped galvanization in accordance with AASHTO Specification M111. Hooks shall be a minimum of 1/2 inch (12.7 mm) diameter with two 90 degree bends and extend into the handhole at least 6 inches (150 mm). Hooks shall be placed a minimum of 12 inches (300 mm) below the lid or lower if additional space is required.

GROUNDING CABLE.

The cable shall meet the requirements of Section 817 of the "Standard Specifications," except for the following:

Add the following to Article 817.02 (b) of the Standard Specifications:

Unless otherwise noted on the Plans, traffic signal grounding conductor shall be one conductor, #6 gauge copper, with a green color coded XLP jacket.

The traffic signal grounding conductor shall be bonded, using a Listed grounding connector (Burdy type KC/K2C, as applicable, or approved equal), to all proposed and existing traffic signal mast arm poles and traffic/pedestrian signal posts, including push button posts. The grounding conductor shall be bonded to all proposed and existing pull boxes, handhole frames and covers and other metallic enclosures throughout the traffic signal wiring system and noted herein and detailed on the plans. The grounding conductor shall be bonded to conduit terminations using rated grounding bushings. Bonding to existing handhole frames and covers shall be paid for separately.

Add the following to Article 817.05 of the Standard Specifications:

Basis of Payment.

Grounding cable shall be measured in place for payment in foot (meter). Payment shall be at the contract unit price for ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6, 1C, which price includes all associated labor and material including grounding clamps, splicing, exothermic welds, grounding connectors, conduit grounding bushings, and other hardware.

RAILROAD INTERCONNECT CABLE.

The cable shall meet the requirements of Section 873 of the Standard Specifications, except for the following:

Add to Article 873.02 of the Standard Specifications:

The railroad interconnect cable shall be three conductor stranded #14 copper cable in a clear polyester binder, shielded with #36 AWG tinned copper braid with 85% coverage, and insulated with .016" polyethylene (black, blue, red). The jacket shall be black 0.045 PVC or polyethylene.

Add the following to Article 873.05 of the Standard Specifications:

Basis of Payment.

This work shall be paid for at the contract unit price per foot (meter) for ELECTRIC CABLE IN CONDUIT, RAILROAD, NO. 14 3C, which price shall be payment in full for furnishing, installing, and making all electrical connections in the traffic signal controller cabinet. Connections in the railroad controller cabinet shall be performed by railroad personnel.

FIBER OPTIC TRACER CABLE.

The cable shall meet the requirements of Section 817 of the "Standard Specifications," except for the following:

Add the following to Article 817.03 of the Standard Specifications:

In order to trace the fiber optic cable after installation, the tracer cable shall be installed in the same conduit as the fiber optic cable in locations shown on the plans. The tracer cable shall be continuous, extended into the controller cabinet and terminated on a barrier type terminal strip mounted on the side wall of the controller cabinet. The barrier type terminal strip and tracer cable shall be clearly marked and identified. All tracer cable splices shall be kept to a minimum and shall incorporate maximum lengths of cable supplied by the manufacturer. The tracer cable will be allowed to be spliced at handholes only. The tracer cable splice shall use a Western Union Splice soldered with resin core flux and shall be soldered using a soldering iron. Blow torches or other devices which oxidize copper cable shall not be allowed for soldering operations. All exposed surfaces of the solder shall be smooth. The splice shall be covered with a black shrink tube meeting UL 224 guidelines, Type V and rated 600v, minimum length 4 inches (100 mm) and with a minimum 1 inch (25 mm) coverage over the XLP insulation, underwater grade.

Add the following to Article 817.05 of the Standard Specifications:

Basis of Payment.

The tracer cable shall be paid for separately as ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C per foot (meter), which price shall include all associated labor and material for installation.

MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION.

Revise Articles 850.02 and 850.03 of the Standard Specifications to read:

Procedure.

The energy charges for the operation of the traffic signal installation shall be paid for by others. Full maintenance responsibility shall start as soon as the Contractor begins any physical work on the Contract or any portion thereof.

The Contractor shall have electricians with IMSA Level II certification on staff to provide signal maintenance.

This item shall include maintenance of all traffic signal equipment at the intersection, including emergency vehicle pre-emption equipment, master controllers, uninterruptible power supply (UPS and batteries), telephone service installations, communication cables, conduits to adjacent intersections, and other traffic signal equipment, but shall not include Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, or peripheral equipment, not owned by the State.

Maintenance.

The maintenance shall be according to MAINTENANCE AND RESPONSIBILITY in Division 800 of these specifications and the following:

The Contractor shall check all controllers every two (2) weeks, which will include visually inspecting all timing intervals, relays, detectors, and pre-emption equipment to ensure that they are functioning properly. This item includes, as routine maintenance, all portions of emergency vehicle pre-emption equipment.

The Contractor shall maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs.

The Contractor shall provide immediate corrective action when any part or parts of the system fail to function properly. Two far side heads facing each approach shall be considered the minimum acceptable signal operation pending permanent repairs. When repairs at a signalized intersection require that the controller be disconnected or otherwise removed from normal operation, and power is available, the Contractor shall place the traffic signal installation on flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer. The Contractor shall be required to place stop signs (R1-1-36) at each approach of the intersection as a temporary means of regulating traffic. When the signals operate in flash, the Contractor shall furnish and equip all their vehicles assigned to the maintenance of traffic signal installations with a sufficient number of stop signs as specified herein. The Contractor shall maintain a sufficient number of spare stop signs in stock at all times to replace stop signs which may be damaged or stolen.

The Contractor shall provide the Engineer with a 24 hour telephone number for the maintenance of the traffic signal installation and for emergency calls by the Engineer.

Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of the Standard Specifications and these special provisions.

The Contractor shall respond to all emergency calls from the Department or others within one hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the contract. The Contractor may institute action to recover damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the traffic signal installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the State's Electrical Maintenance Contractor perform the maintenance work required. The State's Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The Contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor. The Contractor shall allow the Electrical Maintenance Contractor to make reviews of the Existing Traffic Signal Installation that has been transferred to the Contractor for Maintenance.

TRAFFIC ACTUATED CONTROLLER.

Add the following to Article 857.02 of the Standard Specifications:

Controllers shall be NTCIP compliant NEMA TS2 Type 1, Econolite ASC/3S-1000 or Eagle/Siemens M50 unless specified otherwise on the plans or elsewhere on these specifications. Only controllers supplied by one of the District One approved closed loop equipment manufacturers will be allowed. The controller shall be the most recent model and software version supplied by the manufacturer at the time of the approval and include the standard data key. The traffic signal controller shall provide features to inhibit simultaneous display of a circular yellow ball and a yellow arrow display. Individual load switches shall be provided for each vehicle, pedestrian, and right turn over lap phase.

The controller shall prevent phases from being skipped during program changes and after all preemption events.

MASTER CONTROLLER.

Revise Articles 860.02 - Materials and 860.03 - Installation of the Standard Specifications to read:

Only controllers supplied by one of the District approved closed loop equipment manufacturers will be allowed. Only NEMA TS 2 Type 1 Eagle/Siemens and Econolite closed loop systems shall be supplied. The latest model and software version of master controller shall be supplied.

Functional requirements in addition to those in Section 863 of the Standard Specifications include:

The system commands shall consist of, as a minimum, six (6) cycle lengths, five (5) offsets, three (3) splits, and four (4) special functions. The system commands shall also include commands for free or coordinated operation.

Traffic Responsive operation shall consist of the real time acquisition of system detector data, data validation, and the scaling of acquired volumes and occupancies in a deterministic fashion so as to cause the selection and implementation of the most suitable traffic plan.

Upon request by the Engineer, each master shall be delivered with up to three (3) complete sets of the latest edition of registered remote monitoring software with full manufacture's support. Each set shall consist of software on CD, DVD, or other suitable media approved by the Engineer, and a bound set of manuals containing loading and operating instruction. One copy of the software and support data shall be delivered to the Agency in charge of system operation, if other than IDOT. One of these two sets will be provided to the Agency Signal Maintenance Contractor for use in monitoring the system.

The approved manufacturer of equipment shall loan the District one master controller and two intersection controllers of the most recent models and the newest software version to be used for instructional purposes in addition to the equipment to be supplied for the Contract.

The Contractor shall arrange to install a standard voice-grade dial-up telephone line to the master controller. This shall be accomplished through the following process utilizing District One staff. This telephone line may be coupled with a DSL line and a phone filter to isolate the dial-up line. An E911 address is required.

The cabinet shall be provided with an Outdoor Network Interface for termination of the telephone service. It shall be mounted to the inside of the cabinet in a location suitable to provide access for termination of the telephone service at a later date.

Full duplex communication between the master and its local controllers is recommended, but at this time not required. The data rate shall be 1200 baud minimum and shall be capable of speeds to 38,400 or above as technology allows. The controller, when installed in an Ethernet topology, may operate non-serial communications.

The cabinet shall be equipped with a 9600 baud, auto dial/auto answer modem. It shall be a US robotics 33.6K baud rate or equal.

As soon as practical or within one week after the contract has been awarded, the Contractor shall contact (via phone) the Administrative Support Manager in the District One Business Services Section at (847) 705-4011 to request a phone line installation.

A follow-up fax transmittal to the Administrative Support Manager (847-705-4712) with all required information pertaining to the phone installation is required from the Contractor as soon as possible or within one week after the initial request has been made. A copy of this fax transmittal must also be faxed by the Contractor to the Traffic Signal Systems Engineer at (847) 705-4089. The required information to be supplied on the fax shall include (but not limited to): A street address for the new traffic signal controller (or nearby address); a nearby existing telephone number; what type of telephone service is needed; the name and number of the Contractor's employee for the telephone company to contact regarding site work and questions.

The usual time frame for the activation of the phone line is 4-6 weeks after the Business Services Section has received the Contractor supplied fax. It is, therefore, imperative that the phone line conduit and pull-string be installed by the Contractor in anticipation of this time frame. On jobs which include roadway widening in which the conduit cannot be installed until this widening is completed, the Contractor will be allowed to delay the phone line installation request to the Business Services Section until a point in time that is 4-6 weeks prior to the anticipated completion of the traffic signal work. The contractor shall provide the Administrative Support Manager with an expected installation date considering the 4-6 week processing time.

The telephone line shall be installed and activated one month before the system final inspection.

All costs associated with the telephone line installation and activation (not including the Contract specified conduit installation between the point of telephone service and the traffic signal controller cabinet) shall be paid for by the District One Business Services Section (i.e., this will be an IDOT phone number not a Contractor phone number).

UNINTERRUPTIBLE POWER SUPPLY.

Add the following to Article 862.01 of the Standard Specifications:

The UPS shall have the power capacity to provide normal operation of a signalized intersection that utilizes all LED type signal head optics, for a minimum of six hours.

Add the following to Article 862.02 of the Standard Specifications:

Materials shall be according to Article 1074.04 as modified in UNINTERRUPTIBLE POWER SUPPLY in Division 1000 of these specifications.

Add the following to Article 862.03 of the Standard Specifications:

The UPS shall additionally include, but not be limited to, a battery cabinet. The UPS shall provide reliable emergency power to the traffic signals in the event of a power failure or interruption.

Revise Article 862.04 of the Standard Specifications to read:

Installation.

When a UPS is installed at an existing traffic signal cabinet, the UPS cabinet shall partially rest on the lip of the existing controller cabinet foundation and be secured to the existing controller cabinet by means of at least four (4) stainless steel bolts. The UPS cabinet shall be completely enclosed with the bottom and back constructed of the same material as the cabinet.

When a UPS is installed at a new signal cabinet and foundation, it shall be mounted as shown on the plans.

At locations where UPS is installed and Emergency Vehicle Priority System is in use, any existing incandescent confirmation beacons shall be replaced with LED lamps in accordance with the District One Emergency Vehicle Priority System specification at no additional cost to the contract.

Revise Article 862.05 of the Standard Specifications to read:

Basis of Payment.

This work will be paid for at the contract unit price per each for UNINTERRUPTABLE POWER SUPPLY. Replacement of Emergency Vehicle Priority System confirmation beacons shall be included in the cost of the UNINTERRUPTABLE POWER SUPPLY item.

FIBER OPTIC CABLE.

Add the following to Article 871.01 of the Standard Specifications:

The Fiber Optic cable shall be installed in conduit or as specified on the plans.

Add the following to Article 872.02 of the Standard Specifications:

The control cabinet distribution enclosure shall be CSC FTWO12KST-W/O 12 Port Fiber Wall Enclosure or an approved equivalent. The fiber optic cable shall provide six fibers per tube for the amount of fibers called for in the Fiber Optic Cable pay item in the Contract. Fiber Optic cable may be gel filled or have an approved water blocking tape.

Add the following to Article 871.04 of the Standard Specifications:

A minimum of six multimode fibers from each cable shall be terminated with approved mechanical connectors at the distribution enclosure. Fibers not being used shall be labeled "spare." Fibers not attached to the distribution enclosure shall be capped and sealed. A minimum of 13.0 feet (4m) of extra cable length shall be provided for controller cabinets. The controller cabinet extra cable length shall be stored as directed by the Engineer.

Add the following to Article 871.06 of the Standard Specifications:

The distribution enclosure and all connectors will be included in the cost of the fiber optic cable.

MAST ARM ASSEMBLY AND POLE.

Revise Article 877.01 of the Standard Specifications to read:

Description.

This work shall consist of furnishing and installing a steel mast arm and assembly and a galvanized steel or extruded aluminum shroud for protection of the base plate.

Revise Article 877.03 of the Standard Specifications:

Mast arm assembly and pole shall be as follows.

(a) Steel Mast Arm Assembly and Pole and Steel Combination Mast Arm Assembly and Pole. The steel mast arm assembly and pole and steel combination mast arm assembly and pole shall consist of a traffic signal mast arm, a luminaire mast arm or davit (for combination pole only), a pole, and a base, together with anchor rods and other appurtenances. The configuration of the mast arm assembly, pole, and base shall be according to the details shown on the plans.

(1) Loading. The mast arm assembly and pole, and combination mast arm assembly and pole shall be designed for the loading shown on the Highway Standards or elsewhere on the plans, whichever is greater. The design shall be according to AASHTO "Standard Specification for Structural Supports for Highway Signs, Luminaries and Traffic Signals" 1994 Edition for 80 mph (130 km/hr) wind velocity. However, the arm-to-pole connection for tapered signal and luminaire arms shall be according to the "ring plate" detail as shown in Figure 11-1(f) of the 2002 Interim, to the AASHTO "Standard Specification for Structural Supports for Highway Signs, Luminaries and Traffic Signals" 2001 4th Edition.

(2) Structural Steel Grade. The mast arm and pole shall be fabricated according to ASTM A 595, Grade A or B, ASTM A 572 Grade 55, or ASTM A 1011 Grade 55 HSLAS Class 2. The base and flange plates shall be of structural steel according to AASHTO M 270 Grade 50 (M 270M Grade 345). Luminaire arms and trussed arms 15 ft (4.5 m) or less shall be fabricated from one steel pipe or tube size according to ASTM A 53 Grade B or ASTM A 500 Grade B or C. All mast arm assemblies, poles, and bases shall be galvanized according to AASHTO M 111.

(3) Fabrication. The design and fabrication of the mast arm assembly, pole, and base shall be according to the requirements of the Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals published by AASHTO. The mast arm and pole may be of single length or sectional design. If section design is used, the overlap shall be at least 150 percent of the maximum diameter of the overlapping section and shall be assembled in the factory.

The manufacturer will be allowed to slot the base plate in which other bolt circles may fit, providing that these slots do not offset the integrity of the pole. Circumferential welds of tapered arms and poles to base plates shall be full penetration welds.

(4) Shop Drawing Approval. The Contractor shall submit detailed drawings showing design materials, thickness of sections, weld sizes, and anchor rods to the Engineer for approval prior to fabrication. These drawings shall be at least 11 x 17 in. (275 x 425 mm) in size and of adequate quality for microfilming.

(b) Anchor Rods. The anchor rods shall be ASTM F 1554 Grade 105, coated by the hot-dip galvanizing process according to AASHTO M 232, and shall be threaded a minimum of 7 1/2 in. (185 mm) at one end and have a bend at the other end. The first 12 in. (300 mm) at the threaded end shall be galvanized. Two nuts, one lock washer, and one flat washer shall be furnished with each anchor rod. All nuts and washers shall be galvanized.

(c) The galvanized steel or extruded aluminum shroud shall have dimensions similar to those detailed in the "District One Standard Traffic Signal Design Details." The shroud shall be installed such that it allow air to circulate throughout the mast arm but not allow infestation of insects or other animals, and such that it is not hazardous to probing fingers and feet.

Add the following to Article 877.04 of the Standard Specifications:

The shroud shall not be paid for separately but shall be included in the cost of the mast arm assembly and pole.

CONCRETE FOUNDATIONS.

Add the following to Article 878.03 of the Standard Specifications:

All anchor bolts shall be according to Article 1006.09, with all anchor bolts hot dipped galvanized a minimum of 12 in. (300 mm) from the threaded end.

Concrete Foundations, Type "A" for Traffic Signal Posts shall provide anchor bolts with the bolt pattern specified within the "District One Standard Traffic Signal Design Details." All Type "A" foundations shall be a minimum depth of 48 inches (1220 mm).

Concrete Foundations, Type "C" for Traffic Signal Cabinets with Uninterruptible Power Supply (UPS) cabinet installations shall be a minimum of 72 inches (1830 mm) long and 31 inches (790 mm) wide. All Type "C" foundations shall be a minimum depth of 48 inches (1220 mm). The concrete apron in front of the Type IV or V cabinet shall be 36 in. x 48 in. x 5 in. (915 mm X 1220 mm X 130 mm). The concrete apron in front of the UPS cabinet shall be 36 in. x 67 in. x 5 in. (915 mm X 1700 mm X 130 mm). Anchor bolts shall provide bolt spacing as required by the manufacturer.

Concrete Foundations, Type "D" for Traffic Signal Cabinets shall be a minimum of 48 inches (1220 mm) long and 31 inches (790 mm) wide. All Type "D" foundations shall be a minimum depth of 48 inches (1220 mm). The concrete apron shall be 36 in. x 48 in. x 5 in. (910 mm X 1220 mm X 130 mm). Anchor bolts shall provide bolt spacing as required by the manufacturer.

Concrete Foundations, Type "E" for Mast Arm and Combination Mast Arm Poles shall meet the current requirements listed in the Highway Standards.

Foundations used for Combination Mast Arm Poles shall provide an extra 2-1/2 inch (65 mm) raceway.

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

SIGNAL HEAD, LED

Revise Article 880.02 of the Standard Specifications to read:

Materials.

Materials shall be according to SIGNAL HEAD, LED in Division 1000 of these specifications.

Add the following to Article 880.04 of the Standard Specifications:

Basis of Payment.

The price for SIGNAL HEAD, LED shall be payment in full for furnishing the equipment described above including signal head with LED modules, all mounting hardware, and installing them in satisfactory operating condition.

SIGNAL HEAD, LED, RETROFIT

Description.

This work shall consist of retrofitting an existing polycarbonate traffic signal head with a traffic signal module, pedestrian signal module, and pedestrian countdown signal module, with light emitting diodes (LEDs) as specified in the plans.

Materials.

Materials shall be according to SIGNAL HEAD, LED, and PEDESTRIAN COUNTDOWN SIGNAL HEAD, LED in Divisions 800 and 1000 of these specifications.

Add the following to Article 880.04 of the Standard Specifications:

Basis of Payment.

This item shall be paid for at the contract unit price each for SIGNAL HEAD, LED, RETROFIT, or PEDESTRIAN SIGNAL HEAD, LED, RETROFIT, for the type and number of polycarbonate signal heads, faces, and sections specified, which price shall be payment in full for furnishing the equipment described above including LED modules, all mounting hardware, and installing them in satisfactory operating condition. The type specified will indicate the number of faces and the method of mounting.

PEDESTRIAN SIGNAL HEAD, LED

Revise Article 881.01 of the Standard Specifications to read:

Description.

This work shall consist of furnishing and installing a pedestrian signal head with light emitting diodes (LED) or pedestrian countdown signal head, with light emitting diodes (LED) of the type specified in the plans.

All pedestrian signals at an intersection shall be the same type and have the same display. No mixing of different types of pedestrian traffic signals or displays will be permitted.

Revise Article 881.02 of the Standard Specifications to read:

Materials.

Materials shall be according to SIGNAL HEAD, LED, and PEDESTRIAN COUNTDOWN SIGNAL HEAD, LED in Divisions 800 and 1000 of these specifications.

Add the following to Article 881.03 of the Standard Specifications:

(a) Pedestrian Countdown Signal Heads.

(1) Pedestrian Countdown Signal Heads shall not be installed at signalized intersections where traffic signals and railroad warning devices are interconnected.

(2) Pedestrian Countdown Signal Heads shall be 16 inch (406mm) x 18 inch (457mm), for single units with the housings glossy black polycarbonate. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on.

(3) Each pedestrian signal LED module shall be fully MUTCD compliant and shall consist of double overlay message combining full LED symbols of an Upraised Hand and a Walking Person. "Egg Crate" type sun shields are not permitted. Numerals shall measure 9 inches (229mm) in height and easily identified from a distance of 120 feet (36.6m).

Revise Article 881.04 of the Standard Specifications to read:

Basis of Payment.

This item shall be paid for at the contract unit price each for PEDESTRIAN SIGNAL HEAD, LED, or PEDESTRIAN COUNTDOWN SIGNAL HEAD, LED, of the type specified and of the particular kind of material when specified, which price shall be payment in full for furnishing the equipment described above including signal head with LED modules, all mounting hardware, and installing them in satisfactory operating condition. The type specified will indicate the number of faces and the method of mounting.

DETECTOR LOOP.

Revise Section 886 of the Standard Specifications to read:

Description.

This work shall consist of furnishing and installing a detector loop in the pavement.

Procedure.

A minimum of seven (7) working days prior to the Contractor cutting loops, the Contractor shall have the proposed loop locations marked and contact the Area Traffic Signal Maintenance and Operations Engineer (847) 705-4424 to inspect and approve the layout.

When preformed detector loops are installed, the Contractor shall have them inspected and approved prior to the pouring of the Portland cement concrete surface, using the same notification process as above.

Installation.

Loop detectors shall be installed according to the requirements of the "District One Standard Traffic Signal Design Details." Saw-cuts (homeruns on preformed detector loops) from the loop to the edge of pavement shall be made perpendicular to the edge of pavement when possible in order to minimize the length of the saw-cut (homerun on preformed detector loops) unless directed otherwise by the Engineer or as shown on the plan.

The detector loop cable insulation shall be labeled with the cable specifications.

Each loop detector lead-in wire shall be labeled in the handhole using a Panduit PLFIM water proof tag, or an approved equal, secured to each wire with nylon ties.

Resistance to ground shall be a minimum of 100 mega-ohms under any conditions of weather or moisture. Inductance shall be more than 50 and less than 700 microhenries. Quality readings shall be more than 5.

(a) Type I. All loops installed in new asphalt pavement shall be installed in the binder course and not in the surface course. The edge of pavement, curb and handhole shall be cut with a 1/4 inch (6.3 mm) deep x 4 inches (100 mm) saw cut to mark location of each loop lead-in.

(b) Loop sealant shall be a two-component thixotropic chemically cured polyurethane either Chemque Q-Seal 295, Percol Elastic Cement AC Grade or an approved equal. The sealant shall be installed 1/8 inch (3 mm) below the pavement surface, if installed above the surface the overlap shall be removed immediately.

(c) Detector loop measurements shall include the saw cut and the length of the loop lead-in to the edge of pavement. The lead-in wire, including all necessary connections for proper operations, from the edge of pavement to the handhole, shall be included in the price of the detector loop. Unit duct, trench and backfill, and drilling of pavement or handholes shall be included in detector loop quantities.

(d) Preformed. This work shall consist of furnishing and installing a rubberized or crosslinked polyethylene heat resistant preformed traffic signal loop in accordance with the Standard Specifications, except for the following:

(e) Preformed detector loops shall be installed in new pavement constructed of Portland cement concrete using mounting chairs or tied to re-bar or the preformed detector loops may be placed in the sub-base. Loop lead-ins shall be extended to a temporary protective enclosure near the proposed handhole location. The protective enclosure shall provide sufficient protection from other construction activities and may be buried for additional protection.

(f) Handholes shall be placed next to the shoulder or back of curb when preformed detector loops enter the handhole. Non-metallic coilable duct, included in this pay item, shall be used to protect the preformed lead-ins from back of curb to the handhole.

(g) Preformed detector loops shall be factory assembled with ends capped and sealed against moisture and other contaminants. Homeruns and interconnects shall be pre-wired and shall be an integral part of the loop assembly. The loop configurations and homerun lengths shall be assembled for the specific application. The loop and homerun shall be constructed using 11/16 inch (17.2 mm) outside diameter (minimum), 3/8 inch (9.5 mm) inside diameter (minimum) Class A oil resistant synthetic cord reinforced hydraulic hose with 250 psi (1,720 kPa) internal pressure rating or a similarly sized XLPE cable jacket. Hose for the loop and homerun assembly shall be one continuous piece. No joints or splices shall be allowed in the hose except where necessary to connect homeruns or interconnects to the loops. This will provide maximum wire protection and loop system strength. Hose tee connections shall be heavy duty high temperature synthetic rubber. The tee shall be of proper size to attach directly to the hose, minimizing glue joints. The tee shall have the same flexible properties as the hose to insure that the whole assembly can conform to pavement movement and shifting without cracking or breaking. For XLPE jacketed preformed loops, all splice connections shall be soldered, sealed, and tested before being sealed in a high impact glass impregnated plastic splice enclosure. The wire used shall be #16 THWN stranded copper. The number of turns in the loop shall be application specific. Homerun wire pairs shall be twisted a minimum of four turns per foot. No wire splices will be allowed in the preformed loop assembly. The loop and homeruns shall be filled and sealed with a flexible sealant to insure complete moisture blockage and further protect the wire. The preformed loops shall be constructed to allow a minimum of 6.5 feet of extra cable in the handhole.

Method of Measurement.

This work will be measured for payment in feet (meters) in place. Type I detector loop will be measured along the sawed slot in the pavement containing the loop and lead-in, rather than the actual length of the wire. Preformed detector loops will be measured along the detector loop and lead-in embedded in the pavement, rather than the actual length of the wire.

Basis of Payment.

This work shall be paid for at the contract unit price per foot (meter) for DETECTOR LOOP, TYPE I or PREFORMED DETECTOR LOOP as specified in the plans, which price shall be payment in full for furnishing and installing the detector loop and all related connections for proper operation.

EMERGENCY VEHICLE PRIORITY SYSTEM.

Revise Section 887 of the Standard Specifications to read:

It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle pre-emption equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency.

All new installations shall be equipped with Confirmation Beacons as shown on the "District One Standard Traffic Signal Design Details." The Confirmation Beacon shall consist of a 6 watt Par 38 LED flood lamp with a 30 degree light spread, maximum 6 watt energy consumption at 120V, and a 2,000 hour warranty for each direction of pre-emption. The lamp shall have an adjustable mount with a weatherproof enclosure for cable splicing. All hardware shall be cast aluminum or stainless steel.

Holes drilled into signal poles, mast arms, or posts shall require rubber grommets. In order to maintain uniformity between communities, the confirmation beacons shall indicate when the control equipment receives the pre-emption signal. The pre-emption movement shall be signalized by a flashing indication at the rate specified by Section 4D-11 of the "Manual on Uniform Traffic Control Devices," and other applicable sections of future editions. The stopped pre-empted movements shall be signalized by a continuous indication.

All light operated systems shall include security and transit preemption software and operate at a uniform rate of 14.035 Hz \pm 0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District.

Basis of Payment.

The work shall be paid for at the contract unit price each for furnishing and installing LIGHT DETECTOR and LIGHT DETECTOR AMPLIFIER. Furnishing and installing the confirmation beacon shall be included in the cost of the Light Detector. The preemption detector amplifier shall be paid for on a basis of (1) one each per intersection controller and shall provide operation for all movements required in the pre-emption phase sequence.

TEMPORARY TRAFFIC SIGNAL INSTALLATION.

Revise Section 890 of the Standard Specifications to read:

Description.

This work shall consist of furnishing, installing, maintaining, and removing a temporary traffic signal installation as shown on the plans, including but not limited to temporary signal heads, emergency vehicle priority systems, interconnect, vehicle detectors, uninterruptible power supply, and signing. Temporary traffic signal controllers and cabinets interconnected to railroad traffic control devices shall be new. When temporary traffic signals will be operating within a county or local agency Traffic Management System, the equipment must be NTCIP compliant and compatible with the current operating requirements of the Traffic Management System.

General.

Only an approved equipment vendor will be allowed to assemble the temporary traffic signal cabinet. Also, an approved equipment vendor shall assemble and test a temporary railroad traffic signal cabinet. (Refer to the "Inspection of Controller and Cabinet" specification). A representative of the approved control equipment vendor shall be present at the temporary traffic signal turn-on inspection.

Construction Requirements.

(a) Controllers.

1. Only controllers supplied by one of the District approved closed loop equipment manufacturers will be approved for use at temporary signal locations. All controllers used for temporary traffic signals shall be fully actuated NEMA microprocessor based with RS232 data entry ports compatible with existing monitoring software approved by IDOT District 1, installed in NEMA TS2 cabinets with 8 phase back panels, capable of supplying 255 seconds of cycle length and individual phase length settings up to 99 seconds. On projects with one lane open and two way traffic flow, such as bridge deck repairs, the temporary signal controller shall be capable of providing an adjustable all red clearance setting of up to 30 seconds in length.

All controllers used for temporary traffic signals shall meet or exceed the requirements of Section 857 of the Standard Specifications with regards to internal time base coordination and preemption. All railroad interconnected temporary controllers and cabinets shall be new and shall satisfy the requirements of Article 857.02 of the Standard Specifications as modified herein.

2. All control equipment for the temporary traffic signal(s) shall be furnished by the Contractor unless otherwise stated in the plans. On projects with multiple temporary traffic signal installations, all controllers shall be the same manufacturer brand and model number with current software installed.

(b) Cabinets. All temporary traffic signal cabinets shall have a closed bottom made of aluminum alloy. The bottom shall be sealed along the entire perimeter of the cabinet base to ensure a water, dust and insect-proof seal. The bottom shall provide a minimum of two (2) 4 inch (100 mm) diameter holes to run the electric cables through. The 4 inch (100 mm) diameter holes shall have a bushing installed to protect the electric cables and shall be sealed after the electric cables are installed.

(c) Grounding. Grounding shall be provided for the temporary traffic signal cabinet meeting or exceeding the applicable portions of the National Electrical Code, Section 807 of the Standard Specifications and shall meet the requirements of the District 1 Traffic Signal Specifications for "Grounding of Traffic Signal Systems."

(d) Traffic Signal Heads. All traffic signal sections and pedestrian signal sections shall be 12 inches (300 mm). Traffic signal sections shall be LED with expandable view, unless otherwise approved by the Engineer. The temporary traffic signal heads shall be placed as indicated on the temporary traffic signal plan or as directed by the Engineer. The Contractor shall furnish enough extra cable length to relocate heads to any position on the span wire or at locations illustrated on the plans for construction staging. The temporary traffic signal shall remain in operation during all signal head relocations. Each temporary traffic signal head shall have its own cable from the controller cabinet to the signal head.

(e) Interconnect.

1. Temporary traffic signal interconnect shall be provided using fiber optic cable or wireless interconnect technology as specified in the plans. The Contractor may request, in writing, to substitute the fiber optic temporary interconnect indicated in the contract documents with a wireless interconnect. The Contractor must provide assurances that the radio device will operate properly at all times and during all construction staging. If approved for use by the Engineer, the Contractor shall submit marked-up traffic signal plans indicating locations of radios and antennas and installation details. If wireless interconnect is used, and in the opinion of the engineer, it is not viable, or if it fails during testing or operations, the Contractor shall be responsible for installing all necessary poles, fiber optic cable, and other infrastructure for providing temporary fiber optic interconnect at no cost to the contract.

2. The existing system interconnect and phone lines are to be maintained as part of the Temporary Traffic Signal Installation specified for on the plan.

The interconnect shall be installed into the temporary controller cabinet as per the notes or details on the plans. All labor and equipment required to install and maintain the existing interconnect as part of the Temporary Traffic Signal Installation shall be included in the item Temporary Traffic Signal Installation. When shown in the plans, temporary traffic signal interconnect equipment shall be furnished and installed. The temporary traffic signal interconnect shall maintain interconnect communications throughout the entire signal system for the duration of the project.

3. Temporary wireless interconnect, compete. The radio interconnect system shall be compatible with Eagle or Econolite controller closed loop systems. This item shall include all materials, labor and testing to provide the completely operational closed loop system as shown on the plans. The radio interconnect system shall include the following components:

- a. Rack or Shelf Mounted RS-232 Frequency Hopping Spread Spectrum (FHSS) Radio
- b. Software for Radio Configuration (Configure Frequency and Hopping Patterns)
- c. Antennas (Omni Directional or Yagi Directional)
- d. Antenna Cables, LMR400, Low Loss. Max. 100-ft from controller cabinet to antenna
- e. Brackets, Mounting Hardware, and Accessories Required for Installation
- f. RS232 Data Cable for Connection from the radio to the local or master controller
- g. All other components required for a fully functional radio interconnect system

All controller cabinet modifications and other modifications to existing equipment that are required for the installation of the radio interconnect system components shall be included in this item.

The radio interconnect system may operate at 900Mhz (902-928) or 2.4 Ghz depending on the results of a site survey. The telemetry shall have an acceptable rate of transmission errors, time outs, etc. comparable to that of a hardwire system.

The proposed master controller and telemetry module shall be configured for use with the radio interconnect at a minimum rate of 9600 baud.

The radio interconnect system shall include all other components required for a complete and fully functional telemetry system and shall be installed in accordance to the manufacturers recommendations.

The following radio equipment is currently approved for use in Region One/District One: Encom Model 5100 and Intuicom Communicator II.

(f) Emergency Vehicle Pre-Emption. All emergency vehicle preemption equipment (light detectors, light detector amplifiers, confirmation beacons, etc.) as shown on the temporary traffic signal plans shall be provided by the Contractor.

It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle preemption equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency. All light operated systems shall operate at a uniform rate of 14.035 hz \pm 0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District. All labor and material required to install and maintain the Emergency Vehicle Preemption installation shall be included in the item Temporary Traffic Signal Installation.

(g) Vehicle Detection. All temporary traffic signal installations shall have vehicular detection installed as shown on the plans or as directed by the Engineer. Pedestrian push buttons shall be provided for all pedestrian signal heads/phases as shown on the plans or as directed by the Engineer. All approaches shall have vehicular detection provided by vehicle detection system as shown on the plans or as directed by the Engineer. Microwave vehicle sensors or video vehicle detection system shall be approved by IDOT prior to Contractor furnishing and installing. The Contractor shall install, wire, and adjust the alignment of the microwave vehicle sensor or video vehicle detection system in accordance to the manufacturer's recommendations and requirements. The Contractor shall be responsible for adjusting the alignment of the microwave vehicle sensor or video vehicle detection system for all construction staging changes and for maintaining proper alignment throughout the project. A representative of the approved control equipment vendor shall be present and assist the contractor in setting up and maintaining the microwave vehicle sensor or video vehicle detection system. An in-cabinet video monitor shall be provided with all video vehicle detection systems and shall be included in the item Temporary Traffic Signal Installation.

(h) Uninterruptible Power Supply. When called for in the plans, the UPS cabinet shall be mounted to the temporary traffic signal cabinet and meet the requirements of UNINTERRUPTIBLE POWER SUPPLY in Divisions 800 and 1000 of these specifications.

(i) Signs. All existing street name and intersection regulatory signs shall be removed from existing poles and relocated to the temporary signal span wire. If new mast arm assembly and pole(s) and posts are specified for the permanent signals, the signs shall be relocated to the new equipment at no extra cost.

(j) Energy Charges. The electrical utility energy charges for the operation of the temporary traffic signal installation shall be paid for by others if the installation replaces an existing signal. Otherwise charges shall be paid for under 109.05 of the Standard Specifications.

(k) Maintenance. Maintenance shall meet the requirements of the Standard Specifications and MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION in Division 800 of these specifications. Maintenance of temporary signals and of the existing signals shall be included in the cost of the TEMPORARY TRAFFIC SIGNAL INSTALLATION pay item. When temporary traffic signals are to be installed at locations where existing signals are presently operating, the Contractor shall be fully responsible for the maintenance of the existing signal installation as soon as he begins any physical work on the Contract or any portion thereof.

In addition, a minimum of seven (7) days prior to assuming maintenance of the existing traffic signal installation(s) under this Contract, the Contractor shall request that the Resident Engineer contact the Bureau of Traffic Operations (847) 705-4424 for an inspection of the installation(s).

(l) Temporary Traffic Signals for Bridge Projects. Temporary Traffic Signals for bridge projects shall follow the State Standards, Standard Specifications, District One Traffic Signal Specifications and any plans for Bridge Temporary Traffic Signals included in the plans. The installation shall meet the Standard Specifications and all other requirements in this TEMPORARY TRAFFIC SIGNAL INSTALLATION specification. In addition all electric cable shall be aerially suspended, at a minimum height of 18 feet (5.5m) on temporary wood poles (Class 5 or better) of 45 feet (13.7 m) minimum height. The signal heads shall be span wire mounted or bracket mounted to the wood pole or as directed by the Engineer. The Controller cabinet shall be mounted to the wood pole as shown in the plans, or as directed by the Engineer. Microwave vehicle sensors or video vehicle detection system may be used in place of detector loops as approved by the Engineer.

(m) Temporary Portable Traffic Signal for Bridge Projects.

1. Unless otherwise directed by the Engineer, temporary portable traffic signals shall be restricted to use on roadways of less than 8000 ADT that have limited access to electric utility service, shall not be installed on projects where the estimated need exceeds ten (10) weeks, and shall not be in operation during the period of November through March. The Contractor shall replace the temporary portable traffic signals with temporary span wire traffic signals noted herein at no cost to the contract if the bridge project or Engineer requires temporary traffic signals to remain in operation into any part of period of November through March. If, in the opinion of the engineer, the reliability and safety of the temporary portable traffic signal is not similar to that of a temporary span wire traffic signal installation, the Contractor shall replace the temporary portable traffic signals with temporary span wire traffic signals noted herein at no cost to the contract.

2. The controller and LED signal displays shall meet the Standard Specifications and all other requirements in this TEMPORARY TRAFFIC SIGNAL INSTALLATION specification.

3. Work shall be according to Article 701.18(b) of the Standard Specifications except as noted herein.

4. General.

a. The temporary portable bridge traffic signals shall be trailer-mounted units. The trailer-mounted units shall be set up securely and level. Each unit shall be self-contained and consist of two signal heads. The left signal head shall be mounted on a mast arm capable of extending over the travel lane. Each unit shall contain a solar cell system to facilitate battery charging. There shall be a minimum of 12 days backup reserve battery supply and the units shall be capable of operating with a 120 V power supply from a generator or electrical service.

b. All signal heads located over the travel lane shall be mounted at a minimum height of 17 feet (5m) from the bottom of the signal back plate to the top of the road surface. All far right signal heads located outside the travel lane shall be mounted at a minimum height of 8 feet (2.5m) from the bottom of the signal back plate to the top of the adjacent travel lane surface.

c. The long all red intervals for the traffic signal controller shall be adjustable up to 250 seconds in one-second increments.

d. As an alternative to detector loops, temporary portable bridge traffic signals may be equipped with microwave sensors or other approved methods of vehicle detection and traffic actuation.

e. All portable traffic signal units shall be interconnected using hardwire communication cable. Radio communication equipment may be used only with the approval of the Engineer. If radio communication is used, a site analysis shall be completed to ensure that there is no interference present that would affect the traffic signal operation. The radio equipment shall meet all applicable FCC requirements.

f. The temporary portable bridge traffic signal system shall meet the physical display and operational requirements of conventional traffic signals as specified in Part IV and other applicable portions of the currently adopted version of the Manual on Uniform Traffic Control Devices (MUTCD) and the Illinois MUTCD. The signal system shall be designed to continuously operate over an ambient temperature range between -30 °F (-34 °C) and 120 °F (48 °C). When not being utilized to inform and direct traffic, portable signals shall be treated as nonoperating equipment according to Article 701.11.

g. Basis of Payment. This work will be paid for according to Article 701.20(c).

Basis of Payment.

This work shall be paid for at the contract unit price each for TEMPORARY TRAFFIC SIGNAL INSTALLATION, TEMPORARY BRIDGE TRAFFIC SIGNAL INSTALLATION, or TEMPORARY PORTABLE BRIDGE TRAFFIC SIGNAL INSTALLATION, the price of which shall include all costs for the modifications required for traffic staging, changes in signal phasing as required in the Contract plans, microwave vehicle sensors, video vehicle detection system, any maintenance or adjustment to the microwave vehicle sensors/video vehicle detection system, all material required, the installation and complete removal of the temporary traffic signal. Each intersection will be paid for separately.

REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT.

Add the following to Article 895.05 of the Standard Specifications:

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

All equipment to be returned to the State shall be delivered by the Contractor to the State's Traffic Signal Maintenance Contractor's main facility. The Contractor shall contact the State's Electrical Maintenance Contractor to schedule an appointment to deliver the equipment. No equipment will be accepted without a prior appointment. All equipment shall be delivered within 30 days of removing it from the traffic signal installation. The Contractor shall provide 5 copies of a list of equipment that is to remain the property of the State, including model and serial numbers, where applicable. The Contractor shall also provide a copy of the Contract plan or special provision showing the quantities and type of equipment. Controllers and peripheral equipment from the same location shall be boxed together (equipment from different locations may not be mixed) and all boxes and controller cabinets shall be clearly marked or labeled with the location from which they were removed. If equipment is not returned with these requirements, it will be rejected by the State's Electrical Maintenance Contractor. The Contractor shall be responsible for the condition of the traffic signal equipment from the time Contractor takes maintenance of the signal installation until the acceptance of a receipt drawn by the State's Electrical Maintenance Contractor indicating the items have been returned in good condition.

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

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

TRAFFIC SIGNAL PAINTING.

Description.

This work shall include surface preparation, powder type painted finish application and packaging of new galvanized steel traffic signal mast arm poles and posts assemblies. All work associated with applying the painted finish shall be performed at the manufacturing facility for the pole assembly or post or at a painting facility approved by the Engineer. Traffic signal mast arm shrouds and post bases shall also be painted the same color as the pole assemblies and posts.

Surface Preparation.

All weld flux and other contaminates shall be mechanically removed. The traffic mast arms and post assemblies shall be degreased, cleaned, and air dried to assure all moisture is removed.

Painted Finish.

All galvanized exterior surfaces shall be coated with a urethane or triglycidyl isocyanurate (TGIC) polyester powder to a dry film thickness of 2.0 mils. Prior to application, the surface shall be mechanically etched by brush blasting (Ref. SSPC-SP7) and the zinc coated substrate preheated to 450 °F for a minimum one (1) hour. The coating shall be electrostatically applied and cured by elevating the zinc-coated substrate temperature to a minimum of 400 °F.

The finish paint color shall be one of the manufacturer's standard colors and shall be as selected by the local agency responsible for paint costs. The Contractor shall confirm, in writing, the color selection with the local responsible agency and provide a copy of the approval to the Engineer and a copy of the approval shall be included in the material catalog submittal.

Painting of traffic signal heads, pedestrian signal heads and controller cabinets is not included in this pay item.

Any damage to the finish after leaving the manufacturer's facility shall be repaired to the satisfaction of the Engineer using a method recommended by the manufacturer and approved by the Engineer. If while at the manufacturer's facility the finish is damaged, the finish shall be re-applied at no cost to the contract.

Warranty.

The Contractor shall furnish in writing to the Engineer, the paint manufacturer's standard warranty and certification that the paint system has been properly applied.

Packaging.

Prior to shipping, the poles and posts shall be wrapped in ultraviolet-inhibiting plastic foam or rubberized foam.

Basis of Payment.

This work shall be paid for at the contract unit price each for PAINT NEW MAST ARM AND POLE, UNDER 40 FEET (12.19 METER), PAINT NEW MAST ARM AND POLE, 40 FEET (12.19 METER) AND OVER, PAINT NEW COMBINATION MAST ARM AND POLE, UNDER 40 FEET (12.19 METER), PAINT NEW COMBINATION MAST ARM AND POLE, 40 FEET (12.19 METER) AND OVER, or PAINT NEW TRAFFIC SIGNAL POST of the length specified, which shall be payment in full for painting and packaging the traffic signal mast arm poles and posts described above including all shrouds, bases and appurtenances.

ILLUMINATED STREET NAME SIGN

Description.

This work shall consist of furnishing and installing a LED internally illuminated street name sign.

Materials.

Materials shall be in accordance with ILLUMINATED STREET NAME SIGN in Division 1000 of these specifications.

Installation.

The sign can be mounted on most steel mast arm poles. Mounting on aluminum mast arm pole requires supporting structural calculations. Some older or special designed steel mast arm poles may require structural evaluation to assure that construction of the mast arm pole is adequate for the proposed additional loading. Structural calculations and other supporting documentation as determined by the Engineer shall be provided by the contractor for review by the Department.

The sign shall be located on a steel traffic signal mast arm no further than 8-feet from the center of the pole to the center of the sign at a height of between 16 to 18-feet above traveled pavement. Mounting hardware shall be Pelco model SE-5015, or approved equal, utilizing stainless steel components.

Signs shall be installed such that they are not energized when traffic signals are powered by an alternate energy source such as a generator or uninterruptible power supply (UPS). The signs shall be connected to the generator or UPS bypass circuitry.

Basis of Payment.

This work will be paid for at the contract unit price each for ILLUMINATED STREET NAME SIGN, of the length specified which shall be payment in full for furnishing and installing the LED internally illuminated street sign, complete with circuitry and mounting hardware including photo cell, circuit breaker, fusing, relay, connections and cabling as shown on the plans for proper operation and installation.

RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM.

Description.

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

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

LEVEL II applies when improvements are made to an existing signalized intersection within an existing closed loop traffic signal system and detailed analysis of the intersection operation is desired by the engineer, or when a new signalized or existing signalized intersection is being added to an existing system, but optimization of the entire system is not required. The purpose of this work is to optimize the subject intersection, while integrating it into the existing signal system with limited impact to the system operations. This item also includes an evaluation of the overall system operation, including the traffic responsive program.

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

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

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

(a) LEVEL I Re-Optimization

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

(b) LEVEL II Re-Optimization

1. In addition to the requirements described in the LEVEL I Re-Optimization above, the following tasks are associated with LEVEL II Re-Optimization.
 - a. Traffic counts shall be taken at the subject intersection after the traffic signals are approved for operation by the Area Traffic Signal Operations Engineer. Manual turning movement counts shall be conducted from 6:30 a.m. to 9:30 a.m., 11:00 a.m. to 1:00 p.m., and 3:30 p.m. to 6:30 p.m. on a typical weekday from midday Monday to midday Friday. The turning movement counts shall identify cars, and single-unit, multi-unit heavy vehicles, and transit buses.
 - b. As necessary, the intersections shall be re-addressed and all system detectors reassigned in the master controller according to the current standard of District One.
 - c. Traffic responsive program operation shall be evaluated to verify proper pattern selection and lack of oscillation and a report of the operation shall be provided to IDOT.
2. The following deliverables shall be provided for LEVEL II Re-Optimization.
 - a. Consultant shall furnish to IDOT one (1) copy of a technical memorandum for the optimized system. The technical memorandum shall include the following elements:
 - (1) Brief description of the project
 - (2) Printed copies of the analysis output from Synchro (or other appropriate, approved optimization software file)
 - (3) Printed copies of the traffic counts conducted at the subject intersection
 - b. Consultant shall furnish to IDOT two (2) CDs for the optimized system. The CDs shall include the following elements:
 - (1) Electronic copy of the technical memorandum in PDF format

- (2) Revised Synchro files (or other appropriate, approved optimization software file) including the new signal and the rest of the signals in the closed loop system
- (3) Traffic counts conducted at the subject intersection
- (4) New or updated intersection graphic display file for the subject intersection
- (5) The CD shall be labeled with the IDOT system number and master location, as well as the submittal date and the consultant logo. The CD case shall include a clearly readable label displaying the same information securely affixed to the side and front.

Basis of Payment.

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

OPTIMIZE TRAFFIC SIGNAL SYSTEM.

Description.

This work shall consist of optimizing a closed loop traffic signal system.

OPTIMIZE TRAFFIC SIGNAL SYSTEM applies when a new or existing closed loop traffic signal system is to be optimized and a formal Signal Coordination and Timing (SCAT) Report is to be prepared. The purpose of this work is to improve system performance by optimizing traffic signal timings, developing a time of day program and a traffic responsive program.

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

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

(a) The following tasks are associated with OPTIMIZE TRAFFIC SIGNAL SYSTEM.

- 1. Appropriate signal timings and offsets shall be developed for each intersection and appropriate cycle lengths shall be developed for the closed loop signal system.

2. Traffic counts shall be taken at all intersections after the permanent traffic signals are approved for operation by the Area Traffic Signal Operations Engineer. Manual turning movement counts shall be conducted from 6:30 a.m. to 9:30 a.m., 11:00 a.m. to 1:00 p.m., and 3:30 p.m. to 6:30 p.m. on a typical weekday from midday Monday to midday Friday. The turning movement counts shall identify cars, and single-unit and multi-unit heavy vehicles.

3. As necessary, the intersections shall be re-addressed and all system detectors reassigned in the master controller according to the current standard of District One.

4. A traffic responsive program shall be developed, which considers both volume and occupancy. A time-of-day program shall be developed for used as a back-up system.

5. Proposed signal timing plan for the new or modified intersection shall be forwarded to IDOT for review prior to implementation.

6. Consultant shall conduct on-site implementation of the timings and make fine-tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations.

7. Speed and delay studies shall be conducted during each of the count periods along the system corridor in the field before and after implementation of the proposed timing plans for comparative evaluations. These studies should utilize specialized electronic timing and measuring devices.

(b) The following deliverables shall be provided for OPTIMIZE TRAFFIC SIGNAL SYSTEM.

1. Consultant shall furnish to IDOT one (1) copy of a SCAT Report for the optimized system. The SCAT Report shall include the following elements:

Cover Page in color showing a System Map
Figures
<ol style="list-style-type: none"> 1. System overview map – showing system number, system schematic map with numbered system detectors, oversaturated movements, master location, system phone number, cycle lengths, and date of completion. 2. General location map in color – showing signal system location in the metropolitan area. 3. Detail system location map in color – showing cross street names and local controller addresses. 4. Controller sequence – showing controller phase sequence diagrams.
Table of Contents
Tab 1: Final Report
<ol style="list-style-type: none"> 1. Project Overview 2. System and Location Description (Project specific) 3. Methodology 4. Data Collection 5. Data Analysis and Timing Plan Development 6. Implementation <ol style="list-style-type: none"> a. Traffic Responsive Programming (Table of TRP vs. TOD Operation) 7. Evaluation <ol style="list-style-type: none"> a. Speed and Delay runs

<p>Tab 2. Turning Movement Counts</p> <p>1. Turning Movement Counts (Showing turning movement counts in the intersection diagram for each period, including truck percentage)</p>
<p>Tab 3. Synchro Analysis</p> <p>1. AM: Time-Space diagram in color, followed by intersection Synchro report (Timing report) summarizing the implemented timings.</p> <p>2. Midday: same as AM</p> <p>3. PM: same as AM</p>
<p>Tab 4: Speed and Delay Studies</p> <p>1. Summary of before and after runs results in two (2) tables showing travel time and delay time.</p> <p>2. Plot of the before and after runs diagram for each direction and time period.</p>
<p>Tab 5: Electronic Files</p> <p>1. Two (2) CDs for the optimized system. The CDs shall include the following elements:</p> <ul style="list-style-type: none"> a. Electronic copy of the SCAT Report in PDF format b. Copies of the Synchro files for the optimized system c. Traffic counts for the optimized system d. New or updated intersection graphic display files for each of the system intersections and the system graphic display file including system detector locations and addresses.

Basis of Payment.

The work shall be paid for at the contract unit each for OPTIMIZE TRAFFIC SIGNAL SYSTEM, which price shall be payment in full for performing all work described herein for the entire traffic signal system. Following the completion of traffic counts, 25 percent of the bid price will be paid. Following the completion of the Synchro analysis, 25 percent of the bid price will be paid. Following the setup and fine tuning of the timings, the speed-delay study, and the TRP programming, 25 percent of the bid price will be paid. The remaining 25 percent will be paid when the system is working to the satisfaction of the engineer and the report and CD have been submitted.

TEMPORARY TRAFFIC SIGNAL TIMINGS

Description.

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

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

The following tasks are associated with TEMPORARY TRAFFIC SIGNAL TIMINGS.

- (a) Consultant shall attend temporary traffic signal inspection (turn-on) and/or detour meeting and conduct on-site implementation of the traffic signal timings. Make fine-tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations.

(b) Consultant shall provide monthly observation of traffic signal operations in the field.

(c) Consultant shall provide on-site consultation and adjust timings as necessary for construction stage changes, temporary traffic signal phase changes, and any other conditions affecting timing and phasing, including lane closures, detours, and other construction activities.

(d) Consultant shall make timing adjustments and prepare comment responses as directed by the Area Traffic Signal Operations Engineer.

Basis of Payment.

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

DIVISION 1000 MATERIALS

PEDESTRIAN PUSH-BUTTON.

Revise Article 1074.02 of the Standard Specifications to read:

- (a) General. Push-button assemblies shall be ADA compliant, highly vandal resistant, be pressure activated with minimal movement and cannot be stuck in a closed or constant call position. A red latching LED and audible tone shall be provided for confirmation of an actuation call.
- (b) Latching LED. The normal state of the LED shall be off. When the push button is pressure activated, the LED shall be lighted and remain on until the beginning of the walk phase. The latching relay shall be mounted in the signal cabinet, controlling two pedestrian phases.
- (b) Housing. The push-button housing shall be solid 6061 aluminum and powder coated yellow, unless otherwise noted on the plans.
- (c) Actuator. The actuator shall be stainless steel with a solid state electronic Piezo switch rated for a minimum of 20 million cycles with no moving plunger or moving electrical contacts. The operating voltage shall be 12-24 V AC/DC.
- (d) Pedestrian Station. Stations shall be designed to be mounted directly to a post, mast arm pole or wood pole. The station shall be aluminum and will accept a 3-inch round push button assembly and a 9 X 12-inch R10-3e sign with arrow(s) for a count-down pedestrian signal. The pedestrian station size without count-down pedestrian signals shall accommodate a 5 X 7 ¾ -inch R10-3b or R10-3d sign with arrow(s).
- (e) Location. Pedestrian push buttons and stations shall be mounted on poles and/or posts as shown on the plans and shall be fully accessible from a paved or concrete surface. See the District's Detail sheets for orientation and mounting details.

CONTROLLER CABINET AND PERIPHERAL EQUIPMENT.

Add the following to Article 1074.03 of the Standard Specifications:

- (a) (6) Cabinets shall be designed for NEMA TS2 Type 1 operation. All cabinets shall be pre-wired for a minimum of eight (8) phases of vehicular, four (4) phases of pedestrian and four (4) phases of overlap operation.
- (b) (5) Cabinets – Provide 1/8" (3.2 mm) thick unpainted aluminum alloy 5052-H32. The surface shall be smooth, free of marks and scratches. All external hardware shall be stainless steel.
- (b) (6) Controller Harness – Provide a TS2 Type 2 “A” wired harness in addition to the TS2 Type 1 harness.
- (b) (7) Surge Protection – Plug-in type EDCO SHA-1250 or Atlantic/Pacific approved equal.
- (b) (8) BIU – Containment screw required.
- (b) (9) Transfer Relays – Solid state or mechanical flash relays are acceptable.
- (b) (10) Switch Guards – All switches shall be guarded.
- (b) (11) Heating – Two (2) porcelain light receptacles with cage protection controlled by both a wall switch and a thermostat or a thermostatically controlled 150 watt strip heater.
- (b) (12) Plan & Wiring Diagrams – 12” x 16” (3.05mm x 4.06mm) moisture sealed container attached to door.
- (b) (13) Detector Racks – Fully wired and labeled for four (4) channels of emergency vehicle pre-emption and sixteen channels (16) of vehicular operation.
- (b) (14) Field Wiring Labels – All field wiring shall be labeled.
- (b) (15) Field Wiring Termination – Approved channel lugs required.
- (b) (16) Power Panel – Provide a nonconductive shield.
- (b) (17) Circuit Breaker – The circuit breaker shall be sized for the proposed load but shall not be rated less than 30 amps.
- (b) (18) Police Door – Provide wiring and termination for plug in manual phase advance switch.
- (b) (19) Railroad Pre-Emption Test Switch – Eaton 8830K13 SHA 1250 or equivalent.

RAILROAD, FULL-ACTUATED CONTROLLER AND CABINET.

Controller shall comply with Article 1073.01 as amended in these Traffic Signal Special Provisions.

Controller Cabinet and Peripheral Equipment shall comply with Article 1074.03 as amended in these Traffic Signal Special Provisions.

Add the following to Articles 1073.01 (c) (2) and 1074.03 (a) (5) (e) of the Standard Specifications:

Controllers and cabinets shall be new and NEMA TS2 Type 1 design.

A method of monitoring and/or providing redundancy to the railroad preemptor input to the controller shall be included as a component of the Railroad, Full Actuated Controller and Cabinet installation and be verified by the traffic signal equipment supplier prior to installation.

Railroad interconnected controllers and cabinets shall be assembled only by an approved traffic signal equipment supplier. All railroad interconnected (including temporary railroad interconnect) controllers and cabinets shall be new, built, tested and approved by the controller equipment vendor, in the vendor's District One facility, prior to field installation. The vendor shall provide the technical equipment and assistance as required by the Engineer to fully test this equipment.

UNINTERRUPTIBLE POWER SUPPLY.

Revise Article 1074.04(a)(1) of the Standard Specifications to read:

The UPS shall be line interactive and provide voltage regulation and power conditioning when utilizing utility power. The UPS shall be sized appropriately for the intersection's normal traffic signal operating connected load, plus 20 percent (20%). The total connected traffic signal load shall not exceed the published ratings for the UPS. The UPS shall provide a minimum of six (6) hours of normal operation run-time for signalized intersections with LED type signal head optics at 77 °F (25 °C) (minimum 700 W/VA active output capacity, with 90 percent minimum inverter efficiency).

Revise the first paragraph of Article 1074.04(a)(3) of the Standard Specifications to read:

The UPS shall have a minimum of four (4) sets of normally open (NO) and normally closed (NC) single-pole double-throw (SPDT) relay contact closures, available on a panel mounted terminal block or locking circular connectors, rated at a minimum 120 V/1 A, and labeled so as to identify each contact according to the plans.

Revise Article 1074.04(a)(10) of the Standard Specifications to read:

The UPS shall be compatible with the District's approved traffic controller assemblies utilizing NEMA TS 1 or NEMA TS 2 controllers and cabinet components for full time operation.

Revise Article 1074.04(a)(17) of the Standard Specifications to read:

When the intersection is in battery backup mode, the UPS shall bypass all internal cabinet lights, ventilation fans, service receptacles, any lighted street name signs, any automated enforcement equipment and any other devices directed by the Engineer.

Revise Article 1074.04(b)(2)b of the Standard Specifications to read:

Batteries, inverter/charger and power transfer relay shall be housed in a separate NEMA Type 3R cabinet. The cabinet shall be Aluminum alloy, 5052-H32, 0.125-inch thick and have a natural mill finish.

Revise Article 1074.04(b)(2)c of the Standard Specifications to read:

No more than three batteries shall be mounted on individual shelves for a cabinet housing six batteries and no more than four batteries per shelf for a cabinet housing eight batteries.

Revise Article 1074.04(b)(2)e of the Standard Specifications to read:

The battery cabinet housing shall have the following nominal outside dimensions: a width of 25 in. (785 mm), a depth of 16 in. (440 mm), and a height of 41 to 48 in. (1.1 to 1.3 m). Clearance between shelves shall be a minimum of 10 in. (250 mm).

Revise Article 1074.04(b)(2)g of the Standard Specifications to read:

The door shall open to the entire cabinet, have a neoprene gasket, an Aluminum continuous piano hinge with stainless steel pin, and a three point locking system. The cabinet shall be provided with a main door lock which shall operate with a traffic industry conventional No. 2 key. Provisions for padlocking the door shall be provided.

Add the following to Article 1074.04(b)(2) of the Standard Specifications:

- j. The battery cabinet shall have provisions for an external generator connection.

Add the following to Article 1074.04(c) of the Standard Specifications:

(8) The UPS shall include a tip or kill switch installed in the battery cabinet, which shall completely disconnect power from the UPS when the switch is manually activated.

(9) The UPS shall incorporate a flanged electric generator inlet for charging the batteries and operating the UPS. The generator connector shall be male type, twist-lock, rated as 15A, 125VAC with a NEMA L5-15P configuration and weatherproof lift cover plate (Hubbell model HBL4716C or approved equal). Access to the generator inlet shall be from a secured weatherproof lift cover plate or behind a locked battery cabinet police panel.

Battery System.

Revise Article 1074.04(d)(3) of the Standard Specifications to read:

All batteries supplied in the UPS shall be either gel cell or AGM type, deep cycle, completely sealed, prismatic leadcalcium based, silver alloy, valve regulated lead acid (VRLA) requiring no maintenance. All batteries in a UPS installation shall be the same type; mixing of gel cell and AGM types within a UPS installation is not permitted.

Revise Article 1074.04(d)(4) of the Standard Specifications to read:

Batteries shall be certified by the manufacturer to operate over a temperature range of -13 to 160 °F (-25 to + 71 °C) for gel cell batteries and -40 to 140 °F (-40 to + 60 °C) for AGM type batteries.

Add the following to Article 1074.04(d) of the Standard Specifications:

(9) The UPS shall consist of an even number of batteries that are capable of maintaining normal operation of the signalized intersection for a minimum of six hours. Calculations shall be provided showing the number of batteries of the type supplied that are needed to satisfy this requirement. A minimum of four batteries shall be provided.

Add the following to the Article 1074.04 of the Standard Specifications:

(e) Warranty. The warranty for an uninterruptible power supply (UPS) shall cover a minimum of two years from date the equipment is placed in operation; however, the batteries of the UPS shall be warranted for full replacement for a minimum of five years from the date the traffic signal and UPS are placed into service.

ELECTRIC CABLE.

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

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

Service cable may be single or multiple conductor cable.

TRAFFIC SIGNAL POST.

Add the following to Article 1077.01 (b) of the Standard Specifications:

All posts and bases shall be steel and hot dipped galvanized. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with TRAFFIC SIGNAL PAINTING in Division 800 of these specifications.

MAST ARM ASSEMBLY AND POLE.

Add the following to Article 1077.03 (a) of the Standard Specifications:

Traffic signal mast arms shall be one piece construction, unless otherwise approved by the Engineer. All poles shall be galvanized. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with TRAFFIC SIGNAL PAINTING in Division 800 of these specifications.

The shroud shall be of sufficient strength to deter pedestrian and vehicular damage. The shroud shall be constructed and designed to allow air to circulate throughout the mast arm but not allow infestation of insects or other animals, and such that it is not hazardous to probing fingers and feet. All mounting hardware shall be stainless steel.

SIGNAL HEADS.

Add the following to Section 1078 of the Standard Specifications:

All signal and pedestrian heads shall provide 12” (300 mm) displays with glossy yellow or black polycarbonate housings. All head housings shall be the same color (yellow or black) at the intersection. For new signalized intersections and existing signalized intersections where all signal and/or pedestrian heads are being replaced, the proposed head housings shall be black. Where only selected heads are being replaced, the proposed head housing color (yellow or black) shall match existing head housings. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on. Post top mounting collars are required on all posts, and shall be constructed of the same material as the brackets.

Pedestrian signal heads shall be furnished with the international symbolic "Walking Person" and "Upraised Palm" displays. Egg crate sun shields are not permitted.

Signal heads shall be positioned according to the "District One Standard Traffic Signal Design Details."

SIGNAL HEAD, LIGHT EMITTING DIODE.

Add the following to Article 1078 of the Standard Specifications

General.

LED signal heads (All Face and Section Quantities), (All Mounting Types) shall conform fully to the requirements of Articles 1078.01 and 1078.02 of the Standard Specifications amended herein.

1. The LED signal modules shall be replaced or repaired if an LED signal module fails to function as intended due to workmanship or material defects within the first 60 months from the date of delivery. LED signal modules which exhibit luminous intensities less than the minimum values specified in Table 1 of the ITE Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Circular Signal Supplement (June 27, 2005) [VTSCH], or applicable successor ITE specifications, or show signs of entrance of moisture or contaminants within the first 60 months of the date of delivery shall be replaced or repaired. The manufacturer's written warranty for the LED signal modules shall be dated, signed by an Officer of the company and included in the product submittal to the State.
2. Each module shall consist of an assembly that utilizes LEDs as the light source in lieu of an incandescent lamp for use in traffic signal sections.

(a) Physical and Mechanical Requirements

1. Modules can be manufactured under this specification for the following faces:
 - a. 12 inch (300 mm) circular, multi-section
 - b. 12 inch (300 mm) arrow, multi-section
 - c. 12 inch (300 mm) pedestrian, 2 sections
2. The maximum weight of a module shall be 4 lbs. (1.8 kg).
3. Each module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.
4. Material used for the lens and signal module construction shall conform to ASTM specifications for the materials.
5. The lens of the module shall be tinted with a wavelength-matched color to reduce sun phantom effect and enhance on/off contrast. The tinting shall be uniform across the lens face. Polymeric lens shall provide a surface coating or chemical surface treatment applied to provide abrasion resistance. The lens of the module shall be integral to the unit, convex with a smooth outer surface and made of plastic.

The lens shall have a textured surface to reduce glare.

6. The use of tinting or other materials to enhance ON/OFF contrasts shall not affect chromaticity and shall be uniform across the face of the lens.

7. Each module shall have a symbol of the type of module (i.e. circle, arrow, etc.) in the color of the module. The symbol shall be 1 inch (25.4 mm) in diameter. Additionally, the color shall be written out in 1/2 inch (12.7mm) letters next to the symbol.

(b) Photometric Requirements

1. The minimum initial luminous intensity values for the modules shall conform to the values in Table 1 of the VTCSH (2005) for circular signal indications, and as stated in Table 3 of these specifications for arrow and pedestrian indications at 25 °C.

2. The modules shall meet or exceed the illumination values stated in Article 1078.01(3)c of the Standard Specifications for circular signal indications, and Table 3 of these specifications for arrow and pedestrian indications, throughout the useful life based on normal use in a traffic signal operation over the operating temperature range.

3. The measured chromaticity coordinates of the modules shall conform to the chromaticity requirements of Section 4.2 of the VTCSH (2005) or applicable successor ITE specifications.

4. The LEDs utilized in the modules shall be AlInGaP technology for red, yellow, Portland orange (pedestrian) and white (pedestrian) indications, and GaN for green indications, and shall be the ultra bright type rated for 100,000 hours of continuous operation from -40 °C to +74 °C.

(c) Electrical

1. Maximum power consumption for LED modules is per Table 2.

2. Operating voltage of the modules shall be 120 VAC. All parameters shall be measured at this voltage.

3. The modules shall be operationally compatible with currently used controller assemblies (solid state load switches, flashers, and conflict monitors).

4. When a current of 20 mA AC (or less) is applied to the unit, the voltage read across the two leads shall be 15 VAC or less.

5. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.

6. The individual LEDs shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

(d) Retrofit Traffic Signal Module

1. The following specification requirements apply to the Retrofit module only. All general specifications apply unless specifically superseded in this section.

2. Retrofit modules can be manufactured under this specification for the following faces:

- a. 12 inch (300 mm) circular, multi-section
- b. 12 inch (300 mm) arrow, multi-section
- c. 12 inch (300 mm) pedestrian, 2 sections

3. Each Retrofit module shall be designed to be installed in the doorframe of a standard traffic signal housing. The Retrofit module shall be sealed in the doorframe with a one-piece EPDM (ethylene propylene rubber) gasket.

4. The maximum weight of a Retrofit module shall be 4 lbs. (1.8 kg).

5. Each Retrofit module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.

6. Electrical conductors for modules, including Retrofit modules, shall be 39.4 inches (1m) in length, with quick disconnect terminals attached.

7. The lens of the Retrofit module shall be integral to the unit, shall be convex with a smooth outer surface and made of plastic or of glass.

(e) The following specification requirements apply to the 12 inch (300 mm) arrow module only. All general specifications apply unless specifically superseded in this section.

1. The arrow module shall meet specifications stated in Section 9.01 of the Equipment and Material Standards of the Institute of Transportation Engineers (November 1998) [ITE Standards], Chapter 2 (Vehicle Traffic Control Signal Heads) or applicable successor ITE specifications for arrow indications.

2. The LEDs arrow indication shall be a solid display with a minimum of three (3) outlining rows of LEDs and at least one (1) fill row of LEDs.

(f) The following specification requirement applies to the 12 inch (300 mm) programmed visibility (PV) module only. All general specifications apply unless specifically superseded in this section.

1. The LED module shall be a module designed and constructed to be installed in a programmed visibility (PV) signal housing without modification to the housing.

(g) The following specification requirements apply to the 12 inch (300 mm) Pedestrian module only. All general specifications apply unless specifically superseded in this section.

1. Each pedestrian signal LED module shall provide the ability to actuate the solid upraised hand and the solid walking person on one 12 inch (300mm) section.

2. Two (2) pedestrian sections shall be installed. The top section shall be wired to illuminate only the upraised hand and the bottom section shall be the walking man.
3. "Egg Crate" type sun shields are not permitted. All figures must be a minimum of 9 inches (225mm) in height and easily identified from a distance of 120-feet (36.6m).

PEDESTRIAN COUNTDOWN SIGNAL HEAD, LIGHT EMITTING DIODE.

Add the following to Article 1078.02 of the Standard Specifications:

General.

1. The module shall operate in one mode: Clearance Cycle Countdown Mode Only. The countdown module shall display actual controller programmed clearance cycle and shall start counting when the flashing clearance signal turns on and shall countdown to "0" and turn off when the steady Upraised Hand (symbolizing Don't Walk) signal turns on. Module shall not have user accessible switches or controls for modification of cycle.
2. At power on, the module shall enter a single automatic learning cycle. During the automatic learning cycle, the countdown display shall remain dark.
3. The module shall re-program itself if it detects any increase or decrease of Pedestrian Timing. The counting unit will go blank once a change is detected and then take one complete pedestrian cycle (with no counter during this cycle) to adjust its buffer timer.
4. The module shall allow for consecutive cycles without displaying the steady Upraised Hand.
5. The module shall recognize preemption events and temporarily modify the crossing cycle accordingly.
6. If the controller preempts during the Walking Person (symbolizing Walk), the countdown will follow the controller's directions and will adjust from Walking Person to flashing Upraised Hand. It will start to count down during the flashing Upraised Hand.
7. If the controller preempts during the flashing Upraised Hand, the countdown will continue to count down without interruption.
8. The next cycle, following the preemption event, shall use the correct, initially programmed values.
9. If the controller output displays Upraised Hand steady condition and the unit has not arrived to zero or if both the Upraised Hand and Walking Person are dark for some reason, the unit suspends any timing and the digits will go dark.
10. The digits will go dark for one pedestrian cycle after loss of power of more than 1.5 seconds.
11. The countdown numerals shall be two (2) "7 segment" digits forming the time display utilizing two rows of LEDs.

12. The LED module shall meet the requirements of the Institute of Transportation Engineers (ITE) LED purchase specification, "Pedestrian Traffic Control Signal Indications - Part 2: LED Pedestrian Traffic Signal Modules," or applicable successor ITE specifications, except as modified herein.

13. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.

14. In the event of a power outage, light output from the LED modules shall cease instantaneously.

15. The LEDs utilized in the modules shall be AlInGaP technology for Portland Orange (Countdown Numerals and Upraised Hand) and GaN technology for Lunar White (Walking Person) indications.

16. The individual LEDs shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

Electrical.

1. Maximum power consumption for LED modules is 29 watts.

2. The measured chromaticity shall remain unchanged over the input line voltage range listed of 80 VAC to 135 VAC.

SIGNAL HEAD, BACKPLATE.

Delete 1st sentence of Article 1078.03 of the Standard Specifications and add "All backplates shall be aluminum and louvered".

INDUCTIVE LOOP DETECTOR.

Add the following to Article 1079.01 of the Standard Specifications:

Contracts requiring new cabinets shall provide for rack mounted detector amplifier cards. Detector amplifiers shall provide LCD displays with loop frequency, inductance, and change of inductance readings.

ILLUMINATED SIGN, LIGHT EMITTING DIODE.

Delete 2nd paragraph of Article 1084.01(a) and add "Mounting hardware shall be black polycarbonate or galvanized steel and similar to mounting Signal Head hardware and brackets specified herein and shall provide tool free access to the interior.

Add the following to Article 1084.01 (b) of the Standard Specifications:

The message shall be formed by rows of LEDs. The sign face shall be 24 inches (600 mm) by 24 inches (600 mm).

Add the following to Article 1084.01 of the Standard Specifications:

- (e) The light emitting diode (LED) blank out signs shall be manufactured by National Sign & Signal Company, or an approved equal and consist of a weatherproof housing and door, LEDs and transformers.

ILLUMINATED STREET NAME SIGN

The illuminate street name sign shall be as follows.

(a) Description.

The LEDs shall be white in color and utilize InGaN or UV thermally efficient technology. The LED Light Engines shall be designed to fit inside a standard fluorescent illuminated street sign housing in lieu of fluorescent lamps and ballasts or a slim line type housing. The LED internally-illuminated street name sign shall display the designated street name clearly and legibly in the daylight hours without being energized and at night when energized. The sign assembly shall consist of a four-, six-, or eight-foot aluminum housing. White translucent 3M DG³ reflective sheeting sign faces with the street name applied in 3M/Scotchlite Series 1177 or current 3M equivalent transparent green shall be installed in hinged doors on the side of the sign for easy access to perform general cleaning and maintenance operations. Illumination shall occur with LED Light Engine as specified.

(b) Environmental Requirements.

The LED lamp shall be rated for use in the ambient operating temperature range of -40 to +50°C (-40 to +122°F) for storage in the ambient temperature range of -40 to +75°C (-40 to +167°F).

(c) General Construction.

1. The LED Light Engine shall be a single, self-contained device, for installation in an existing street sign housing. The power supply must be designed to fit and mounted on the inside wall at one end of the street sign housing. The LED Light Engine shall be mounted within the inner top portion of the housing and no components of the light source shall sit between the sign faces.

2. The assembly and manufacturing processes of the LED Light Engine shall be designed to ensure that all LED and electronic components are adequately supported to withstand mechanical shocks and vibrations in compliance with the specifications of the ANSI, C136.31-2001 standards.

(d) Mechanical Construction.

1. The sign shall be constructed using a weatherproof, aluminum housing consisting of an extruded aluminum top with a minimum thickness of .140" x 10 3/4" deep (including the drip edge). The extruded aluminum bottom is .094" thick x 5 7/8" deep. The ends of the housing shall be cast aluminum with a minimum thickness of .250". A six-foot sign shall be 72 5/8" long and 22 5/16" tall and not weigh more than 77 pounds. An eight-foot sign shall be 96 5/8" long and 22 5/16" tall and not weigh more than 92 pounds. All corners are continuous TIG (Tungsten Inert Gas) welded to provide a weatherproof seal around the entire housing.

2. The door shall be constructed of extruded aluminum. Two corners are continuous TIG welded with the other two screwed together to make one side of the door removable for installation of the sign face. The door is fastened to the housing on the bottom by a full length, .040" x 1 1/8" open stainless steel hinge.

The door shall be held secure onto a 1" wide by 5/32" thick neoprene gasket by three (six total for two-way sign) quarter-turn fasteners to form a watertight seal between the door and the housing.

3. The sign face shall be constructed of .125" white translucent polycarbonate. The letters shall be 8" upper case and 6" lower case. The sign face legend background shall consist of 3M/Scotchlite Series 4090T or current equivalent 3M translucent DG³ white VIP (Visual Impact Performance) diamond grade sheeting (ATSM Type 9) and 3M/Scotchlite Series 1177 or current 3M equivalent transparent green acrylic EC (electronic cut-able) film applied to the front of the sign face. The legend shall be framed by a white polycarbonate border. A logo symbol and/or name of the community may be included with approval of the Engineer.

4. All surfaces of the sign shall be etched and primed in accordance to industry standards before receiving appropriate color coats of industrial enamel.

5. All fasteners and hardware shall be corrosion resistant stainless steel. No tools are required for routine maintenance.

6. All wiring shall be secured by insulated wire compression nuts.

7. A wire entrance junction box shall be supplied with the sign assembly. The box may be supplied mounted to the exterior or interior of the sign and provide a weather tight seal.

8. A photoelectric switch shall be mounted in the control cabinet to control lighting functions for day and night display. Each sign shall be individually fused.

9. Brackets and Mounting: LED internally-illuminated street name signs will be factory drilled to accommodate mast arm two-point support assembly mounting brackets.

(e) Electrical.

1. Photocell shall be rated 105-305V, turn on at 1.5 fcs. with a 3-5 second delay. A manufacturer's warranty of six (6) years shall be provided. Power consumption shall be no greater than 1 watt at 120V.

2. The LED Light Engine shall operate from a 60 +/- 3 cycle AC line power over a voltage range of 80 to 135 Vac rms. Fluctuations in line voltage over the range of 80 to 135 Vac shall not affect luminous intensity by more than +/- 10%.

3. Total harmonic distortion induced into the AC power line by the LED Light Engine, operated at a nominal operating voltage, and at a temperature of +25°C (+77°F), shall not exceed 20%.

4. The LED Light Engine shall cycled ON and OFF with a photocell as shown on the detail sheet and shall not exceed the following maximum power values:

4-Foot Sign	60 W
6-Foot Sign	90 W
8-Foot Sign	120 W

The signs shall not be energized when traffic signals are powered by an alternate energy source such as a generator or uninterruptable power source (UPS). The signs shall be connected to the generator or UPS bypass circuitry.

(f) Photometric Requirements.

1. The entire surface of the sign panel shall be evenly illuminated. The average maintained luminous intensity measured across the letters, operating under the conditions defined in Environmental Requirements and Wattage Sections shall be of a minimum value of 100 cd/m².
2. The manufacturer shall make available independent laboratory test results to verify compliance to Voltage Range and Luminous Intensity Distribution Sections.
3. Twelve (12) 1.25 watt LED units shall be mounted on 1-inch x 22-inch metal cone printed circuit boards (MCPCB). The viewing angle shall be 120 degrees. LED shall have a color temperature of 5200k nominal, CRI of 80 with a life expectancy of 75,000 hrs.

(g) Quality Assurance.

The LED Light Engine shall be manufactured in accordance with a vendor quality assurance (QA) program. The production QA shall include statistically controlled routine tests to ensure minimum performance levels of the LED Light Engine build to meet this specification. QA process and test result documentations shall be kept on file for a minimum period of seven (7) years. The LED Light Engine that does not satisfy the production QA testing performance requirements shall not be labeled, advertised, or sold as conforming to these specifications. Each LED Light Engine shall be identified by a manufacturer's serial number for warranty purposes. LED Light Engines shall be replaced or repaired if they fail to function as intended due to workmanship or material defects within the first sixty (60) months from the date of acceptance. LED Light Engines that exhibit luminous intensities less than the minimum value specified in Photometric Section within the first thirty-six (36) months from the date of acceptance shall be replaced or repaired.

TEMPORARY WIRELESS INTERCONNECT, COMPLETE

This work shall include providing and installing a Temporary Wireless Interconnect System at locations shown on the plans and as directed by the Engineer, and shall include both the receiving locations and the transmitting locations of the Temporary Wireless Interconnect System. This work shall include providing and installing a wireless radio transceivers, radio antennas, necessary wiring, cables and enclosures, work in the controllers for accommodating such system, labor, and all related materials and equipment necessary to complete the work as described herein and as shown on the plans.

A site survey shall be conducted to ensure enough room exists in the existing traffic signal cabinets for the wireless equipment. If a new cabinet is required, or if alterations to an existing cabinet are required to house the wireless equipment, such work shall be incidental to this pay item.

The radio transceivers shall be Intuicom DIO wireless transceivers or approved equal, and shall have a built-in contact closure kit.

All necessary material, parts, equipment, and labor required for modifying the controllers and cabinets to accommodate the Temporary Wireless Interconnect System shall be considered incidental to this pay item, unless otherwise stated in the plans.

Basis of Payment. This work shall be paid for at the contract unit price lump sum for TEMPORARY WIRELESS INTERCONNECT, COMPLETE, which price shall be payment in full for furnishing all material, parts, equipment, and labor to complete the work specified herein and to the satisfaction of the Engineer.

TYPE III TEMPORARY TAPE FOR WET CONDITIONS

Effective: February 1, 2007

Description. This work shall consist of furnishing, installing, maintaining and removing Type III Temporary Pavement Marking Tape for Wet Conditions.

Type III Temporary Tape shall meet the requirements of Article 1095.06 of the Standard Specifications. Initial minimum reflectance values under dry and wet conditions shall be as specified in Article 1095.06. The marking tape shall maintain its reflective properties when submerged in water. The wet reflective properties shall be verified by a visual inspection method performed by the Department. The surface of the material shall provide an average skid resistance of 50 BPN when tested according to ASTM E 303.

Prior to application a surface preparation adhesive shall be applied to a clean, dry road surface. The pavement marking tape shall have a pre-coated pressure sensitive adhesive and shall require no activation procedures.

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for WET REFLECTIVE TEMPORARY TAPE TYPE III of the line width specified, and at the contract unit price per square foot (square meter) for WET REFLECTIVE TEMPORARY LETTERS AND SYMBOLS.

TEMPORARY INFORMATION SIGNING

Effective: November 13, 1996

Revised: January 2, 2007

Description.

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

Materials.

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

	<u>Item</u>	<u>Article/Section</u>
a.)	Sign Base (Notes 1 & 2)	1090
b.)	Sign Face (Note 3)	1091
c.)	Sign Legends	1092
d.)	Sign Supports	1093
e.)	Overlay Panels (Note 4)	1090.02

- Note 1. The Contractor may use 5/8 inch (16 mm) instead of 3/4 inch (19 mm) thick plywood.
- Note 2. Type A sheeting can be used on the plywood base.
- Note 3. All sign faces shall be Type A except all orange signs shall meet the requirements of Article 1106.01.
- Note 4. The overlay panels shall be 0.08 inch (2 mm) thick.

GENERAL CONSTRUCTION REQUIREMENTS

Installation.

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

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

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

Signs which are placed on overhead bridge structures shall be fastened to the handrail with stainless steel bands. These signs shall rest on the concrete parapet where possible. The Contractor shall furnish mounting details for approval by the Engineer.

Method Of Measurement.

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

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

Basis Of Payment.

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

THREE SIDED PRECAST CONCRETE STRUCTURE

Effective: July 12, 1994

Revised: October 9, 2009

This work shall consist of furnishing and installing the three-sided precast concrete structure according to applicable portions of Sections 503 and 504 of the Standard Specifications. All three-sided precast concrete structures, precast headwalls, precast wingwalls and precast footings shall be produced according to the Department's latest Policy Memorandum "Quality Control/ Quality Assurance Program for Precast Products".

The three-sided concrete structure shall be designed according to the AASHTO specifications, shown on the structure plans, and shall include the effects of unyielding foundation conditions for the sequence of construction anticipated.

The Contractor shall be responsible for diverting the water from the construction area using a method meeting the approval of the Engineer. The cost of diverting the water shall be considered as included in the contract unit price bid for the three sided structure being constructed and no additional compensation will be allowed.

For structures over water, 3 in. (75mm) diameter drain openings, spaced at 8 ft (2.4 m) centers, 2 ft (600 mm) above the flow line shall be provided according to Article 503.11.

Except as follows, all joints between segments shall be sealed according to Article 540.06 with 13 inch (330 mm) wide external sealing bands. When the minimum fill over the structure, between the edges of the shoulders, is less than or equal to 3 ft. (1 m), the top joints between segments shall also be secured with a previously approved mechanical connection. The mechanical connection shall be used to connect a minimum length of 12 ft. (3.65 m) of exterior segments at each end of the structure. There shall be a minimum of 4 mechanical connections per joint with a maximum spacing of 10 ft. (3 m). All plates, shapes, and hardware shall be galvanized or stainless steel. If the design of the structure also requires grouted shear keys, the keyway shall be cast in the top slab of the segments and grouted according to Article 504.06(e).

Three sided precast concrete structures located in areas with a seismic acceleration coefficient $A > 0.09$ shall satisfy the following requirements:

- 1) The structure shall be connected to the footing/pedestal 2 ft. (600 mm) from the outermost exterior edge of the structure at all four corners with a galvanized rigid mechanical connection subject to the approval of the Engineer. This connection shall be located on the interior face of the segment to allow for future inspection.
- 2) All top joints of exterior segments within a length of 12 ft. (3.65 m) at each end of the structure, regardless of the fill cover, shall be mechanically connected as previously described. The mechanical connection is subject to the approval of the Engineer.

Shop drawings for three sided precast concrete structures shall be submitted according to Article 1042.03(b) and Article 105.04 of the Standard Specifications. The supplier selected by the Contractor shall submit complete design calculations and shop drawings, prepared and sealed by an Illinois Licensed Structural Engineer, for approval by the Engineer.

Prior approval by the Department for the structural feasibility and adequacy of proprietary systems will enhance the approval process of the final structure design but in no case shall relieve the Contractor of the design or QC/QA requirements stated herein. The following proprietary systems have been previously approved for the structural feasibility and adequacy only:

- 1) Hy-Span
- 2) Con Span
- 3) REDI-SPAN Bridge System
- 4) BEBO Arch System
- 5) Techspan
- 6) Stronghold

The system chosen by the contractor shall provide a hydraulically equivalent waterway opening to that specified on the plans. Evidence of equivalency shall also be provided in writing to the Engineer for review and approval prior to ordering any materials.

When precast concrete substructure is specified, the Contractor may choose to substitute cast-in-place for precast headwalls, wingwalls and footings unless otherwise specified on the plans. No additional compensation for these substitutions will be allowed and the Contractor shall submit complete design calculations and shop drawings, prepared and sealed by an Illinois Licensed Structural Engineer, for approval by the Engineer.

When Cast-in-place concrete substructure is specified, the Contractor may choose to substitute precast for cast-in-place headwalls, wingwalls and footings unless otherwise specified on the plans. No additional compensation for these substitutions will be allowed and the Contractor/supplier shall submit complete design calculations and shop, drawings prepared and sealed by an Illinois Licensed Structural Engineer, for approval by the Engineer.

If a precast footing is used, it shall be built to the manufacturers specifications and the Contractor shall prepare a 6 in. (150 mm) thick layer of compacted granular material placed below the bottom of the footing. The porous granular material shall be gradation CA 7, CA 11, or CA 18 and shall be placed to extend at least 2 ft. (600 mm) beyond the limits of the precast footing. There shall be no additional compensation for the porous granular bedding material.

The excavation and backfill for three sided precast concrete structures shall be according to Section 502 of the Standard Specifications and any additional backfilling requirements based on the precast supplier's design. All construction inspection and material certification necessary to verify these additional backfilling requirements in the field shall be the responsibility of the supplier. The three-sided precast concrete structure shall be placed according to applicable requirements of Article 542.04(d) of the Standard Specifications. When multi-spans are used a 3 in. (75 mm) minimum space shall be left between adjacent sections. After the precast units are in place and the backfill has been placed to midheight on each exterior side of the barrel, the space between adjacent units shall be filled with Class SI concrete. The Class SI concrete shall be according to Section 1020, except the maximum size of the aggregate shall be 3/8 in. (9.5 mm).

Method of Measurement. Three sided precast concrete structures will be measured in feet (meters). The overall length shall be measured from out to out of headwalls along the centerline of each span of the structure. Class SI concrete placed between adjacent spans, grouted keyways or mechanical connections between precast units, and mechanical connections between the precast units and the substructure will not be measured for payment.

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for THREE SIDED PRECAST CONCRETE STRUCTURES of the size specified. Rock excavation will be paid for separately according to Article 502.13 of the Standard Specifications.

The cost of specified cast-in-place headwalls, wingwalls and footings will not be included in this item but will be paid for separately.

When precast footings, wingwalls and headwalls are specified, this work will be paid for at the lump sum price for PRECAST CONCRETE SUBSTRUCTURE.

TEMPORARY SHEET PILING

Effective: September 2, 1994

Revised: January 1, 2007

Description. This work shall consist of furnishing, driving, adjusting for stage construction when required and subsequent removal of the sheet piling according to the dimensions and details shown on the plans and according to the applicable portions of Section 512 of the Standard Specifications.

This work shall also include furnishing, installing and subsequent removal of all miscellaneous steel shapes, plates and connecting hardware when required to attach the sheeting to an existing substructure unit and/or to facilitate stage construction.

General. The Contractor may propose other means of supporting the sides of the excavation provided they are done so at no extra cost to the department. If the Contractor elects to vary from the design requirements shown on the plans, the revised design calculations and details shall be submitted to the Engineer for approval. The calculations shall be prepared and sealed by an Illinois Licensed Structural Engineer. This approval will not relieve the Contractor of responsibility for the safety of the excavation. Approval shall be contingent upon acceptance by all involved utilities and/or railroads.

Material. The sheet piling shall be made of steel and may be new or used material, at the option of the Contractor. The sheet piling shall have a minimum section modulus as shown on the plans or in the approved Contractor's alternate design. The sheeting shall have a minimum yield strength of 38.5 ksi (265 MPa) unless otherwise specified. The sheeting, used by the Contractor, shall be identifiable and in good condition free of bends and other structural defects. The Contractor shall furnish a copy of the published sheet pile section properties to the Engineer for verification purposes. The Engineer's approval will be required prior to driving any sheeting. All driven sheeting not approved by the Engineer shall be removed at the Contractor's expense.

Construction. The Contractor shall verify locations of all underground utilities before driving any sheet piling. Any disturbance or damage to existing structures, utilities or other property, caused by the Contractor's operation, shall be repaired by the Contractor in a manner satisfactory to the Engineer at no additional cost to the Department. The Contractor shall be responsible for determining the appropriate equipment necessary to drive the sheeting to the tip elevation(s) specified on the plans or according to the Contractor's approved design. The sheet piling shall be driven, as a minimum, to the tip elevation(s) specified, prior to commencing any related excavation. If unable to reach the minimum tip elevation, the adequacy of the sheet piling design will require re-evaluation by the Department prior to allowing excavation adjacent to the sheet piling in question. The Contractor shall not excavate below the maximum excavation line shown on the plans without the prior permission of the Engineer. The sheet piling shall remain in place until the Engineer determines it is no longer required.

The sheet piling shall be removed and disposed of by the Contractor when directed by the Engineer. When allowed, the Contractor may elect to cut off a portion of the sheet piling leaving the remainder in place. The remaining sheet piling shall be a minimum of 12 in. (300 mm) below the finished grade or as directed by the Engineer. Removed sheet piling shall become the property of the Contractor.

When an obstruction is encountered, the Contractor shall notify the Engineer and upon concurrence of the Engineer, the Contractor shall begin working to break up, push aside, or remove the obstruction.

An obstruction shall be defined as any object (such as but not limited to, boulders, logs, old foundations etc.) where it's presence was not obvious or specifically noted on the plans prior to bidding, that cannot be driven through or around with normal driving procedures, but requires additional excavation or other procedures to remove or miss the obstruction.

Method of Measurement. The temporary sheet piling will be measured for payment in place in square feet (square meter). Any temporary sheet piling cut off, left in place, or driven to dimensions other than those shown on the contract plans without the written permission of the Engineer, shall not be measured for payment but shall be done at the contractor's expense.

If the Contractor is unable to drive the sheeting to the specified tip elevation(s) and can demonstrate that any further effort to drive it would only result in damaging the sheeting, then the Contractor shall be paid based on the plan quantity of temporary sheeting involved. However, no additional payment will be made for any walers, bracing, or other supplement to the temporary sheet piling, which may be required as a result of the re-evaluation in order to insure the original design intent was met.

Basis of Payment. This work will be paid for at the contract unit price per square foot (square meter) for TEMPORARY SHEET PILING.

Payment for any excavation performed in conjunction with this work will not be included in this item but shall be paid for as specified elsewhere in this contract.

Obstruction mitigation shall be paid for according to Article 109.04 of the Standard Specifications.

TEMPORARY SOIL RETENTION SYSTEM

Effective: December 30, 2002

Revised : May 11, 2009

Description. This work shall consist of designing, furnishing, installing, adjusting for stage construction when required and subsequent removal of the temporary soil retention system according to the dimensions and details shown on the plans and in the approved design submittal.

General. The temporary soil retention system shall be designed by the Contractor as a minimum, to retain the exposed surface area specified in the plans or as directed by the Engineer.

The design calculations and details for the temporary soil retention system proposed by the Contractor shall be submitted to the Engineer for approval. The calculations shall be prepared and sealed by an Illinois Licensed Structural Engineer. This approval will not relieve the Contractor of responsibility for the safety of the excavation. Approval shall be contingent upon acceptance by all involved utilities and/or railroads.

Construction. The Contractor shall verify locations of all underground utilities before installing any of the soil retention system components or commencing any excavation. Any disturbance or damage to existing structures, utilities or other property, caused by the Contractor's operation, shall be repaired by the Contractor in a manner satisfactory to the Engineer at no additional cost to the Department. The soil retention system shall be installed according to the Contractor's approved design, or as directed by the Engineer, prior to commencing any related excavation. If unable to install the temporary soil retention system as specified in the approved design, the Contractor shall have the adequacy of the design re-evaluated.

Any reevaluation shall be submitted to the Engineer for approval prior to commencing the excavation adjacent to the area in question. The Contractor shall not excavate below the maximum excavation line shown in the approved design without the prior permission of the Engineer. The temporary soil retention system shall remain in place until the Engineer determines it is no longer required.

The temporary soil retention system shall be removed and disposed of by the Contractor when directed by the Engineer. When allowed, the Contractor may elect to cut off a portion of the temporary soil retention system leaving the remainder in place. The remaining temporary soil retention system shall be removed to a depth which will not interfere with the new construction, and as a minimum, to a depth of 12 in. (300 mm) below the finished grade, or as directed by the Engineer. Removed system components shall become the property of the Contractor.

When an obstruction is encountered, the Contractor shall notify the Engineer and upon concurrence of the Engineer, the Contractor shall begin working to break up, push aside, or remove the obstruction. An obstruction shall be defined as any object (such as but not limited to, boulders, logs, old foundations etc.) where its presence was not obvious or specifically noted on the plans prior to bidding, that cannot be driven or installed through or around, with normal driving or installation procedures, but requires additional excavation or other procedures to remove or miss the obstruction.

Method of Measurement. The temporary soil retention system furnished and installed according to the Contractor's approved design or as directed by the Engineer will be measured for payment in place, in square feet (square meters). The area measured shall be the vertical exposed surface area envelope of the excavation supported by temporary soil retention system. Portions of the temporary soil retention system left in place for reuse in later stages of construction shall only be measured for payment once.

Any temporary soil retention system installed beyond those dimensions shown on the contract plans or the approved contractor's design without the written permission of the Engineer, shall not be measured for payment but shall be done at the contractor's own expense.

Basis of Payment. This work will be paid for at the contract unit price per square foot (square meter) for TEMPORARY SOIL RETENTION SYSTEM.

Payment for any excavation, related solely to the installation and removal of the temporary soil retention system and/or its components, shall not be paid for separately but shall be included in the unit bid price for TEMPORARY SOIL RETENTION SYSTEM. Other excavation, performed in conjunction with this work, will not be included in this item but shall be paid for as specified elsewhere in this contract.

Obstruction mitigation shall be paid for according to Article 109.04 of the Standard Specifications.

DEMOLITION PLANS FOR REMOVAL OF EXISTING STRUCTURES

Effective: September 5, 2007

Add to the beginning of Article 501.02 of the Standard Specifications.

“The Contractor shall submit a demolition plan to the Engineer for approval, detailing the proposed methods of demolition and the amount, location(s) and type(s) of equipment to be used. With the exception of removal of single box culverts, for work adjacent to or over an active roadway, railroad or navigable waterway, the demolition plan shall include an assessment of the structure’s condition and an evaluation of the structure’s strength and stability during demolition and shall be sealed by an Illinois Licensed Structural Engineer.”

ALKALI-SILICA REACTION FOR CAST-IN-PLACE CONCRETE (BDE)

Effective: August 1, 2007

Revised: January 1, 2009

Description. This special provision is intended to reduce the risk of a deleterious alkali-silica reaction in concrete exposed to humid or wet conditions. The special provision is not intended or adequate for concrete exposed to potassium acetate, potassium formate, sodium acetate or sodium formate. The special provision shall not apply to the dry environment (humidity less than 60 percent) found inside buildings for residential or commercial occupancy. The special provision shall also not apply to precast products or precast prestressed products.

Aggregate Expansion Values. Each coarse and fine aggregate will be tested by the Department for alkali reaction according to ASTM C 1260. The test will be performed with Type I or II cement having a total equivalent alkali content ($Na_2O + 0.658K_2O$) of 0.90 percent or greater. The Engineer will determine the assigned expansion value for each aggregate, and these values will be made available on the Department’s Alkali-Silica Potential Reactivity Rating List. The Engineer may differentiate aggregate based on ledge, production method, gradation number, or other factors. An expansion value of 0.05 percent will be assigned to limestone or dolomite coarse aggregates and 0.03 percent to limestone or dolomite fine aggregates (manufactured stone sand); however the Department reserves the right to perform the ASTM C 1260 test.

Aggregate Groups. Each combination of aggregates used in a mixture will be assigned to an aggregate group. The point at which the coarse aggregate and fine aggregate expansion values intersect in the following table will determine the group.

AGGREGATE GROUPS			
Coarse Aggregate or Coarse Aggregate Blend ASTM C 1260 Expansion	Fine Aggregate or Fine Aggregate Blend ASTM C 1260 Expansion		
	≤ 0.16%	> 0.16% - 0.27%	> 0.27%
≤ 0.16%	Group I	Group II	Group III
> 0.16% - 0.27%	Group II	Group II	Group III
> 0.27%	Group III	Group III	Group IV

Mixture Options. Based upon the aggregate group, the following mixture options shall be used; however, the Department may prohibit a mixture option if field performance shows a deleterious alkali-silica reaction or Department testing indicates the mixture may experience a deleterious alkali-silica reaction.

- Group I - Mixture options are not applicable. Use any cement or finely divided mineral.
- Group II - Mixture options 1, 2, 3, 4, or 5 shall be used.
- Group III - Mixture options 1, 2 and 3 combined, 4, or 5 shall be used.
- Group IV - Mixture options 1, 2 and 4 combined, or 5 shall be used.

For Class PP-3 concrete the mixture options are not applicable, and any cement may be used with the specified finely divided minerals.

- a) Mixture Option 1. The coarse or fine aggregates shall be blended to place the material in a group that will allow the selected cement or finely divided mineral to be used.

When a coarse or fine aggregate is blended, the weighted expansion value shall be calculated separately for the coarse and fine aggregate as follows:

$$\text{Weighted Expansion Value} = (a/100 \times A) + (b/100 \times B) + (c/100 \times C) + \dots$$

Where: a, b, c... = percentage of aggregate in the blend;
A, B, C... = expansion value for that aggregate.

- b) Mixture Option 2. A finely divided mineral shall be used as described in 1), 2), 3), or 4) that follow. The replacement ratio is defined as “finely divided mineral:portland cement”.

1) Class F Fly Ash. For Class PV, BS, MS, DS, SC, and SI concrete and cement aggregate mixture II (CAM II), Class F fly ash shall replace 15 percent of the portland cement at a minimum replacement ratio of 1.5:1.

2) Class C Fly Ash. For Class PV, MS, SC, and SI Concrete, Class C fly ash with 18 percent to less than 26.5 percent calcium oxide content, and less than 2.0 percent loss on ignition, shall replace 20 percent of the portland cement at a minimum replacement ratio of 1:1; or at a minimum replacement ratio of 1.25:1 if the loss on ignition is 2.0 percent or greater. Class C fly ash with less than 18 percent calcium oxide content shall replace 20 percent of the portland cement at a minimum replacement ratio of 1.25:1.

For Class PP-1, RR, BS, and DS concrete and CAM II, Class C fly ash with less than 26.5 percent calcium oxide content shall replace 15 percent of the portland cement at a minimum replacement ratio of 1.5:1.

3) Ground Granulated Blast-Furnace Slag. For Class PV, BS, MS, SI, DS, and SC concrete, ground granulated blast-furnace slag shall replace 25 percent of the portland cement at a minimum replacement ratio of 1:1.

For Class PP-1 and RR concrete, ground granulated blast-furnace slag shall replace 15 percent of the portland cement at a minimum replacement ratio of 1.5:1.

For Class PP-2, ground granulated blast-furnace slag shall replace 25 to 30 percent of the portland cement at a minimum replacement ratio of 1:1.

4) Microsilica or High Reactivity Metakaolin. Microsilica solids or high reactivity metakaolin shall be added to the mixture at a minimum 25 lb/cu yd (15 kg/cu m) or 27 lb/cu yd (16 kg/cu m) respectively.

- c) Mixture Option 3. The cement used shall have a maximum total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.60 percent. When aggregate in Group II is involved, any finely divided mineral may be used with a portland cement.

- d) Mixture Option 4. The cement used shall have a maximum total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.45 percent. When aggregate in Group II or III is involved, any finely divided mineral may be used with a portland cement.
- e) Mixture Option 5. The proposed cement or finely divided mineral may be used if the ASTM C 1567 expansion value is ≤ 0.16 percent when performed on the aggregate in the concrete mixture with the highest ASTM C 1260 test result. The ASTM C 1567 test will be valid for two years, unless the Engineer determines the materials have changed significantly. For latex concrete, the ASTM C 1567 test shall be performed without the latex. The 0.20 percent autoclave expansion limit in ASTM C 1567 shall not apply.

If during the two year time period the Contractor needs to replace the cement, and the replacement cement has an equal or lower total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$), a new ASTM C 1567 test will not be required.

Testing. If an individual aggregate has an ASTM C 1260 expansion value > 0.16 percent, an ASTM C 1293 test may be performed by the Contractor to evaluate the Department's ASTM C 1260 test result. The ASTM C 1293 test shall be performed with Type I or II cement having a total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.80 percent or greater. The interior vertical wall of the ASTM C 1293 recommended container (pail) shall be half covered with a wick of absorbent material consisting of blotting paper. If the testing laboratory desires to use an alternate container or wick of absorbent material, ASTM C 1293 test results with an alkali-reactive aggregate of known expansion characteristics shall be provided to the Engineer for review and approval. If the expansion is less than 0.040 percent after one year, the aggregate will be assigned an ASTM C 1260 expansion value of 0.08 percent that will be valid for two years, unless the Engineer determines the aggregate has changed significantly.

The Engineer reserves the right to verify a Contractor's ASTM C 1293 or 1567 test result. The Engineer will not accept the result if the precision and bias for the test methods are not met.

The laboratory performing the ASTM C 1567 test shall either be accredited by the AASHTO Materials Reference Laboratory (AMRL) for ASTM C 227 under Portland Cement Concrete or Aggregate; or shall be inspected for Hydraulic Cement - Physical Tests by the Cement and Concrete Reference Laboratory (CCRL) and shall be approved by the Department. The laboratory performing the ASTM C 1293 test shall be inspected for Portland Cement Concrete by CCRL and shall be approved by the Department.

APPROVAL OF PROPOSED BORROW AREAS, USE AREAS, AND/OR WASTE AREAS (BDE)

Effective: November 1, 2008

Revised: November 1, 2010

Replace the first paragraph of Article 107.22 of the Standard Specifications with the following:

"All proposed borrow areas, including commercial borrow areas; use areas, including, but not limited to temporary access roads, detours, runarounds, plant sites, and staging and storage areas; and/or waste areas are to be designated by the Contractor to the Engineer and approved prior to their use. Such areas outside the State of Illinois shall be evaluated, at no additional cost to the Department, according to the requirements of the state in which the area lies; and approval by the authority within that state having jurisdiction for such areas shall be forwarded to the Engineer. Such areas within Illinois shall be evaluated as described herein.

A location map delineating the proposed borrow area, use area, and/or waste area shall be submitted to the Engineer for approval along with an agreement from the property owner granting the Department permission to enter the property and conduct cultural and biological resource reconnaissance surveys of the site for archaeological resources, threatened or endangered species or their designated essential habitat, wetlands, prairies, and savannahs. The type of location map submitted shall be a topographic map, a plat map, or a 7.5 minute quadrangle map. Submittals shall include the intended use of the site and provide sufficient detail for the Engineer to determine the extent of impacts to the site. The Engineer will initiate cultural and biological resource reconnaissance surveys of the site, as necessary, at no cost to the Contractor. The Engineer will advise the Contractor of the expected time required to complete all surveys. If the proposed area is within 150 ft (45 m) of the highway right-of-way, a topographic map of the proposed site will be required as specified in Article 204.02.”

AUTOMATED FLAGGER ASSISTANCE DEVICES (BDE)

Effective: January 1, 2008

Description. This work shall consist of furnishing and operating automated flagger assistance devices (AFADs) as part of the work zone traffic control and protection for two-lane highways where two-way traffic is maintained over one lane of pavement. Use of these devices shall be at the option of the Contractor.

Equipment. AFADs shall be according to the FHWA memorandum, “MUTCD - Revised Interim Approval for the use of Automated Flagger Assistance Devices in Temporary Traffic Control Zones (IA-4R)”, dated January 28, 2005. The devices shall be mounted on a trailer or a moveable cart and shall meet the requirements of NCHRP 350, Category 4.

The AFAD shall be the Stop/Slow type. This device uses remotely controlled “STOP” and “SLOW” signs to alternately control right-of-way.

Signs for the AFAD shall be according to Article 701.03 of the Standard Specifications and the MUTCD. The signs shall be 24 x 24 in. (600 x 600 mm) having an octagon shaped “STOP” sign on one side and a diamond shaped “SLOW” sign on the opposite side. The letters on the signs shall be 8 in. (200 mm) high. If the “STOP” sign has louvers, the full sign face shall be visible at a distance of 50 ft (15 m) and greater.

The signs shall be supplemented with one of the following types of lights.

- (a) Flashing Lights. When flashing lights are used, white or red flashing lights shall be mounted within the “STOP” sign face and white or yellow flashing lights within the “SLOW” sign face.
- (b) Stop and Warning Beacons. When beacons are used, a stop beacon shall be mounted 24 in. (600 mm) or less above the “STOP” sign face and a warning beacon mounted 24 in. (600 mm) or less above, below, or to the side of the “SLOW” sign face. As an option, a Type B warning light may be used in lieu of the warning beacon.

A “WAIT ON STOP” sign shall be placed on the right hand side of the roadway at a point where drivers are expected to stop. The sign shall be 24 x 30 in. (600 x 750 mm) with a black legend and border on a white background. The letters shall be at least 6 in. (150 mm) high.

This device may include a gate arm or mast arm that descends to a horizontal position when the "STOP" sign is displayed and rises to a vertical position when the "SLOW" sign is displayed. When included, the end of the arm shall reach at least to the center of the lane being controlled. The arm shall have alternating red and white retroreflective stripes, on both sides, sloping downward at 45 degrees toward the side on which traffic will pass. The stripes shall be 6 in. (150 mm) in width and at least 2 in. (50 mm) in height.

Flagging Requirements. Flaggers and flagging requirements shall be according to Article 701.13 of the Standard Specifications and the following.

AFADs shall be placed at each end of the traffic control, where a flagger is shown on the plans. The flaggers shall be able to view the face of the AFAD and approaching traffic during operation.

To stop traffic, the "STOP" sign shall be displayed, the corresponding lights/beacon shall flash, and when included, the gate arm shall descend to a horizontal position. To permit traffic to move, the "SLOW" sign shall be displayed, the corresponding lights/beacon shall flash, and when included, the gate arm shall rise to a vertical position.

If used at night, the AFAD location shall be illuminated according to Section 701 of the Standard Specifications.

When not in use, AFADs will be considered nonoperating equipment and shall be stored according to Article 701.11 of the Standard Specifications.

Basis of Payment. This work will not be paid for separately but shall be considered as included in the cost of the various traffic control items included in the contract.

CEMENT (BDE)

Effective: January 1, 2007

Revised: April 1, 2009

Revise Section 1001 of the Standard Specifications to read:

"SECTION 1001. CEMENT

1001.01 Cement Types. Cement shall be according to the following.

- (a) Portland Cement. Acceptance of portland cement shall be according to the current Bureau of Materials and Physical Research's Policy Memorandum, "Portland or Blended Cement Acceptance Procedure for Qualified and Non-Qualified Plants".

Portland cement shall be according to ASTM C 150, and shall meet the standard physical and chemical requirements. Type I or Type II may be used for cast-in-place, precast, and precast prestressed concrete. Type III may be used according to Article 1020.04, or when approved by the Engineer. All other cements referenced in ASTM C 150 may be used when approved by the Engineer.

The total of all organic processing additions shall be a maximum of 1.0 percent by weight (mass) of the cement.

The total of all inorganic processing additions shall be a maximum of 4.0 percent by weight (mass) of the cement. However, a cement kiln dust inorganic processing addition shall be limited to a maximum of 1.0 percent. Organic processing additions shall be limited to grinding aids that improve the flowability of cement, reduce pack set, and improve grinding efficiency. Inorganic processing additions shall be limited to granulated blast-furnace slag according to the chemical requirements of AASHTO M 302, Class C fly ash according to the chemical requirements of AASHTO M 295, and cement kiln dust.

- (b) Portland-Pozzolan Cement. Acceptance of portland-pozzolan cement shall be according to the current Bureau of Materials and Physical Research's Policy Memorandum, "Portland or Blended Cement Acceptance Procedure for Qualified and Non-Qualified Plants".

Portland-pozzolan cement shall be according to ASTM C 595 and shall meet the standard physical and chemical requirements. Type IP may be used for cast-in-place, precast, and precast prestressed concrete, except when Class PP concrete is used. The pozzolan constituent for Type IP shall be a maximum of 21 percent of the weight (mass) of the portland-pozzolan cement.

For cast-in-place construction, portland-pozzolan cement shall not be used in concrete mixtures when the air temperature is below 40 °F (4 °C) without permission of the Engineer. If permission is given, the mix design strength requirement may require the Contractor to increase the cement or eliminate the cement factor reduction for a water-reducing or high range water-reducing admixture which is permitted according to Article 1020.05(b).

The total of all organic processing additions shall be a maximum of 1.0 percent by weight (mass) of the cement. Organic processing additions shall be limited to grinding aids as defined in (a) above. Inorganic processing additions shall be limited to cement kiln dust at a maximum of 1.0 percent.

- (c) Portland Blast-Furnace Slag Cement. Acceptance of portland blast-furnace slag cement shall be according to the current Bureau of Materials and Physical Research's Policy Memorandum, "Portland or Blended Cement Acceptance Procedure for Qualified and Non-Qualified Plants".

Portland blast-furnace slag cement shall be according to ASTM C 595 and shall meet the standard physical and chemical requirements. Type IS portland blast-furnace slag cement may be used for cast-in-place, precast, and precast prestressed concrete, except when Class PP concrete is used. The blast-furnace slag constituent for Type IS shall be a maximum of 25 percent of the weight (mass) of the portland blast-furnace slag cement.

For cast-in-place construction, portland blast-furnace slag cement shall not be used in concrete mixtures when the air temperature is below 40 °F (4 °C) without permission of the Engineer. If permission is given, the mix design strength requirement may require the Contractor to increase the cement or eliminate the cement factor reduction for a water-reducing or high range water-reducing admixture which is permitted according to Article 1020.05(b).

The total of all organic processing additions shall be a maximum of 1.0 percent by weight (mass) of the cement. Organic processing additions shall be limited to grinding aids as defined in (a) above. Inorganic processing additions shall be limited to cement kiln dust at a maximum of 1.0 percent.

(d) Rapid Hardening Cement. Rapid hardening cement shall be used according to Article 1020.04 or when approved by the Engineer. The cement shall be on the Department's current "Approved List of Packaged, Dry, Rapid Hardening Cementitious Materials for Concrete Repairs", and shall be according to the following.

- (1) The cement shall have a maximum final set of 25 minutes, according to Illinois Modified ASTM C 191.
- (2) The cement shall have a minimum compressive strength of 2000 psi (13,800 kPa) at 3.0 hours, 3200 psi (22,100 kPa) at 6.0 hours, and 4000 psi (27,600 kPa) at 24.0 hours, according to Illinois Modified ASTM C 109.
- (3) The cement shall have a maximum drying shrinkage of 0.050 percent at seven days, according to Illinois Modified ASTM C 596.
- (4) The cement shall have a maximum expansion of 0.020 percent at 14 days, according to Illinois Modified ASTM C 1038.
- (5) The cement shall have a minimum 80 percent relative dynamic modulus of elasticity; and shall not have a weight (mass) gain in excess of 0.15 percent or a weight (mass) loss in excess of 1.0 percent, after 100 cycles, according to AASHTO T 161, Procedure B.

(e) Calcium Aluminate Cement. Calcium aluminate cement shall be used only where specified by the Engineer. The cement shall meet the standard physical requirements for Type I cement according to ASTM C 150, except the time of setting shall not apply. The chemical requirements shall be determined according to ASTM C 114 and shall be as follows: minimum 38 percent aluminum oxide (Al_2O_3), maximum 42 percent calcium oxide (CaO), maximum 1 percent magnesium oxide (MgO), maximum 0.4 percent sulfur trioxide (SO_3), maximum 1 percent loss on ignition, and maximum 3.5 percent insoluble residue.

1001.02 Uniformity of Color. Cement contained in single loads or in shipments of several loads to the same project shall not have visible differences in color.

1001.03 Mixing Brands and Types. Different brands or different types of cement from the same manufacturing plant, or the same brand or type from different plants shall not be mixed or used alternately in the same item of construction unless approved by the Engineer.

1001.04 Storage. Cement shall be stored and protected against damage, such as dampness which may cause partial set or hardened lumps. Different brands or different types of cement from the same manufacturing plant, or the same brand or type from different plants shall be kept separate."

CONCRETE ADMIXTURES (BDE)

Effective: January 1, 2003

Revised: April 1, 2009

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

“(b) Admixtures. The use of admixtures to increase the workability or to accelerate the hardening of the concrete will be permitted when approved by the Engineer. Admixture dosages shall result in the mixture meeting the specified plastic and hardened properties. The Department will maintain an Approved List of Corrosion Inhibitors. Corrosion inhibitor dosage rates shall be according to Article 1020.05(b)(12). The Department will also maintain an Approved List of Concrete Admixtures, and an admixture technical representative shall be consulted when determining an admixture dosage from this list. The dosage shall be within the range indicated on the approved list unless the influence by other admixtures, jobsite conditions (such as a very short haul time), or other circumstances warrant a dosage outside the range. The Engineer shall be notified when a dosage is proposed outside the range. To determine an admixture dosage, air temperature, concrete temperature, cement source and quantity, finely divided mineral sources(s) and quantity, influence of other admixtures, haul time, placement conditions, and other factors as appropriate shall be considered. The Engineer may request the Contractor to have a batch of concrete mixed in the lab or field to verify the admixture dosage is correct. An admixture dosage or combination of admixture dosages shall not delay the initial set of concrete by more than one hour. When a retarding admixture is required or appropriate for a bridge deck or bridge deck overlay pour, the initial set time shall be delayed until the deflections due to the concrete dead load are no longer a concern for inducing cracks in the completed work. However, a retarding admixture shall not be used to further extend the pour time and justify the alteration of a bridge deck pour sequence.

When determining water in admixtures for water/cement ratio, the Contractor shall calculate 70 percent of the admixture dosage as water, except a value of 50 percent shall be used for a latex admixture used in bridge deck latex concrete overlays.”

Revise Section 1021 of the Standard Specifications to read:

“SECTION 1021. CONCRETE ADMIXTURES

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

Corrosion inhibitors will be maintained on the Department's Approved List of Corrosion Inhibitors. All other concrete admixture products will be maintained on the Department's Approved List of Concrete Admixtures. For the admixture submittal, a report prepared by an independent laboratory accredited by the AASHTO Materials Reference Laboratory (AMRL) for Portland Cement Concrete shall be provided. The report shall show the results of physical tests conducted no more than five years prior to the time of submittal, according to applicable specifications. However, for corrosion inhibitors the ASTM G 109 test information specified in ASTM C 1582 is not required to be from an independent lab. All other information in ASTM C 1582 shall be from an independent lab.

Tests shall be conducted using materials and methods specified on a "test" concrete and a "reference" concrete, together with a certification that no changes have been made in the formulation of the material since the performance of the tests. Per the manufacturer's option, the cement content for all required tests shall either be according to applicable specifications or 5.65 cwt/cu yd (335 kg/cu m). Compressive strength test results for six months and one year will not be required.

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

The manufacturer shall include in the submittal the following admixture information: the manufacturing range for specific gravity, the midpoint and manufacturing range for residue by oven drying, and the manufacturing range for pH. The submittal shall also include an infrared spectrophotometer trace no more than five years old.

For air-entraining admixtures according to Article 1021.02, the specific gravity allowable manufacturing range shall be established by the manufacturer and the test method shall be according to ASTM C 494. For residue by oven drying and pH, the allowable manufacturing range and test methods shall be according to ASTM C 260.

For admixtures according to Articles 1021.03, 1021.04, 1021.05, 1021.06, and 1021.07, the pH allowable manufacturing range shall be established by the manufacturer and the test method shall be according to ASTM E 70. For specific gravity and residue by oven drying, the allowable manufacturing range and test methods shall be according to ASTM C 494.

When test results are more than seven years old, the manufacturer shall re-submit the infrared spectrophotometer trace and the report prepared by an independent laboratory accredited by AASHTO.

All admixtures, except chloride-based accelerators, shall contain a maximum of 0.3 percent chloride by weight (mass).

Random field samples may be taken by the Department to verify an admixture meets specification. A split sample will be provided to the manufacturer if requested. Admixtures that do not meet specification requirements or an allowable manufacturing range established by the manufacturer shall be replaced with new material.

1021.02 Air-Entraining Admixtures. Air-entraining admixtures shall be according to AASHTO M 154.

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

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

1021.04 Accelerating Admixtures. The admixture shall be according to AASHTO M 194, Type C (accelerating) or Type E (water reducing and accelerating).

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

The high range water-reducing admixture shall be according to AASHTO M 194, Type F.

The viscosity modifying admixture shall be according to ASTM C 494, Type S (specific performance).

1021.06 Rheology-Controlling Admixture. The rheology-controlling admixture shall be capable of producing a concrete mixture with a lower yield stress that will consolidate easier for slipform applications used by the Contractor. The rheology-controlling admixture shall be according to ASTM C 494, Type S (specific performance).

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

- (a) Calcium Nitrite. The corrosion inhibitor shall contain a minimum 30 percent calcium nitrite by weight (mass) of solution, and shall comply with the requirements of AASHTO M 194, Type C (accelerating).
- (b) Other Materials. The corrosion inhibitor shall be according to ASTM C 1582.”

CONCRETE JOINT SEALER (BDE)

Effective: January 1, 2009

Add the following to the end of the second paragraph of Article 503.19 of the Standard Specifications:

“After the surface is clean and before applying protective coat, joints being sealed according to Section 588 shall be covered with a masking tape.”

Revise Section 588 of the Standard Specifications to read:

“SECTION 588. CONCRETE JOINT SEALER

588.01 Description. This work shall consist of sealing the transverse joint in the bridge roadway slab.

588.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Hot-Poured Joint Sealer 1050.02	
(b) Preformed Flexible Foam Expansion Joint Filler 1051.09	

CONSTRUCTION REQUIREMENTS

588.03 General. The faces of all joints to be sealed shall be free of foreign matter, curing compound, oils, grease, dirt, free water, and laitance. Concrete joints to be sealed shall be free of cracked or spalled areas. Any cracked areas shall be chipped back to sound concrete before placing joint sealer.

The hot-poured joint sealer shall be placed when the air temperature in the shade is 40 °F (5 °C) or higher, unless approved by the Engineer.

A continuous length of expansion joint filler of the size designated on the plans, shall be placed in the joint opening at the depth below the finished surface of the joint shown on the plans. Hot-poured joint sealer shall be stirred during heating to prevent localized overheating. The sealing material shall be applied to each joint opening according to the details shown on the plans or as directed by the Engineer, without spilling on the exposed concrete surfaces.

All bridge joints shall be filled to 1/4 in. (6 mm) below the finished surface of the joint. This is to be interpreted to mean that the surface of the sealant shall be level and the point of its contact with the sidewalls of the joint shall be 1/4 in. (6 mm) below the finished surface of the joint.

Any sealing compound that is not bonded to the joint wall or face 24 hours after placing shall be removed and the joint shall be cleaned and resealed.

588.04 Basis of Payment. This work will not be paid for as a separate item, but shall be considered as included in the unit price bid for the major item of construction involved.”

CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)

Effective: June 1, 2010

The reduction of emissions of particulate matter (PM) for off-road equipment shall be accomplished by installing retrofit emission control devices. The term “equipment” refers to diesel fuel powered devices rated at 50 hp and above, to be used on the jobsite in excess of seven calendar days over the course of the construction period on the jobsite (including rental equipment).

Contractor and subcontractor diesel powered off-road equipment assigned to the contract shall be retrofitted using the phased in approach shown below. Equipment that is of a model year older than the year given for that equipment’s respective horsepower range shall be retrofitted:

Effective Dates	Horsepower Range	Model Year
June 1, 2010 ^{1/}	600-749	2002
	750 and up	2006
June 1, 2011 ^{2/}	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006
June 1, 2012 ^{2/}	50-99	2004
	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006

- 1/ Effective dates apply to Contractor diesel powered off-road equipment assigned to the contract.
- 2/ Effective dates apply to Contractor and subcontractor diesel powered off-road equipment assigned to the contract.

The retrofit emission control devices shall achieve a minimum PM emission reduction of 50 percent and shall be:

- a) Included on the U.S. Environmental Protection Agency (USEPA) *Verified Retrofit Technology List* (<http://www.epa.gov/otag/retrofit/verif-list.htm>), or verified by the California Air Resources Board (CARB) (<http://www.arb.ca.gov/diesel/verde/verdev.htm>); or
- b) Retrofitted with a non-verified diesel retrofit emission control device if verified retrofit emission control devices are not available for equipment proposed to be used on the project, and if the Contractor has obtained a performance certification from the retrofit device manufacturer that the emission control device provides a minimum PM emission reduction of 50 percent.

Note: Large cranes (Crawler mounted cranes) which are responsible for critical lift operations are exempt from installing retrofit emission control devices if such devices adversely affect equipment operation.

Diesel powered off-road equipment with engine ratings of 50 hp and above, which are unable to be retrofitted with verified emission control devices or if performance certifications are not available which will achieve a minimum 50 percent PM reduction, may be granted a waiver by the Department if documentation is provided showing good faith efforts were made by the Contractor to retrofit the equipment.

Construction shall not proceed until the Contractor submits a certified list of the diesel powered off-road equipment that will be used, and as necessary, retrofitted with emission control devices. The list(s) shall include (1) the equipment number, type, make, Contractor/rental company name; and (2) the emission control devices make, model, USEPA or CARB verification number, or performance certification from the retrofit device manufacturer. Equipment reported as fitted with emissions control devices shall be made available to the Engineer for visual inspection of the device installation, prior to being used on the jobsite.

The Contractor shall submit an updated list of retrofitted off-road construction equipment as retrofitted equipment changes or comes on to the jobsite. The addition or deletion of any diesel powered equipment shall be included on the updated list.

If any diesel powered off-road equipment is found to be in non-compliance with any portion of this special provision, the Engineer will issue the Contractor a diesel retrofit deficiency deduction.

Any costs associated with retrofitting any diesel powered off-road equipment with emission control devices shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed. The Contractor's compliance with this notice and any associated regulations shall not be grounds for a claim.

Diesel Retrofit Deficiency Deduction

When the Engineer determines that a diesel retrofit deficiency exists, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency continues to exist. The calendar day(s) will begin when the time period for correction is exceeded and end with the Engineer's written acceptance of the correction. The daily monetary deduction will be \$1,000.00 for each deficiency identified.

The deficiency will be based on lack of diesel retrofit emissions control.

If a Contractor accumulates three diesel retrofit deficiency deductions for the same piece of equipment in a contract period, the Contractor will be shutdown until the deficiency is corrected. Such a shutdown will not be grounds for any extension of the contract time, waiver of penalties, or be grounds for any claim.

CONSTRUCTION AIR QUALITY - DIESEL VEHICLE EMISSIONS CONTROL (BDE)

Effective: April 1, 2009

Revised: July 1, 2009

Diesel Vehicle Emissions Control. The reduction of construction air emissions shall be accomplished by using cleaner burning diesel fuel. The term "equipment" refers to any and all diesel fuel powered devices rated at 50 hp and above, to be used on the project site in excess of seven calendar days over the course of the construction period on the project site (including any "rental" equipment).

All equipment on the jobsite, with engine ratings of 50 hp and above, shall be required to: use Ultra Low Sulfur Diesel fuel (ULSD) exclusively (15 ppm sulfur content or less).

Diesel powered equipment in non-compliance will not be allowed to be used on the project site, and is also subject to a notice of non-compliance as outlined below.

The Contractor shall submit copies of monthly summary reports and include certified copies of the ULSD diesel fuel delivery slips for diesel fuel delivered to the jobsite for the reporting time period, noting the quantity of diesel fuel used.

If any diesel powered equipment is found to be in non-compliance with any portion of this specification, the Engineer will issue the Contractor a notice of non-compliance and identify an appropriate period of time, as outlined below under environmental deficiency deduction, in which to bring the equipment into compliance or remove it from the project site.

Any costs associated with bringing any diesel powered equipment into compliance with these diesel vehicle emissions controls shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed. The Contractor's compliance with this notice and any associated regulations shall also not be grounds for a claim.

Environmental Deficiency Deduction. When the Engineer is notified, or determines that an environmental control deficiency exists, he/she will notify the Contractor in writing, and direct the Contractor to correct the deficiency within a specified time period. The specified time-period, which begins upon Contractor notification, will be from 1/2 hour to 24 hours long, based on the urgency of the situation and the nature of the deficiency. The Engineer shall be the sole judge regarding the time period.

The deficiency will be based on lack of repair, maintenance and diesel vehicle emissions control.

If the Contractor fails to correct the deficiency within the specified time frame, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency continues to exist. The calendar day(s) will begin when the time period for correction is exceeded and end with the Engineer's written acceptance of the correction. The daily monetary deduction will be \$1,000.00 for each deficiency identified.

If a Contractor or subcontractor accumulates three environmental deficiency deductions in a contract period, the Contractor will be shutdown until the deficiency is corrected. Such a shutdown will not be grounds for any extension of contract time, waiver of penalties, or be grounds for any claim.

CONSTRUCTION AIR QUALITY - IDLING RESTRICTIONS (BDE)

Effective: April 1, 2009

Idling Restrictions. The Contractor shall establish truck-staging areas for all diesel powered vehicles that are waiting to load or unload material at the jobsite. Staging areas shall be located where the diesel emissions from the equipment will have a minimum impact on adjacent sensitive receptors. The Department will review the selection of staging areas, whether within or outside the existing highway right-of-way, to avoid locations near sensitive areas or populations to the extent possible. Sensitive receptors include, but are not limited to, hospitals, schools, residences, motels, hotels, daycare facilities, elderly housing and convalescent facilities. Diesel powered engines shall also be located as far away as possible from fresh air intakes, air conditioners, and windows. The Engineer will approve staging areas before implementation.

Diesel powered vehicle operators may not cause or allow the motor vehicle, when it is not in motion, to idle for more than a total of 10 minutes within any 60 minute period, except under any of the following circumstances:

- 1) The motor vehicle has a gross vehicle weight rating of less than 8000 lb (3630 kg).
- 2) The motor vehicle idles while forced to remain motionless because of on-highway traffic, an official traffic control device or signal, or at the direction of a law enforcement official.
- 3) The motor vehicle idles when operating defrosters, heaters, air conditioners, or other equipment solely to prevent a safety or health emergency.
- 4) A police, fire, ambulance, public safety, other emergency or law enforcement motor vehicle, or any motor vehicle used in an emergency capacity, idles while in an emergency or training mode and not for the convenience of the vehicle operator.
- 5) The primary propulsion engine idles for maintenance, servicing, repairing, or diagnostic purposes if idling is necessary for such activity.
- 6) A motor vehicle idles as part of a government inspection to verify that all equipment is in good working order, provided idling is required as part of the inspection.
- 7) When idling of the motor vehicle is required to operate auxiliary equipment to accomplish the intended use of the vehicle (such as loading, unloading, mixing, or processing cargo; controlling cargo temperature; construction operations, lumbering operations; oil or gas well servicing; or farming operations), provided that this exemption does not apply when the vehicle is idling solely for cabin comfort or to operate non-essential equipment such as air conditioning, heating, microwave ovens, or televisions.
- 8) When the motor vehicle idles due to mechanical difficulties over which the operator has no control.
- 9) The outdoor temperature is less than 32 °F (0 °C) or greater than 80 °F (26 °C).

When the outdoor temperature is greater than or equal to 32 °F (0 °C) or less than or equal to 80 °F (26 °C), a person who operates a motor vehicle operating on diesel fuel shall not cause or allow the motor vehicle to idle for a period greater than 30 minutes in any 60 minute period while waiting to weigh, load, or unload cargo or freight, unless the vehicle is in a line of vehicles that regularly and periodically moves forward.

The above requirements do not prohibit the operation of an auxiliary power unit or generator set as an alternative to idling the main engine of a motor vehicle operating on diesel fuel.

Environmental Deficiency Deduction. When the Engineer is notified, or determines that an environmental control deficiency exists based on non-compliance with the idling restrictions, he/she will notify the Contractor, and direct the Contractor to correct the deficiency.

If the Contractor fails to correct the deficiency a monetary deduction will be imposed. The monetary deduction will be \$1,000.00 for each deficiency identified.

DETERMINATION OF THICKNESS (BDE)

Effective: April 1, 2009

Revise Articles 353.12 and 353.13 of the Standard Specifications to Articles 353.13 and 353.14 respectively.

Add the following Article to the Standard Specifications:

“353.12 Tolerance in Thickness. The thickness of base course pay items that individually contain at least 1000 sq yd (840 sq m) of contiguous area, except for temporary construction, bike paths, and individual locations less than 500 ft (150 m) long, will be evaluated. Temporary construction is defined as those areas constructed and removed under the same contract.

If the base course cannot be cored for thickness prior to placement of the cover layer(s), the Engineer will determine the thickness of the cover layer(s), and subtract them from the measured core thickness to determine the base course thickness.

The procedure described in Article 407.10(b) will be followed, except the option of correcting deficient pavement with additional lift(s) shall not apply.”

Revise Article 354.09 of the Standard Specifications to read:

“354.09 Tolerance in Thickness. The thickness of base course widening pay items that individually contain at least 1000 sq yd (840 sq m) of contiguous area, except for temporary construction; bike paths and individual locations less than 3 ft (1 m) wide or 1000 ft (300 m) long, will be evaluated. Temporary construction is defined as those areas constructed and removed under the same contract. If the base course widening cannot be cored for thickness prior to placement of the cover layer(s), the Engineer will determine the thickness of the cover layer(s), and subtract them from the measured core thickness to determine the base course widening thickness.

The procedure described in Article 407.10(b) will be followed, except:

- (a) The width of a unit shall be the width of the widening along one edge of the pavement.
- (b) The length of the unit shall be 1000 ft (300 m).
- (c) The option of correcting deficient pavement with additional lift(s) shall not apply.”

Revise Article 355.09 of the Standard Specifications to read:

“355.09 Tolerance in Thickness. The thickness of HMA base course pay items that individually contain at least 1000 sq yd (840 sq m) of contiguous area, except for temporary construction; bike paths and individual locations less than 500 ft (150 m) long, will be evaluated according to Article 407.10(b). Temporary construction is defined as those areas constructed and removed under the same contract. If the base course cannot be cored for thickness prior to placement of the cover layer(s), the Engineer will determine the thickness of the cover layer(s), and subtract them from the measured core thickness to determine the base course thickness.”

Revise Article 356.07 of the Standard Specifications to read:

“356.07 Tolerance in Thickness. The thickness of HMA base course widening pay items that individually contain at least 1000 sq yd (840 sq m) of contiguous area, except for temporary construction; bike paths and individual locations less than 3 ft (1 m) wide or 1000 ft (300 m) long, will be evaluated according to Article 407.10(b) except, the width of a unit shall be the width of the widening along one edge of the pavement and the length of a unit shall be 1000 ft (300 m). Temporary locations are defined as those constructed and removed under the same contract. If the base course widening cannot be cored for thickness prior to placement of the cover layer(s), the Engineer will determine the thickness of the cover layer(s) and subtract them from the measured core thickness to determine the base course widening thickness.”

Revise Article 407.10 of the Standard Specifications to read:

“407.10 Tolerance in Thickness. Determination of pavement thickness shall be performed after the pavement surface tests and corrective action have been completed according to Article 407.09.

Pay adjustments made for pavement thickness will be in addition to and independent of those made for pavement smoothness. Pavement pay items that individually contain at least 1000 sq yd (840 sq m) of contiguous pavement shall be evaluated with the following exclusions: temporary pavements; variable width pavements; radius returns; short lengths of contiguous pavements less than 500 ft (125 m) in length; and constant width portions of turn lanes less than 500 ft (125 m) in length. Temporary pavements are defined as pavements constructed and removed under the same contract.

The method described in Article 407.10(a), shall be used except for those pavements constructed in areas where access to side streets and entrances necessitates construction in segments less than 1000 ft (300 m). The method described in Article 407.10(b) shall be used in areas where access to side streets and entrances necessitates construction in segments less than 1000 ft (300 m).

(a) Percent Within Limits. The percent within limits (PWL) method shall be as follows.

- (1) Lots and Sublots. The pavement will be divided into approximately equal lots of not more than 5000 ft (1500 m) in length. When the length of a continuous strip of pavement is 500 ft (150 m) or greater but less than 5000 ft (1500 m), these short lengths of pavement, ramps, turn lanes, and other short sections of continuous pavement will be grouped together to form lots approximately 5000 ft (1500 m) in length. Short segments between structures will be measured continuously with the structure segments omitted. Each lot will be subdivided into ten equal sublots. The width of a subplot and lot will be the width from the pavement edge to the adjacent lane line, from one lane line to the next, or between pavement edges for single-lane pavements.
- (2) Cores. Cores 2 in. (50 mm) in diameter shall be taken from the pavement by the Contractor, at locations selected by the Engineer. The exact location for each core will be selected at random, but will result in one core per subplot. Core locations will be specified prior to beginning the coring operations.

The Contractor and the Engineer shall witness the coring operations, as well as the measuring and recording of the core lengths. The cores will be measured with a device supplied by the Department immediately upon removal from the core bit and prior to moving to the next core location. Upon concurrence of the length, the core samples shall be disposed of according to Article 202.03.

Upon completion of each core, all water shall be removed from the hole and the hole then filled with a rapid hardening mortar or concrete. The material shall be mixed in a separate container, placed in the hole, consolidated by rodding, and struck-off flush with the adjacent pavement.

- (3) Deficient Sublot. When the length of the core in a subplot is deficient by more than ten percent of plan thickness, the Contractor may take three additional cores within that subplot at locations selected at random by the Engineer. If the Contractor chooses not to take additional cores, the pavement in that subplot shall be removed and replaced.

When the three additional cores are taken, the length of those cores will be averaged with the original core length.

If the average shows the subplot to be deficient by ten percent or less, no additional action is necessary. If the average shows the subplot to be deficient by more than ten percent, the pavement in that subplot shall be removed and replaced; however, when requested in writing by the Contractor, the Engineer may permit in writing such deficient sublots to remain in place. For deficient sublots allowed to remain in place, additional lift(s) may be placed, at no additional cost to the Department, to bring the deficient pavement to plan thickness when the Engineer determines grade control conditions will permit such lift(s). The area(s) to be overlaid, material to be used, thickness(es) of the lift(s), and method of placement will be approved by the Engineer.

When a deficient subplot is removed and replaced, or additional lifts are placed, the corrected subplot shall be retested for thickness. The length of the new core taken in the subplot will be used in determining the PWL for the lot.

When a deficient subplot is left in place, and no additional lift(s) are placed, no payment will be made for the deficient subplot. The length of the original core taken in the subplot will be used in determining the PWL for the lot.

- (4) Deficient Lot. After addressing deficient sublots, the PWL for each lot will be determined. When the PWL of a lot is 60 percent or less, the pavement in that lot shall be removed and replaced; however, when requested in writing by the Contractor, the Engineer may permit in writing such deficient lots to remain in place. For deficient lots allowed to remain in place, additional lift(s) may be placed, at no additional cost to the Department, to bring the deficient pavement to plan thickness when the Engineer determines grade control conditions will permit such lift(s). The area(s) to be overlaid, material to be used, thickness(es) of the lift(s), and method of placement will be approved by the Engineer.

When a deficient lot is removed and replaced, or additional lifts are placed, the corrected lot shall be retested for thickness. The PWL for the lot will then be recalculated based upon the new cores; however, the pay factor for the lot shall be a maximum of 100 percent.

When a deficient lot is left in place, and no additional lift(s) are placed, the PWL for the lot will not be recalculated.

- (5) Right of Discovery. When the Engineer has reason to believe the random core selection process will not accurately represent the true conditions of the work, he/she may order additional cores. The additional cores shall be taken at specific locations determined by the Engineer. The Engineer will provide notice to the Contractor containing an explanation of the reasons for his/her action. The need for, and location of, additional cores will be determined prior to commencement of coring operations.

When the additional cores show the pavement to be deficient by more than ten percent of plan thickness, more additional cores shall be taken to determine the limits of the deficient pavement and that area shall be removed and replaced; however, when requested in writing by the Contractor, the Engineer may permit in writing such areas of deficient pavement to remain in place.

The area of deficient pavement will be defined using the length between two acceptable cores and the full width of the subplot. An acceptable core is a core with a length of at least 90 percent of plan thickness.

For deficient areas allowed to remain in place, additional lift(s) may be placed, at no additional cost to the Department, to bring the deficient pavement to plan thickness when the Engineer determines grade control conditions will permit such lift(s). The area(s) to be overlaid, material to be used, thickness(es) of the lift(s), and method of placement will be approved by the Engineer.

When an area of deficient pavement is removed and replaced, or additional lifts are placed, the corrected pavement shall be retested for thickness.

When an area of deficient pavement is left in place, and no additional lift(s) are placed, no payment will be made for the deficient pavement.

When the additional cores show the pavement to be at least 90 percent of plan thickness, the additional cores will be paid for according to Article 109.04.

(6) Profile Index Adjustment. After any area of pavement is removed and replaced or any additional lifts are placed, the corrected areas shall be retested for pavement smoothness and any necessary profile index adjustments and/or corrections will be made based on these final profile readings prior to retesting for thickness.

(7) Determination of PWL. The PWL for each lot will be determined as follows.

Definitions:

- x_i = Individual values (core lengths) under consideration
- n = Number of individual values under consideration (10 per lot)
- \bar{x} = Average of the values under consideration
- LSL = Lower Specification Limit (98% of plan thickness)
- Q_L = Lower Quality Index
- s = Sample Standard Deviation
- PWL = Percent Within Limits

Determine \bar{x} for the lot to the nearest two decimal places.

Determine s for the lot to the nearest three decimal places using:

$$s = \sqrt{\frac{\sum(x_i - \bar{x})^2}{n - 1}} \quad \text{where} \quad \sum(x_i - \bar{x})^2 = (x_1 - \bar{x})^2 + (x_2 - \bar{x})^2 + \dots + (x_{10} - \bar{x})^2$$

Determine Q_L for the lot to the nearest two decimal places using:

$$Q_L = \frac{(\bar{x} - LSL)}{s}$$

Determine PWL for the lot using the Q_L and the following table. For Q_L values less than zero the value shown in the table must be subtracted from 100 to obtain PWL.

- (8) Pay Factors. The pay factor (PF) for each lot will be determined, to the nearest two decimal places, using:

$$PF \text{ (in percent)} = 55 + 0.5 \text{ (PWL)}$$

If \bar{x} for a lot is less than the plan thickness, the maximum PF for that lot shall be 100 percent.

- (9) Payment. Payment of incentive or disincentive for pay items subject to the PWL method will be calculated using:

$$\text{Payment} = (((\text{TPF}/100)-1) \times \text{CUP}) \times (\text{TOTPAVT} - \text{DEFPAVT})$$

TPF = Total Pay Factor

CUP = Contract Unit Price

TOTPAVT = Area of Pavement Subject to Coring

DEFPAVT = Area of Deficient Pavement

The TPF for the pavement shall be the average of the PF for all the lots; however, the TPF shall not exceed 102 percent.

Area of Deficient pavement (DEFPAVT) is defined as an area of pavement represented by a subplot deficient by more than ten percent which is left in place with no additional thickness added.

Area of Pavement Subject to Coring (TOTPAVT) is defined as those pavement areas included in lots for pavement thickness determination.

PERCENT WITHIN LIMITS							
Quality Index (Q _L)*	Percent Within Limits (PWL)	Quality Index (Q _L)*	Percent Within Limits (PWL)	Quality Index (Q _L)*	Percent Within Limits (PWL)	Quality Index (Q _L)*	Percent Within Limits (PWL)
0.00	50.00	0.40	65.07	0.80	78.43	1.20	88.76
0.01	50.38	0.41	65.43	0.81	78.72	1.21	88.97
0.02	50.77	0.42	65.79	0.82	79.02	1.22	89.17
0.03	51.15	0.43	66.15	0.83	79.31	1.23	89.38
0.04	51.54	0.44	66.51	0.84	79.61	1.24	89.58
0.05	51.92	0.45	66.87	0.85	79.90	1.25	89.79
0.06	52.30	0.46	67.22	0.86	80.19	1.26	89.99
0.07	52.69	0.47	67.57	0.87	80.47	1.27	90.19
0.08	53.07	0.48	67.93	0.88	80.76	1.28	90.38
0.09	53.46	0.49	68.28	0.89	81.04	1.29	90.58
0.10	53.84	0.50	68.63	0.90	81.33	1.30	90.78
0.11	54.22	0.51	68.98	0.91	81.61	1.31	90.96
0.12	54.60	0.52	69.32	0.92	81.88	1.32	91.15
0.13	54.99	0.53	69.67	0.93	82.16	1.33	91.33
0.14	55.37	0.54	70.01	0.94	82.43	1.34	91.52
0.15	55.75	0.55	70.36	0.95	82.71	1.35	91.70
0.16	56.13	0.56	70.70	0.96	82.97	1.36	91.87
0.17	56.51	0.57	71.04	0.97	83.24	1.37	92.04
0.18	56.89	0.58	71.38	0.98	83.50	1.38	92.22
0.19	57.27	0.59	71.72	0.99	83.77	1.39	92.39
0.20	57.65	0.60	72.06	1.00	84.03	1.40	92.56
0.21	58.03	0.61	72.39	1.01	84.28	1.41	92.72
0.22	58.40	0.62	72.72	1.02	84.53	1.42	92.88
0.23	58.78	0.63	73.06	1.03	84.79	1.43	93.05
0.24	59.15	0.64	73.39	1.04	85.04	1.44	93.21
0.25	59.53	0.65	73.72	1.05	85.29	1.45	93.37
0.26	59.90	0.66	74.04	1.06	85.53	1.46	93.52
0.27	60.28	0.67	74.36	1.07	85.77	1.47	93.67
0.28	60.65	0.68	74.69	1.08	86.02	1.48	93.83
0.29	61.03	0.69	75.01	1.09	86.26	1.49	93.98
0.30	61.40	0.70	75.33	1.10	86.50	1.50	94.13
0.31	61.77	0.71	75.64	1.11	86.73	1.51	94.27
0.32	62.14	0.72	75.96	1.12	86.96	1.52	94.41
0.33	62.51	0.73	76.27	1.13	87.20	1.53	94.54
0.34	62.88	0.74	76.59	1.14	87.43	1.54	94.68
0.35	63.25	0.75	76.90	1.15	87.66	1.55	94.82
0.36	63.61	0.76	77.21	1.16	87.88	1.56	94.95
0.37	63.98	0.77	77.51	1.17	88.10	1.57	95.08
0.38	64.34	0.78	77.82	1.18	88.32	1.58	95.20
0.39	64.71	0.79	78.12	1.19	88.54	1.59	95.33

*For Q_L values less than zero, subtract the table value from 100 to obtain PWL

PERCENT WITHIN LIMITS (continued)					
Quality Index (Q _L)*	Percent Within Limits (PWL)	Quality Index (Q _L)*	Percent Within Limits (PWL)	Quality Index (Q _L)*	Percent Within Limits (PWL)
1.60	95.46	2.00	98.83	2.40	99.89
1.61	95.58	2.01	98.88	2.41	99.90
1.62	95.70	2.02	98.92	2.42	99.91
1.63	95.81	2.03	98.97	2.43	99.91
1.64	95.93	2.04	99.01	2.44	99.92
1.65	96.05	2.05	99.06	2.45	99.93
1.66	96.16	2.06	99.10	2.46	99.94
1.67	96.27	2.07	99.14	2.47	99.94
1.68	96.37	2.08	99.18	2.48	99.95
1.69	96.48	2.09	99.22	2.49	99.95
1.70	96.59	2.10	99.26	2.50	99.96
1.71	96.69	2.11	99.29	2.51	99.96
1.72	96.78	2.12	99.32	2.52	99.97
1.73	96.88	2.13	99.36	2.53	99.97
1.74	96.97	2.14	99.39	2.54	99.98
1.75	97.07	2.15	99.42	2.55	99.98
1.76	97.16	2.16	99.45	2.56	99.98
1.77	97.25	2.17	99.48	2.57	99.98
1.78	97.33	2.18	99.50	2.58	99.99
1.79	97.42	2.19	99.53	2.59	99.99
1.80	97.51	2.20	99.56	2.60	99.99
1.81	97.59	2.21	99.58	2.61	99.99
1.82	97.67	2.22	99.61	2.62	99.99
1.83	97.75	2.23	99.63	2.63	100.00
1.84	97.83	2.22	99.66	2.64	100.00
1.85	97.91	2.25	99.68	≥ 2.65	100.00
1.86	97.98	2.26	99.70		
1.87	98.05	2.27	99.72		
1.88	98.11	2.28	99.73		
1.89	98.18	2.29	99.75		
1.90	98.25	2.30	99.77		
1.91	98.31	2.31	99.78		
1.92	98.37	2.32	99.80		
1.93	98.44	2.33	99.81		
1.94	98.50	2.34	99.83		
1.95	98.56	2.35	99.84		
1.96	98.61	2.36	99.85		
1.97	98.67	2.37	99.86		
1.98	98.72	2.38	99.87		
1.99	98.78	2.39	99.88		

*For Q_L values less than zero, subtract the table value from 100 to obtain PWL

(b) Minimum Thickness. The minimum thickness method shall be as follows.

- (1) Length of Units. The length of a unit will be a continuous strip of pavement 500 ft (150 m) in length.
- (2) Width of Units. The width of a unit will be the width from the pavement edge to the adjacent lane line, from one lane line to the next, or between pavement edges for single-lane pavements.

- (3) Thickness Measurements. Pavement thickness will be based on 2 in. (50 mm) diameter cores.

Cores shall be taken from the pavement by the Contractor at locations selected by the Engineer. When determining the thickness of a unit, one core shall be taken in each unit.

The Contractor and the Engineer shall witness the coring operations, as well as the measuring and recording of the cores. Core measurements will be determined immediately upon removal from the core bit and prior to moving to the next core location. Upon concurrence of the length, the core samples may be disposed of according to Article 202.03.

Upon completion of each core, all water shall be removed from the hole and the hole then filled with a rapid hardening mortar or concrete. The material shall be mixed in a separate container, placed in the hole, consolidated by rodding, and struck-off flush with the adjacent pavement.

- (4) Unit Deficient in Thickness. In considering any portion of the pavement that is deficient, the entire limits of the unit will be used in computing the deficiency or determining the remedial action required.
- (5) Thickness Equals or Exceeds Specified Thickness. When the thickness of a unit equals or exceeds the specified plan thickness, payment will be made at the contract unit price per square yard (square meter) for the specified thickness.
- (6) Thickness Deficient by Ten Percent or Less. When the thickness of a unit is less than the specified plan thickness by ten percent or less, a deficiency deduction will be assessed against payment for the item involved. The deficiency will be a percentage of the contract unit price as given in the following table.

Percent Deficiency (of Plan Thickness)	Percent Deduction (of Contract Unit Price)
0.0 to 2.0	0
2.1 to 3.0	20
3.1 to 4.0	28
4.1 to 5.0	32
5.1 to 7.5	43
7.6 to 10.0	50

- (7) Thickness Deficient by More than Ten Percent. When a core shows the pavement to be deficient by more than ten percent of plan thickness, additional cores shall be taken on each side of the deficient core, at stations selected by the Contractor and offsets selected by the Engineer, to determine the limits of the deficient pavement. No core shall be located within 5 ft (1.5 m) of a previous core obtained for thickness determination. The first acceptable core obtained on each side of a deficient core will be used to determine the length of the deficient pavement. An acceptable core is a core with a thickness of at least 90 percent of plan thickness. The area of deficient pavement will be defined using the length between two acceptable cores and the full width of the unit.

The area of deficient pavement shall be removed and replaced; however, when requested in writing by the Contractor, the Engineer may permit in writing such areas of deficient pavement to remain in place. For deficient areas allowed to remain in place, additional lift(s) may be placed, at no additional cost to the Department, to bring the deficient pavement to plan thickness when the Engineer determines grade control conditions will permit such lift(s). The area(s) to be overlaid, material to be used, thickness(es) of the lift(s), and method of placement will be approved by the Engineer.

When an area of deficient pavement is removed and replaced, or additional lifts are placed, the corrected pavement shall be retested for thickness. The thickness of the new core will be used to determine the pay factor for the corrected area.

When an area of deficient pavement is left in place, and no additional lift(s) are placed, no payment will be made for the deficient pavement. In addition, an amount equal to two times the contract cost of the deficient pavement will be deducted from the compensation due the Contractor.

The thickness of the first acceptable core on each side of the core more than ten percent deficient will be used to determine any needed pay adjustments for the remaining areas on each side of the area deficient by more than ten percent. The pay adjustment will be determined according to Article 407.10(b)(6).

- (8) Right of Discovery. When the Engineer has reason to believe any core location does not accurately represent the true conditions of the work, he/she may order additional cores. These additional cores shall be taken at specific locations determined by the Engineer. The Engineer will provide notice to the Contractor containing an explanation of the reasons for his/her action.

When the additional cores show the pavement to be deficient by more than ten percent of plan thickness, the procedures outlined in Article 407.10(b)(7) shall be followed, except the Engineer will determine the additional core locations.

When the additional cores, ordered by the Engineer, show the pavement to be at least 90 percent of plan thickness, the additional cores will be paid for according to Article 109.04.

- (9) Profile Index Adjustment. After any area of pavement is removed and replaced or any additional lifts are added, the corrected areas shall be retested for pavement smoothness and any necessary profile index adjustments and/or corrections will be made based on these final profile readings prior to retesting for thickness.”

Revise Article 482.06 of the Standard Specifications to read:

“482.06 Tolerance in Thickness. The shoulder shall be constructed to the thickness shown on the plans. When the contract includes square yards (square meters) as the unit of measurement for HMA shoulder, thickness determinations shall be made according to Article 407.10(b)(3) and the following.

- (a) Length of the Units. The length of a unit shall be a continuous strip of shoulder 2500 ft (750 m) long.

- (b) Width of the Units. The width of the unit shall be the full width of the shoulder.
- (c) Thickness Deficient by More than Ten Percent. When a core shows the shoulder to be deficient by more than ten percent of plan thickness, additional cores shall be taken on each side of the deficient core, at stations selected by the Contractor and offsets selected by the Engineer, to determine the limits of the deficient shoulder. No core shall be located within 5 ft (1.5 m) of a previous core obtained for thickness determination. The first acceptable core obtained on each side of a deficient core will be used to determine the length of the deficient shoulder. An acceptable core is a core with a thickness of at least 90 percent of plan thickness. The area of deficient shoulder will be defined using the length between two acceptable cores and the full width of the unit. The area of deficient shoulder shall be brought to specified thickness by the addition of the applicable mixture, at no additional cost to the Department and subject to the lift thickness requirements of Article 312.05, or by removal and replacement with a new mixture. However, the surface elevation of the completed shoulder shall not exceed by more than 1/8 in. (3 mm) the surface elevation of the adjacent pavement. When requested in writing by the Contractor, the Engineer may permit in writing such thin shoulder to remain in place. When an area of thin shoulder is left in place, and no additional lift(s) are placed, no payment will be made for the thin shoulder. In addition, an amount equal to two times the contract unit price of the shoulder will be deducted from the compensation due the Contractor.

When an area of deficient shoulder is removed and replaced, or additional lifts are placed, the corrected pavement shall be retested for thickness.

- (d) Right of Discovery. When the Engineer has reason to believe any core location does not accurately represent the true conditions of the work, he/she may order additional cores. When the additional cores, ordered by the Engineer, show the shoulder to be at least 90 percent of plan thickness, the additional cores will be paid for according to Article 109.04. When the additional core shows the shoulder to be less than 90 percent of plan thickness, the procedure in (c), above shall be followed.”

Revise Article 483.07 of the Standard Specifications to read:

“483.07 Tolerance in Thickness. The shoulder shall be constructed to the thickness shown on the plans. Thickness determinations shall be made according to Article 482.06 except the option of correcting deficient pavement with additional lift(s) shall not apply.”

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (DBE)

Effective: September 1, 2000

Revised: January 1, 2010

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

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

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

The Contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of contracts funded in whole or in part with federal or state funds. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

OVERALL GOAL SET FOR THE DEPARTMENT. As a requirement of compliance with 49 CFR part 26, the Department has set an overall goal for DBE participation in its federally assisted contracts. That goal applies to all federal-aid funds the Department will expend in its federally assisted contracts for the subject reporting fiscal year. The Department is required to make a good faith effort to achieve the overall goal. The dollar amount paid to all approved DBE companies performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined that the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. This determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates that, in the absence of unlawful discrimination, and in an arena of fair and open competition, DBE companies can be expected to perform **17.00%** of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will only award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set forth in this Special Provision:

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

DBE LOCATOR REFERENCES. Bidders may consult the IL UCP DBE Directory as a reference source for DBE-certified companies. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting.

Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217)785-4611, or by visiting the Department's web site at www.dot.il.gov.

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

(a) The bidder shall submit a Disadvantaged Business Utilization Plan on Department forms SBE 2025 and 2026 with the bid.

(b) The Utilization Plan shall indicate that the bidder either has obtained sufficient DBE participation commitments to meet the contract goal or has not obtained enough DBE participation commitments in spite of a good faith effort to meet the goal. The Utilization Plan shall further provide the name, telephone number, and telefax number of a responsible official of the bidder designated for purposes of notification of plan approval or disapproval under the procedures of this Special Provision.

(c) The Utilization Plan shall include a DBE Participation Commitment Statement, Department form SBE 2025, for each DBE proposed for the performance of work to achieve the contract goal. For bidding purposes, submission of the completed SBE 2025 forms, signed by the DBEs and faxed to the bidder will be acceptable as long as the original is available and provided upon request. All elements of information indicated on the said form shall be provided, including but not limited to the following:

(1) The names and addresses of DBE firms that will participate in the contract;

(2) A description, including pay item numbers, of the work each DBE will perform;

(3) The dollar amount of the participation of each DBE firm participating. The dollar amount of participation for identified work shall specifically state the quantity, unit price, and total subcontract price for the work to be completed by the DBE. If partial pay items are to be performed by the DBE, indicate the portion of each item, a unit price where appropriate and the subcontract price amount;

(4) DBE Participation Commitment Statements, form SBE 2025, signed by the bidder and each participating DBE firm documenting the commitment to use the DBE subcontractors whose participation is submitted to meet the contract goal;

(5) If the bidder is a joint venture comprised of DBE companies and non-DBE companies, the plan must also include a clear identification of the portion of the work to be performed by the DBE partner(s); and,

(6) If the contract goal is not met, evidence of good faith efforts.

GOOD FAITH EFFORT PROCEDURES. The contract will not be awarded until the Utilization Plan submitted by the apparent successful bidder is approved. All information submitted by the bidder must be complete, accurate and adequately document the good faith efforts of the bidder before the Department will commit to the performance of the contract by the bidder. The Utilization Plan will be approved by the Department if the Utilization Plan commits sufficient commercially useful DBE work performance to meet the contract goal or the bidder submits sufficient documentation of a good faith effort to meet the contract goal pursuant to 49 CFR part 26, Appendix A.

The Utilization Plan will not be approved by the Department if the Utilization Plan does not commit sufficient DBE participation to meet the contract goal unless the apparent successful bidder documented in the Utilization Plan that it made a good faith effort to meet the goal. This means that the bidder must show that all necessary and reasonable steps were taken to achieve the contract goal. Necessary and reasonable steps are those which, by their scope, intensity and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not successful. The Department will consider the quality, quantity, and intensity of the kinds of efforts that the bidder has made. Mere *pro forma* efforts, in other words, efforts done as a matter of form, are not good faith efforts; rather, the bidder is expected to have taken genuine efforts that would be reasonably expected of a bidder actively and aggressively trying to obtain DBE participation sufficient to meet the contract goal.

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

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

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

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

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

b. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts.

Bidders are not, however, required to accept higher quotes from DBE companies if the price difference is excessive or unreasonable.

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

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

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

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

(b) If the Department determines that the apparent successful bidder has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided that it is otherwise eligible for award. If the Department determines that the bidder has failed to meet the requirements of this Special Provision and that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification shall include a statement of reasons why good faith efforts have not been found.

(c) The bidder may request administrative reconsideration of a determination adverse to the bidder within the five working days after receipt of the notification date of the determination by delivering the request to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764 (Telefax: (217)785-1524). Deposit of the request in the United States mail on or before the fifth business day shall not be deemed delivery. The determination shall become final if a request is not made and delivered. A request may provide additional written documentation and/or argument concerning the issue of whether an adequate good faith effort was made to meet the contract goal. The request will be forwarded to the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person in order to consider all issues of whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten working days after receipt of the request for reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

CALCULATING DBE PARTICIPATION. The Utilization Plan values represent work anticipated to be performed and paid for upon satisfactory completion. The Department is only able to count toward the achievement of the overall goal and the contract goal the value of payments made for the work actually performed by DBE companies. In addition, a DBE must perform a commercially useful function on the contract to be counted.

A commercially useful function is generally performed when the DBE is responsible for the work and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. The Department and Contractor are governed by the provisions of 49 CFR part 26.55(c) on questions of commercially useful functions as it affects the work. Specific counting guidelines are provided in 49 CFR part 26.55, the provisions of which govern over the summary contained herein.

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

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

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

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

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

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

(e) DBE as a material supplier:

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

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

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

CONTRACT COMPLIANCE. Compliance with this Special Provision is an essential part of the contract. The Department is prohibited by federal regulations from crediting the participation of a DBE included in the Utilization Plan toward either the contract goal or the Department's overall goal until the amount to be applied toward the goals has been paid to the DBE. The following administrative procedures and remedies govern the compliance by the Contractor with the contractual obligations established by the Utilization Plan.

After approval of the Utilization Plan and award of the contract, the Utilization Plan and individual DBE Participation Statements become part of the contract. If the Contractor did not succeed in obtaining enough DBE participation to achieve the advertised contract goal, and the Utilization Plan was approved and contract awarded based upon a determination of good faith, the total dollar value of DBE work calculated in the approved Utilization Plan as a percentage of the awarded contract value shall become the amended contract goal.

(a) No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be submitted to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764. Telephone number (217) 785-4611. Telefax number (217) 785-1524.

(b) The Contractor must notify and obtain written approval from the Department's Bureau of Small Business Enterprises prior to replacing a DBE or making any change in the participation of a DBE. Approval for replacement will be granted only if it is demonstrated that the DBE is unable or unwilling to perform. The Contractor must make every good faith effort to find another certified DBE subcontractor to substitute for the original DBE. The good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the contract as the original DBE, to the extent needed to meet the contract goal.

(c) Any deviation from the DBE condition-of-award or contract specifications must be approved, in writing, by the Department. The Contractor shall notify affected DBEs in writing of any changes in the scope of work which result in a reduction in the dollar amount condition-of-award to the contract.

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

- (1) That the replacement work will be performed by the same DBE (as long as the DBE is certified in the respective item of work) in a modification of the condition of award; or
- (2) That the DBE is aware that its work will be deleted or will experience underruns and has agreed in writing to the change. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so; or
- (3) That the DBE is not capable of performing the replacement work or has declined to perform the work at a reasonably competitive price. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so.

(e) Where the revision includes work committed to a new DBE subcontractor, not previously involved in the project, then a Request for Approval of Subcontractor, Department form BC 260A, must be signed and submitted.

(f) If the commitment of work is in the form of additional tasks assigned to an existing subcontract, than a new Request for Approval of Subcontractor shall not be required. However, the Contractor must document efforts to assure that the existing DBE subcontractor is capable of performing the additional work and has agreed in writing to the change.

(g) All work indicated for performance by an approved DBE shall be performed, managed, and supervised by the DBE executing the Participation Statement. The Contractor shall not terminate for convenience a DBE listed in the Utilization Plan and then perform the work of the terminated DBE with its own forces, those of an affiliate or those of another subcontractor, whether DBE or not, without first obtaining the written consent of the Bureau of Small Business Enterprises to amend the Utilization Plan. The Contractor shall notify the Bureau of Small Business Enterprises of any termination for reasons other than convenience, and shall obtain approval for inclusion of the substitute DBE in the Utilization Plan. If good faith efforts following a termination of a DBE for cause are not successful, the Contractor shall contact the Bureau of Small Business Enterprises and provide a full accounting of the efforts undertaken to obtain substitute DBE participation. The Bureau of Small Business Enterprises will evaluate the good faith efforts in light of all circumstances surrounding the performance status of the contract, and determine whether the contract goal should be amended.

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

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

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

ENGINEER'S FIELD OFFICE TYPE A (BDE)

Effective: April 1, 2007

Revised: January 1, 2011

Revise Article 670.02 of the Standard Specifications to read:

“670.02 Engineer's Field Office Type A. Type A field offices shall have a minimum ceiling height of 7 ft (2 m) and a minimum floor space 450 sq ft (42 sq m). The office shall be provided with sufficient heat, natural and artificial light, and air conditioning.

The office shall have an electronic security system that will respond to any breach of exterior doors and windows. Doors and windows shall be equipped with locks. Doors shall also be equipped with dead bolt locks or other secondary locking device.

Windows shall be equipped with exterior screens to allow adequate ventilation. All windows shall be equipped with interior shades, curtains, or blinds. Adequate all-weather parking space shall be available to accommodate a minimum of ten vehicles.

Suitable on-site sanitary facilities meeting Federal, State, and local health department requirements shall be provided, maintained clean and in good working condition, and shall be stocked with lavatory and sanitary supplies at all times.

Sanitary facilities shall include hot and cold potable running water, lavatory and toilet as an integral part of the office where available. Solid waste disposal consisting of two waste baskets and an outside trash container of sufficient size to accommodate a weekly provided pick-up service.

In addition, the following furniture and equipment shall be furnished.

- (a) Four desks with minimum working surface 42 x 30 in. (1.1 m x 750 mm) each and five non-folding chairs with upholstered seats and backs.
- (b) One desk with minimum working surface 48 x 72 in. (1.2 x 1.8 m) with height adjustment of 23 to 30 in. (585 to 750 mm).
- (c) One four-post drafting table with minimum top size of 37 1/2 x 48 in. (950 mm x 1.2 m). The top shall be basswood or equivalent and capable of being tilted through an angle of 50 degrees. An adjustable height drafting stool with upholstered seat and back shall also be provided.
- (d) Two free standing four drawer legal size file cabinet with lock and an underwriters' laboratories insulated file device 350 degrees one hour rating.
- (e) One 6 ft (1.8 m) folding table with six folding chairs.
- (f) One equipment cabinet of minimum inside dimension of 44 in. (1100 mm) high x 24 in. (600 mm) wide x 30 in. (750 mm) deep with lock. The walls shall be of steel with a 3/32 in. (2 mm) minimum thickness with concealed hinges and enclosed lock constructed in such a manner as to prevent entry by force. The cabinet assembly shall be permanently attached to a structural element of the field office in a manner to prevent theft of the entire cabinet.

- (g) One refrigerator with a minimum size of 16 cu ft (0.45 cu m) with a freezer unit.
- (h) One electric desk type tape printing calculator.
- (i) A minimum of two communication paths. The configuration shall include:
 - (1) Internet Connection. An internet service connection using telephone DSL, cable broadband, or CDMA wireless technology. Additionally, an 802.11g/N wireless router shall be provided, which will allow connection by the Engineer and up to four Department staff.
 - (2) Telephone Lines. Three separate telephone lines.
- (j) One plain paper copy machine capable of reproducing prints up to 11 x 17 in. (280 x 432 mm) with an automatic feed tray capable of storing 30 sheets of paper. Letter size and 11 x 17 in. (280 x 432 mm) paper shall be provided.
- (k) One plain paper fax machine with paper.
- (l) Two telephones, with touch tone, where available, and a digital telephone answering machine, for exclusive use by the Engineer.
- (m) One electric water cooler dispenser.
- (n) One first-aid cabinet fully equipped.
- (o) One microwave oven, 1 cu ft (0.03 cu m) minimum capacity.
- (p) One fire-proof safe, 0.5 cu ft (0.01 cu m) minimum capacity.
- (q) One electric paper shredder.
- (r) One post mounted rain gauge, located on the project site for each 5 miles (8 km) of project length.”

Revise the first sentence of the first paragraph of Article 670.07 of the Standard Specifications to read:

“The building or buildings fully equipped as specified will be paid for on a monthly basis until the building or buildings are released by the Engineer.”

Revise the last sentence of the first paragraph of Article 670.07 of the Standard Specifications to read:

“This price shall include all utility costs and shall reflect the salvage value of the building or buildings, equipment, and furniture which become the property of the Contractor after release by the Engineer, except that the Department will pay that portion of the monthly long distance and monthly local telephone bills that, when combined, exceed \$150.”

EQUIPMENT RENTAL RATES (BDE)

Effective: August 2, 2007

Revised: January 2, 2008

Replace the second and third paragraphs of Article 105.07(b)(4)a. of the Standard Specifications with the following:

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

Replace Article 109.04(b)(4) of the Standard Specifications with the following:

“(4) Equipment. Equipment used for extra work shall be authorized by the Engineer. The equipment shall be specifically described, be of suitable size and capacity for the work to be performed, and be in good operating condition. For such equipment, the Contractor will be paid as follows.

- a. Contractor Owned Equipment. Contractor owned equipment will be paid for by the hour using the applicable FHWA hourly rate from the “Equipment Watch Rental Rate Blue Book” (Blue Book) in effect when the force account work begins. The FHWA hourly rate is calculated as follows.

$$\text{FHWA hourly rate} = (\text{monthly rate}/176) \times (\text{model year adj.}) \times (\text{Illinois adj.}) + \text{EOC}$$

Where: EOC = Estimated Operating Costs per hour (from the Blue Book)

The time allowed will be the actual time the equipment is operating on the extra work. For the time required to move the equipment to and from the site of the extra work and any authorized idle (standby) time, payment will be made at the following hourly rate: $0.5 \times (\text{FHWA hourly rate} - \text{EOC})$.

All time allowed shall fall within the working hours authorized for the extra work.

The rates above include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs, overhaul and maintenance of any kind, depreciation, storage, overhead, profits, insurance, and all incidentals. The rates do not include labor.

The Contractor shall submit to the Engineer sufficient information for each piece of equipment and its attachments to enable the Engineer to determine the proper equipment category. If a rate is not established in the Blue Book for a particular piece of equipment, the Engineer will establish a rate for that piece of equipment that is consistent with its cost and use in the industry.

- b. Rented Equipment. Whenever it is necessary for the Contractor to rent equipment to perform extra work, the rental and transportation costs of the equipment plus five percent for overhead will be paid. In no case shall the rental rates exceed those of established distributors or equipment rental agencies.

All prices shall be agreed to in writing before the equipment is used.”

FLAGGER AT SIDE ROADS AND ENTRANCES (BDE)

Effective: April 1, 2009

Revise the second paragraph of Article 701.13(a) of the Standard Specifications to read:

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

Revise the first and second paragraph of Article 701.20(i) of the Standard Specifications to read:

“Signs, barricades, or other traffic control devices required by the Engineer over and above those specified will be paid for according to Article 109.04. All flaggers required at side roads and entrances remaining open to traffic including those that are shown on the Highway Standards and/or additional barricades required by the Engineer to close side roads and entrances will be paid for according to Article 109.04.”

FRAMES AND GRATES (BDE)

Effective: January 1, 2010

Revise Article 609.02 of the Standard Specifications to read:

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

Item	Article/Section
(a) Portland Cement Concrete	1020
(b) Gray Iron Castings	1006.14
(c) Ductile Iron Castings	1006.15
(d) Reinforcement Bars	1006.10
(e) Bedding Layer (Note 1)	1004.01
(f) Precast Concrete Bridge Approach Drains	1042

Note 1. Gradation CA 6, CA 10, or CA 12 of D quality or better.”

Revise Article 609.04 of the Standard Specifications to read:

“**609.04 Frames and Grates.** Cast iron frames and grates shall be used. Grates shall seat firmly in the frame.”

FRICITION AGGREGATE (BDE)

Effective: January 1, 2011

Revise Article 1004.01(a)(4) of the Standard Specifications to read:

“ (4) Crushed Stone. Crushed stone shall be the angular fragments resulting from crushing undisturbed, consolidated deposits of rock by mechanical means. Crushed stone shall be divided into the following, when specified.

- a. Carbonate Crushed Stone. Carbonate crushed stone shall be either dolomite or limestone. Dolomite shall contain 11.0 percent or more magnesium oxide (MgO). Limestone shall contain less than 11.0 percent magnesium oxide (MgO).
- b. Crystalline Crushed Stone. Crystalline crushed stone shall be either metamorphic or igneous stone, including but is not limited to, quartzite, granite, rhyolite and diabase.”

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> Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete
HMA All Other	Stabilized Subbase or Shoulders	<u>Allowed Alone or in Combination:</u> 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-25.0, IL-19.0, or IL-19.0L SMA Binder	<u>Allowed Alone or in Combination:</u> Crushed Gravel Carbonate Crushed Stone ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Concrete ^{3/}
HMA High ESAL Low ESAL	C Surface and Leveling Binder IL-12.5,IL-9.5, or IL-9.5L SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination:</u> Crushed Gravel Carbonate Crushed Stone ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{4/} Crushed Concrete ^{3/}

Use	Mixture	Aggregates Allowed	
HMA High ESAL	D Surface and Leveling Binder IL-12.5 or IL-9.5 SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination:</u> Crushed Gravel Carbonate Crushed Stone (other than Limestone) ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) ^{5/} Crushed Steel Slag ^{4/ 5/} 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) ^{5/} or Crushed Sandstone		
HMA High ESAL	E Surface IL-12.5 or IL-9.5 SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination:</u> Crushed Gravel Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) ^{5/} Crushed Steel Slag ^{5/} Crushed Concrete ^{3/} No Limestone.	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		50% Dolomite ^{2/}	Any Mixture E aggregate
		75% Dolomite ^{2/}	Crushed Sandstone, Crushed Slag (ACBF) ^{5/} , Crushed Steel Slag ^{5/} , or Crystalline Crushed Stone
75% Crushed Gravel or Crushed Concrete ^{3/}	Crushed Sandstone, Crystalline Crushed Stone, Crushed Slag (ACBF) ^{5/} , or Crushed Steel Slag ^{5/}		
HMA High ESAL	F Surface IL-12.5 or IL-9.5 SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination:</u> Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) ^{5/} Crushed Steel Slag ^{5/} No Limestone.	

		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		50% Crushed Gravel, Concrete ^{3/} , or Dolomite ^{2/}	Crushed Sandstone, Crushed Slag (ACBF) ^{5/} , Crushed Steel Slag ^{5/} , or Crystalline Crushed Stone

- 1/ Crushed steel slag allowed in shoulder surface only.
- 2/ Carbonate crushed stone 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 either slag is used, the blend percentages listed shall be by volume.”

HMA - HAULING ON PARTIALLY COMPLETED FULL-DEPTH PAVEMENT (BDE)

Effective: January 1, 2008

Revise Article 407.08 of the Standard Specifications to read:

“407.08 Hauling on the Partially Completed Full-Depth Pavement. Legally loaded trucks will be permitted on the partially completed full-depth HMA pavement only to deliver HMA mixture to the paver, provided the last lift has cooled a minimum of 12 hours. Hauling shall be limited to the distances shown in the following tables. The pavement surface temperature shall be measured using an infrared gun. The use of water to cool the pavement to permit hauling will not be allowed. The Contractor’s traffic pattern shall minimize hauling on the partially completed pavement and shall vary across the width of the pavement such that “tracking” of vehicles, one directly behind the other, does not occur.

MAXIMUM HAULING DISTANCE FOR PAVEMENT SURFACE TEMPERATURE BELOW 105 °F (40 °C)				
Total In-Place Thickness Being Hauled On, in. (mm)	Thickness of Lift Being Placed			
	3 in. (75 mm) or less		More than 3 in. (75 mm)	
	Modified Soil Subgrade	Granular Subbase	Modified Soil Subgrade	Granular Subbase
3.0 to 4.0 (75 to 100)	0.75 miles (1200 m)	1.0 mile (1600 m)	0.50 miles (800 m)	0.75 miles (1200 m)
4.1 to 5.0 (101 to 125)	1.0 mile (1600 m)	1.5 miles (2400 m)	0.75 miles (1200 m)	1.0 mile (1600 m)
5.1 to 6.0 (126 to 150)	2.0 miles (3200 m)	2.5 miles (4000 m)	1.5 miles (2400 m)	2.0 miles (3200 m)
6.1 to 8.0 (151 to 200)	2.5 miles (4000 m)	3.0 miles (4800 m)	2.0 miles (3200 m)	2.5 miles (4000 m)
Over 8.0 (200)	No Restrictions			

MAXIMUM HAULING DISTANCE FOR PAVEMENT SURFACE TEMPERATURE OF 105 °F (40 °C) AND ABOVE				
Total In-Place Thickness Being Hauled On, in. (mm)	Thickness of Lift Being Placed			
	3 in. (75 mm) or less		More than 3 in. (75 mm)	
	Modified Soil Subgrade	Granular Subbase	Modified Soil Subgrade	Granular Subbase
3.0 to 4.0 (75 to 100)	0.50 miles (800 m)	0.75 miles (1200 m)	0.25 miles (400 m)	0.50 miles (800 m)
4.1 to 5.0 (101 to 125)	0.75 miles (1200 m)	1.0 mile (1600 m)	0.50 miles (800 m)	0.75 miles (1200 m)
5.1 to 6.0 (126 to 150)	1.0 mile (1600 m)	1.5 miles (2400 m)	0.75 miles (1200 m)	1.0 mile (1600 m)
6.1 to 8.0 (151 to 200)	2.0 miles (3200 m)	2.5 miles (4000 m)	1.5 miles (2400 m)	2.0 miles (3200 m)
Over 8.0 (200)	No Restrictions			

Permissive hauling on the partially completed pavement shall not relieve the Contractor of his/her responsibility for damage to the pavement. Any portion of the full-depth HMA pavement that is damaged by hauling shall be removed and replaced, or otherwise repaired to the satisfaction of the Engineer.

Crossovers used to transfer haul trucks from one roadway to the other shall be at least 1000 ft (300 m) apart and shall be constructed of material that will prevent tracking of dust or mud on the completed HMA lifts. The Contractor shall construct, maintain, and remove all crossovers.”

HOT-MIX ASPHALT – ANTI-STRIPPING ADDITIVE (BDE)

Effective: November 1, 2009

Revise the first and second paragraphs of Article 1030.04(c) of the Standard Specifications to read:

“(c) Determination of Need for Anti-Stripping Additive. The mixture designer shall determine if an additive is needed in the mix to prevent stripping. The determination will be made on the basis of tests performed according to Illinois Modified AASHTO T 283. To be considered acceptable by the Department as a mixture not susceptible to stripping, the conditioned to unconditioned split tensile strength ratio (TSR) shall be equal to or greater than 0.85 for 6 in. (150 mm) specimens. Mixtures, either with or without an additive, with TSRs less than 0.85 for 6 in. (150 mm) specimens will be considered unacceptable. Also, the conditioned tensile strength for mixtures containing an anti-strip additive shall not be lower than the original conditioned tensile strength determined for the same mixture without the anti-strip additive.

If it is determined that an additive is required, the additive may be hydrated lime, slaked quicklime, or a liquid additive, at the Contractor's option.”

HOT-MIX ASPHALT - DENSITY TESTING OF LONGITUDINAL JOINTS (BDE)

Effective: January 1, 2010

Description. This work shall consist of testing the density of longitudinal joints as part of the quality control/quality assurance (QC/QA) of hot-mix asphalt (HMA). Work shall be according to Section 1030 of the Standard Specifications except as follows.

Quality Control/Quality Assurance (QC/QA). Delete the second and third sentence of the third paragraph of Article 1030.05(d)(3) of the Standard Specifications.

Add the following paragraphs to the end of Article 1030.05(d)(3) of the Standard Specifications:

“Longitudinal joint density testing shall be performed at each random density test location. Longitudinal joint testing shall be located at a distance equal to the lift thickness or a minimum of 2 in. (50 mm), from each pavement edge. (i.e. for a 4 in. (100 mm) lift the near edge of the density gauge or core barrel shall be within 4 in. (100 mm) from the edge of pavement.) Longitudinal joint density testing shall be performed using either a correlated nuclear gauge or cores.

- a. Confined Edge. Each confined edge density shall be represented by a one-minute nuclear density reading or a core density and shall be included in the average of density readings or core densities taken across the mat which represents the Individual Test.
- b. Unconfined Edge. Each unconfined edge joint density shall be represented by an average of three one-minute density readings or a single core density at the given density test location and shall meet the density requirements specified herein. The three one-minute readings shall be spaced ten feet apart longitudinally along the unconfined pavement edge and centered at the random density test location.”

Revise the Density Control Limits table in Article 1030.05(d)(4) of the Standard Specifications to read:

“Mixture Composition	Parameter	Individual Test (includes confined edges)	Unconfined Edge Joint Density Minimum
IL-9.5, IL-12.5	N _{design} ≥ 90	92.0 – 96.0%	90.0%
IL-9.5, IL-9.5L, IL-12.5	N _{design} < 90	92.5 – 97.4%	90.0%
IL-19.0, IL-25.0	N _{design} ≥ 90	93.0 – 96.0%	90.0%
IL-19.0, IL-19.0L, IL-25.0	N _{design} < 90	93.0 – 97.4%	90.0%
SMA	N _{design} = 50 & 80	93.5 – 97.4%	91.0%
All Other	N _{design} = 30	93.0 - 97.4%	90.0%”

HOT-MIX ASPHALT – DROP-OFFS (BDE)

Effective: January 1, 2010

Revise the third paragraph of Article 701.07 of the Standard Specifications to read:

“At locations where construction operations result in a differential in elevation exceeding 3 in. (75 mm) between the edge of pavement or edge of shoulder within 3 ft (900 mm) of the edge of the pavement and the earth or aggregate shoulders, Type I or II barricades or vertical panels shall be placed at 100 ft (30 m) centers on roadways where the posted speed limit is 45 mph or greater and at 50 ft (15 m) centers on roadways where the posted speed limit is less than 45 mph.”

IMPACT ATTENUATORS, TEMPORARY (BDE)

Effective: November 1, 2003

Revised: January 1, 2007

Description. This work shall consist of furnishing, installing, maintaining, and removing temporary impact attenuators of the category and test level specified.

Materials. Materials shall meet the requirements of the impact attenuator manufacturer and the following:

Item	Article/Section
(a) Fine Aggregate (Note 1)	003.01
(b) Steel Posts, Structural Shapes, and Plates	1006.04
(c) Rail Elements, End Section Plates, and Splice Plates	1006.25
(d) Bolts, Nuts, Washers and Hardware	1006.25
(e) Hollow Structural Tubing	1006.27(b)
(f) Wood Posts and Wood Blockouts	1007.01, 1007.02, 1007.06
(g) Preservative Treatment	1007.12
(h) Packaged Rapid Hardening Mortar	1018.01

Note 1. Fine aggregate shall be FA 1 or FA 2, Class A quality. The sand shall be unbagged and shall have a maximum moisture content of five percent.

CONSTRUCTION REQUIREMENTS

General. Impact Attenuators shall meet the testing criteria contained in National Cooperative Highway Research Program (NCHRP) Report 350 for the test level specified and shall be on the Department’s approved list.

Installation. Regrading of slopes or approaches for the installation shall be as shown on the plans.

Attenuator bases, when required by the manufacturer, shall be constructed on a prepared subgrade according to the manufacturer’s specifications. The surface of the base shall be slightly sloped or crowned to facilitate drainage.

Impact attenuators shall be installed according to the manufacturer’s specifications and include all necessary transitions between the impact attenuator and the item to which it is attached.

When water filled attenuators are used between November 1 and April 15, they shall contain anti-freeze according to the manufacturer’s recommendations.

Markings. Sand module impact attenuators shall be striped with alternating reflectorized Type AA or Type AP fluorescent orange and reflectorized white horizontal, circumferential stripes. There shall be at least two of each stripe on each module.

Other types of impact attenuators shall have a terminal marker applied to their nose and reflectors along their sides.

Maintenance. All maintenance of the impact attenuators shall be the responsibility of the Contractor until removal is directed by the Engineer.

Relocate. When relocation of temporary impact attenuators is specified, they shall be removed, relocated and reinstalled at the new location. The reinstallation requirements shall be the same as those for a new installation.

Removal. When the Engineer determines the temporary impact attenuators are no longer required, the installation shall be dismantled with all hardware becoming the property of the Contractor.

Surplus material shall be disposed of according to Article 202.03. Anti-freeze, when present, shall be disposed of/recycled according to local ordinances.

When impact attenuators have been anchored to the pavement, the anchor holes shall be repaired with rapid set mortar. Only enough water to permit placement and consolidation by rodding shall be used and the material shall be struck-off flush.

Method of Measurement. This work will be measured for payment as each, where each is defined as one complete installation.

Basis of Payment. This work will be paid for at the contract unit price per each for IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW); IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, WIDE); IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, RESETTABLE); IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW); IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE); or IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) of the test level specified.

Relocation of the devices will be paid for at the contract unit price per each for IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE); IMPACT ATTENUATORS, RELOCATE (SEVERE USE); or IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE); of the test level specified.

Regrading of slopes or approaches will be paid for according to Section 202 and/or Section 204 of the Standard Specifications.

LIQUIDATED DAMAGES (BDE)

Effective: April 1, 2009

Revise the table in Article 108.09 of the Standard Specifications to read:

"Schedule of Deductions for Each Day of Overrun in Contract Time			
Original Contract Amount		Daily Charges	
From More Than	To and Including	Calendar Day	Work Day
\$ 0	\$ 100,000	\$ 375	\$ 500
100,000	500,000	625	875
500,000	1,000,000	1,025	1,425
1,000,000	3,000,000	1,125	1,550
3,000,000	5,000,000	1,425	1,950
5,000,000	10,000,000	1,700	2,350
10,000,000	And over	3,325	4,650"

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM / EROSION AND SEDIMENT CONTROL DEFICIENCY DEDUCTION (BDE)

Effective: April 1, 2007

Revised: November 1, 2009

Revise Article 105.03(a) of the Standard Specifications to read:

“(a) National Pollutant Discharge Elimination System (NPDES) / Erosion and Sediment Control Deficiency Deduction When the Engineer is notified or determines an erosion and/or sediment control deficiency(s) exists, or the Contractor’s activities represents a violation of the Department’s NPDES permits, the Engineer will notify and direct the Contractor to correct the deficiency within a specified time. The specified time, which begins upon notification to the Contractor, will be from 1/2 hour to 1 week based on the urgency of the situation and the nature of the work effort required. The Engineer will be the sole judge.

A deficiency may be any lack of repair, maintenance, or implementation of erosion and/or sediment control devices included in the contract, or any failure to comply with the conditions of the Department’s NPDES permits. A deficiency may also be applied to situations where corrective action is not an option such as the failure to participate in a jobsite inspection of the project, failure to install required measures prior to initiating earth moving operations, disregard of concrete washout requirements, or other disregard of the NPDES permit.

If the Contractor fails to correct a deficiency within the specified time, a daily monetary deduction will be imposed for each calendar day or portion of a calendar day until the deficiency is corrected to the satisfaction of the Engineer. The calendar day(s) will begin with notification to the Contractor and end with the Engineer’s acceptance of the correction. The base value of the daily monetary deduction is \$1000.00 and will be applied to each location for which a deficiency exists. The value of the deficiency deduction assessed for each infraction will be determined by multiplying the base value by a Gravity Adjustment Factor provided in Table A. Except for failure to participate in a required jobsite inspection of the project prior to initiating earthmoving operations which will be based on the total acreage of planned disturbance at the following multipliers: <5 Acres: 1; 5-10 Acres: 2; >10-25 Acres: 3; >25 Acres: 5. For those deficiencies where corrective action was not an option, the monetary deduction will be immediate and will be valued at one calendar day multiplied by a Gravity Adjustment Factor.

Table A Deficiency Deduction Gravity Adjustment Factors				
Types of Violations	Soil Disturbed and Not Permanently Stabilized At Time of Violation			
	< 5 Acres	5 - 10 Acres	>10 - 25 Acres	> 25 Acres
Failure to Install or Properly Maintain BMP	0.1 - 0.5	0.2 - 1.0	0.5 - 2.5	1.0 - 5
Careless Destruction of BMP	0.2 - 1	0.5 - 2.5	1.0 - 5.	1.0 - 5
Intrusion into Protected Resource	1.0 - 5	1.0 - 5	2.0 - 10	2.0 - 10
Failure to properly manage Chemicals, Concrete Washouts or Residuals, Litter or other Wastes	0.2 - 1	0.2 - 1	0.5 - 2.5	1.0 - 5
Improper Vehicle and Equipment Maintenance, Fueling or Cleaning	0.1 - 0.5	0.2 - 1	0.2 - 1	0.5 - 2.5
Failure to Provide or Update Written or Graphic Plans Required by SWPPP	0.2 - 1	0.5 - 2.5	1.0 - 5	1.0 - 5
Failure to comply with Other Provisions of the NPDES Permit	0.1 - 0.5	0.2 - 1	0.2 - 1	0.5 - 2.5"

PAVEMENT MARKING REMOVAL (BDE)

Effective: April 1, 2009

Add the following to the end of the first paragraph of Article 783.03(a) of the Standard Specifications:

“The use of grinders will not be allowed on new surface courses.”

PAYMENTS TO SUBCONTRACTORS (BDE)

Effective: June 1, 2000

Revised: January 1, 2006

Federal regulations found at 49 CFR §26.29 mandate the Department to establish a contract clause to require Contractors to pay subcontractors for satisfactory performance of their subcontracts and to set the time for such payments.

State law also addresses the timing of payments to be made to subcontractors and material suppliers. Section 7 of the Prompt Payment Act, 30 ILCS 540/7, requires that when a Contractor receives any payment from the Department, the Contractor shall make corresponding, proportional payments to each subcontractor and material supplier performing work or supplying material within 15 calendar days after receipt of the Department payment. Section 7 of the Act further provides that interest in the amount of two percent per month, in addition to the payment due, shall be paid to any subcontractor or material supplier by the Contractor if the payment required by the Act is withheld or delayed without reasonable cause. The Act also provides that the time for payment required and the calculation of any interest due applies to transactions between subcontractors and lower-tier subcontractors and material suppliers throughout the contracting chain.

This Special Provision establishes the required federal contract clause, and adopts the 15 calendar day requirement of the State Prompt Payment Act for purposes of compliance with the federal regulation regarding payments to subcontractors.

This contract is subject to the following payment obligations.

When progress payments are made to the Contractor according to Article 109.07 of the Standard Specifications, the Contractor shall make a corresponding payment to each subcontractor and material supplier in proportion to the work satisfactorily completed by each subcontractor and for the material supplied to perform any work of the contract. The proportionate amount of partial payment due to each subcontractor and material supplier throughout the contracting chain shall be determined by the quantities measured or otherwise determined as eligible for payment by the Department and included in the progress payment to the Contractor. Subcontractors and material suppliers shall be paid by the Contractor within 15 calendar days after the receipt of payment from the Department. The Contractor shall not hold retainage from the subcontractors. These obligations shall also apply to any payments made by subcontractors and material suppliers to their subcontractors and material suppliers; and to all payments made to lower tier subcontractors and material suppliers throughout the contracting chain. Any payment or portion of a payment subject to this provision may only be withheld from the subcontractor or material supplier to whom it is due for reasonable cause.

This Special Provision does not create any rights in favor of any subcontractor or material supplier against the State or authorize any cause of action against the State on account of any payment, nonpayment, delayed payment, or interest claimed by application of the State Prompt Payment Act. The Department will not approve any delay or postponement of the 15 day requirement except for reasonable cause shown after notice and hearing pursuant to Section 7(b) of the State Prompt Payment Act. State law creates other and additional remedies available to any subcontractor or material supplier, regardless of tier, who has not been paid for work properly performed or material furnished. These remedies are a lien against public funds set forth in Section 23(c) of the Mechanics Lien Act, 770 ILCS 60/23(c), and a recovery on the Contractor's payment bond according to the Public Construction Bond Act, 30 ILCS 550.

POST MOUNTING OF SIGNS (BDE)

Effective: January 1, 2011

Revise the second paragraph of Article 701.14 of the Standard Specifications to read:

“Post mounted signs shall be a breakaway design. The sign shall be within five degrees of vertical. Two posts shall be used for signs greater than 16 sq ft (1.5 sq m) in area or where the height between the sign and the ground exceeds 7 ft (2.1 m).”

RAISED REFLECTIVE PAVEMENT MARKERS (BDE)

Effective: November 1, 2009

Revised: April 1, 2010

Revise the first sentence of the second paragraph of Article 781.03(a) of the Standard Specifications to read:

“The pavement shall be cut to match the bottom contour of the marker using a concrete saw fitted with 18 and 20 in. (450 and 500 mm) diameter blades.”

SEEDING (BDE)

Effective: July 1, 2004

Revised: July 1, 2010

Revise the following seeding mixtures shown in Table 1 of Article 250.07 of the Standard Specifications to read:

"Table 1 - SEEDING MIXTURES		
Class – Type	Seeds	lb/acre (kg/hectare)
1A Salt Tolerant Lawn Mixture 7/	Bluegrass Perennial Ryegrass Red Fescue (Audubon, Sea Link, or Epic) Hard Fescue (Rescue 911, Spartan II, or Reliant IV) Fulfs Salt Grass 1/ or Salty Alkaligrass	60 (70) 20 (20) 20 (20) 20 (20) 60 (70)
2 Roadside Mixture 7/	Tall Fescue (Inferno, Tarheel II, Quest, Blade Runner, or Falcon IV) Perennial Ryegrass Creeping Red Fescue Red Top	100 (110) 50 (55) 40 (50) 10 (10)
2A Salt Tolerant Roadside Mixture 7/	Tall Fescue (Inferno, Tarheel II, Quest, Blade Runner, or Falcon IV) Perennial Ryegrass Red Fescue (Audubon, Sea Link, or Epic) Hard Fescue (Rescue 911, Spartan II, or Reliant IV) Fulfs Salt Grass 1/ or Salty Alkaligrass	60 (70) 20 (20) 30 (20) 30 (20) 60 (70)
3 Northern Illinois Slope Mixture 7/	Elymus Canadensis (Canada Wild Rye) Perennial Ryegrass Alsike Cover 2/ Desmanthus Illinoensis (Illinois Bundleflower) 2/, 5/ Andropogon Scoparius (Little Bluestem) 5/ Bouteloua Curtipendula (Side-Oats Grama) Fulfs Salt Grass 1/ or Salty Alkaligrass Oats, Spring Slender Wheat Grass 5/ Buffalo Grass (Cody or Bowie) 4/, 5/, 9/	5 (5) 20 (20) 5 (5) 2 (2) 12 (12) 10 (10) 30 (35) 50 (55) 15 (15) 5 (5)
6A Salt Tolerant Conservation Mixture	Andropogon Scoparius (Little Bluestem) 5/ Elymus Canadensis (Canada Wild Rye) 5/ Buffalo Grass (Cody or Bowie) 4/, 5/, 9/ Vernal Alfalfa 2/ Oats, Spring Fulfs Salt Grass 1/ or Salty Alkaligrass	5 (5) 2 (2) 5 (5) 15 (15) 48 (55) 20 (20)"

Revise Note 7 of Table 1 – Seeding Mixtures of Article 250.07 of the Standard Specifications to read:

“7/ In Districts 1 through 6, the planting times shall be April 1 to June 15 and August 1 to November 1. In Districts 7 through 9, the planting times shall be March 1 to June 1 and August 1 to November 15. Seeding may be performed outside these dates provided the Contractor guarantees a minimum of 75 percent uniform growth over the entire seeded area(s) after a period of establishment. Inspection dates for the period of establishment will be as follows: Seeding conducted in Districts 1 through 6 between June 16 and July 31 will be inspected after April 15 and seeding conducted between November 2 and March 31 will be inspected after September 15. Seeding conducted in Districts 7 through 9 between June 2 and July 31 will be inspected after April 15 and seeding conducted between November 16 and February 28 will be inspected after September 15. The guarantee shall be submitted to the Engineer in writing prior to performing the work. After the period of establishment, areas not exhibiting 75 percent uniform growth shall be interseeded or reseeded, as determined by the Engineer, at no additional cost to the Department.”

Revise the first paragraph of Article 1081.04(a) of the Standard Specifications to read:

“(a) Sampling and Testing. Each lot of seed furnished shall be tested by a State Agriculture Department (including other States) or by land grant college or university agricultural sections or by a Registered Seed Technologist. Germination testing of seed shall be accomplished within the 12 months prior to the seed being installed on the project.”

Delete the last sentence of the first paragraph of Article 1081.04(c)(2) of the Standard Specifications.

Revise Table II of Article 1081.04(c)(6) of the Standard Specifications to read:

TABLE II						
Variety of Seeds	Hard Seed % Max.	Purity % Min.	Pure Live Seed % Min.	Weed % Max.	Secondary * Noxious Weeds No. per oz (kg) Max. Permitted	Notes
Alfalfa	20	92	89	0.50	6 (211)	1/
Clover, Alsike	15	92	87	0.30	6 (211)	2/
Red Fescue, Audubon	0	97	82	0.10	3 (105)	-
Red Fescue, Creeping	-	97	82	1.00	6 (211)	-
Red Fescue, Epic	-	98	83	0.05	1 (35)	-
Red Fescue, Sea Link	-	98	83	0.10	3 (105)	-
Tall Fescue, Blade Runner	-	98	83	0.10	2 (70)	-
Tall Fescue, Falcon IV	-	98	83	0.05	1 (35)	-
Tall Fescue, Inferno	0	98	83	0.10	2 (70)	-
Tall Fescue, Tarheel II	-	97	82	1.00	6 (211)	-
Tall Fescue, Quest	0	98	83	0.10	2 (70)	-
Fults Salt Grass	0	98	85	0.10	2 (70)	-
Salty Alkaligrass	0	98	85	0.10	2 (70)	-
Kentucky Bluegrass	-	97	80	0.30	7 (247)	4/
Oats	-	92	88	0.50	2 (70)	3/
Redtop	-	90	78	1.80	5 (175)	3/

Ryegrass, Perennial, Annual	-	97	85	0.30	5 (175)	3/
Rye, Grain, Winter	-	92	83	0.50	2 (70)	3/
Hard Fescue, Reliant IV	-	98	83	0.05	1 (35)	-
Hard Fescue, Rescue 911	0	97	82	0.10	3 (105)	-
Hard Fescue, Spartan II	-	98	83	0.10	3 (105)	-
Timothy	-	92	84	0.50	5 (175)	3/
Wheat, hard Red Winter	-	92	89	0.50	2 (70)	3/”

Revise the first sentence of the first paragraph of Article 1081.04(c)(7) of the Standard Specifications to read:

“The seed quantities indicated per acre (hectare) for Prairie Grass Seed in Classes 3, 3A, 4, 4A, 6, and 6A in Article 250.07 shall be the amounts of pure, live seed per acre (hectare) for each species listed.”

SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)

Effective: April 2, 2005

To account for the preparatory work and operations necessary for the movement of subcontractor personnel, equipment, supplies, and incidentals to the project site and for all other work or operations that must be performed or costs incurred when beginning work approved for subcontracting in accordance with Article 108.01 of the Standard Specifications, the Contractor shall make a mobilization payment to each subcontractor.

This mobilization payment shall be made at least 14 days prior to the subcontractor starting work. The amount paid shall be equal to 3 percent of the amount of the subcontract reported on form BC 260A submitted for the approval of the subcontractor’s work.

This provision shall be incorporated directly or by reference into each subcontract approved by the Department.

TEMPORARY EROSION CONTROL (BDE)

Effective: November 1, 2002

Revised: January 1, 2011

Add the following to Article 280.02 of the Standard Specifications to read:

- “(k) Filter Fabric 1080.03
- “(l) Urethane Foam/Geotextile1081.15(i)”

Revise the third paragraph of Article 280.03 of the Standard Specifications to read:

“Erosion control systems shall be installed prior to beginning any activities which will potentially create erodible conditions. Erosion control systems for areas outside the limits of construction such as storage sites, plant sites, waste sites, haul roads, and Contractor furnished borrow sites shall be installed prior to beginning soil disturbing activities at each area. These offsite systems shall be designed by the Contractor and be subject to the approval of the Engineer.”

Add the following paragraph after the third paragraph of Article 280.03 of the Standard Specifications:

“The temporary erosion and sediment control systems shown on the plans represent the minimum systems anticipated for the project. Conditions created by the Contractor’s operations, or for the Contractor’s convenience, which are not covered by the plans, shall be protected as directed by the Engineer at no additional cost to the Department. Revisions or modifications of the erosion and sediment control systems shall have the Engineer’s written approval.”

Revise Article 280.04(a) of the Standard Specifications to read:

“(a) Temporary Ditch Checks. This system consists of the construction of temporary ditch checks to prevent siltation, erosion, or scour of ditches and drainage ways. Temporary ditch checks shall be constructed with products from the Department’s approved list, rolled excelsior, or with aggregate placed on filter fabric when specified. Filter fabric shall be installed according to the requirements of Section 282. Riprap shall be placed according to Article 281.04. Manufactured ditch checks shall be installed according to the manufacturer’s specifications. Spacing of ditch checks shall be such that the low point in the center of one ditch check is at the same elevation as the base of the ditch check immediately upstream. Temporary ditch checks shall be sufficiently long enough that the top of the device in the middle of the ditch is 6 in. (150 mm) lower than the bottom of the terminating ends of the ditch side slopes.

When rolled excelsior is used, each ditch check shall be installed and maintained such that the device is no less than 10 in. (250 mm) high at the point of overflow. Units installed at a spacing requiring a height greater than 10 in. (250 mm) shall be maintained at the height for the spacing at which they were originally installed.”

Revise the last sentence of the first paragraph Article 280.04(b) of the Standard Specifications to read:

“The barrier shall be constructed with rolled excelsior, silt filter fence, or urethane foam/geotextiles.”

Revise the last sentence of the first paragraph of Article 280.04(g) of the Standard Specifications to read:

“The temporary mulch cover shall be installed according to Article 251.03 except for any reference to seeding.”

Add the following to Article 280.04 of the Standard Specifications:

(h) Temporary Erosion Control Blanket. This system consists of temporarily installing erosion control blanket or heavy duty erosion control blanket over areas that are to be reworked during a later construction phase. Work shall be according to Article 251.04 except references to seeding and fertilizer shall not apply. When an area is to be reworked more than once, the blanket shall be carefully removed, properly stored, and then reinstalled over the same area.”

Revise Article 280.07(b) of the Standard Specifications to read:

“(b) Temporary Ditch Checks. This work will be measured for payment along the long axis of the device in place in feet (meters) except for aggregate ditch checks which will be measured for payment in tons (metric tons). Payment will not be made for aggregate in excess of 108 percent of the amount specified by the Engineer.”

Revise Article 280.07(f) of the Standard Specifications to read:

“(f) Temporary Mulch. This work will be measured for payment according to Article 251.05(b).”

Add the following to Article 280.07 of the Standard Specifications:

“(g) Temporary Erosion Control Blanket. This work will be measured for payment in place in square yards (square meters) of actual surface covered.

Add the following paragraph after the ninth paragraph of Article 280.07 of the Standard Specifications:

“Temporary or permanent erosion control systems required for areas outside the limits of construction will not be measured for payment.”

Revise Article 280.08(b) of the Standard Specifications to read:

“(b) Temporary Ditch Checks. This work will be paid for at the contract unit price per foot (meter) for TEMPORARY DITCH CHECKS except for aggregate ditch checks which will be paid for at the contract unit price per ton (metric ton) for AGGREGATE DITCH CHECKS.”

Revise Article 280.08(f) of the Standard Specifications to read:

“(f) Temporary Mulch. Temporary Mulch will be paid for according to Article 251.06.”

Add the following to Article 280.08 of the Standard Specifications:

“(g) Temporary Erosion Control Blanket. Temporary Erosion Control Blanket will be paid for at the contract unit price per square yard (square meter) for TEMPORARY EROSION CONTROL BLANKET or TEMPORARY HEAVY DUTY EROSION CONTROL BLANKET.

The work of removing, storing, and reinstalling the blanket over areas to be reworked more than once will not be paid for separately but shall be included in the cost of the temporary erosion control blanket or temporary heavy duty erosion control blanket.”

Delete the tenth (last) paragraph of Article 280.08 of the Standard Specifications.

Revise the second sentence of the first paragraph of Article 1081.15(e) of the Standard Specifications to read:

“The upstream facing of the aggregate ditch check shall be constructed of gradation CA 3. The remainder of the ditch check shall be constructed of gradation RR 3.”

Revise Article 1081.15(f) of the Supplemental Specifications to read:

“(f) Rolled Excelsior. Rolled excelsior shall consist of an excelsior fiber filling totally encased inside netting and sealed with metal clips or knotted at the ends. The fiber density shall be a minimum of 1.24 lb/cu ft (20 kg/cu m) based on a moisture content of 22 percent at manufacturing. The netting shall be composed of a polyester or polypropylene material which retains 70 percent of its strength after 500 hours of exposure to sunlight. The maximum opening of the net shall be 1 x 1 in. (25 x 25 mm).”

Add the following to Article 1081.15 of the Standard Specifications:

“(i) Urethane Foam/Geotextile. Urethane foam/geotextile shall be triangular shaped having a minimum height of 10 in. (250 mm) in the center with equal sides and a minimum 20 in. (500 mm) base. The triangular shaped inner material shall be a low density urethane foam. The outer cover shall be a woven geotextile fabric placed around the inner material and allowed to extend beyond both sides of the triangle a minimum of 18 in. (450 mm).

(1) The geotextile shall meet the following properties:

Property	Value	Test Method
Grab Tensile Strength lb (N) (min.)	124 (550) min.	ASTM D 4632
Grab Elongation @ Brake (percent)	15 min.	ASTM D 4632
Burst Strength psi (kPa)	280 (1930) min.	ASTM D 3786
AOS (Sieve No.)	30 min.	ASTM D 4751
UV Resistance (500 hours) (percent)	80 min.	ASTM D 4355

(2) The urethane foam shall meet the following properties:

Property	Value	Test Method
Density lb/cu ft (kg/cu m)	1.0 ± 0.1 (16.0 ± 1.6)	ASTM D 3574
Tensile Strength psi (kPa)	10 (70) min.	ASTM D 3574
Elongation (percent)	125 min.	ASTM D 3574
Tear Resistance lb/in. (N/mm)	1.25 (0.22)	ASTM D 3574”

TRAFFIC BARRIER TERMINAL, TYPE 6 (BDE)

Effective: January 1, 2010

Delete the fourth paragraph of Article 631.07 of the Standard Specifications.

BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE) (RETURN FORM WITH BID)

Effective: November 2, 2006

Revised: April 1, 2009

Description. Bituminous material cost adjustments will be made to provide additional compensation to the Contractor, or credit to the Department, for fluctuations in the cost of bituminous materials when optioned by the Contractor. The adjustments shall apply to permanent and temporary hot-mix asphalt (HMA) mixtures, bituminous surface treatments (cover and seal coats), and pavement preservation type surface treatments.

The adjustments shall not apply to bituminous prime coats, tack coats, crack filling/sealing, or joint filling/sealing.

The bidder shall indicate on the attached form whether or not this special provision will be part of the contract and submit the completed form with his/her bid. Failure to submit the form, or failure to fill out the form completely, shall make this contract exempt of bituminous materials cost adjustments.

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

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

- Where: CA = Cost Adjustment, \$.
BPI_P = Bituminous Price Index, as published by the Department for the month the work is performed, \$/ton (\$/metric ton).
BPI_L = Bituminous Price Index, as published by the Department for the month prior to the letting, \$/ton (\$/metric ton).
%AC_V = Percent of virgin Asphalt Cement in the Quantity being adjusted. For HMA mixtures, the % AC_V will be determined from the adjusted job mix formula. For bituminous materials applied, a performance graded or cutback asphalt will be considered to be 100% AC_V and undiluted emulsified asphalt will be considered to be 65% AC_V.
Q = Authorized construction Quantity, tons (metric tons) (see below).

For HMA mixtures measured in square yards: $Q, \text{ tons} = A \times D \times (G_{mb} \times 46.8) / 2000$. For HMA mixtures measured in square meters: $Q, \text{ metric tons} = A \times D \times (G_{mb} \times 24.99) / 1000$. When computing adjustments for full-depth HMA pavement, separate calculations will be made for the binder and surface courses to account for their different G_{mb} and % AC_V.

For bituminous materials measured in gallons: $Q, \text{ tons} = V \times 8.33 \text{ lb/gal} \times SG / 2000$
For bituminous materials measured in liters: $Q, \text{ metric tons} = V \times 1.0 \text{ kg/L} \times SG / 1000$

- Where: A = Area of the HMA mixture, sq yd (sq m).
D = Depth of the HMA mixture, in. (mm).
G_{mb} = Average bulk specific gravity of the mixture, from the approved mix design.
V = Volume of the bituminous material, gal (L).
SG = Specific Gravity of bituminous material as shown on the bill of lading.

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

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

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

RETURN WITH BID

ILLINOIS DEPARTMENT OF TRANSPORTATION

OPTION FOR BITUMINOUS MATERIALS COST ADJUSTMENTS

The bidder shall submit this completed form with his/her bid. Failure to submit the form, or failure to fill out the form completely, shall make this contract exempt of bituminous materials cost adjustments. After award, this form, when submitted, shall become part of the contract.

Contract No.: _____

Company Name: _____

Contractor's Option:

Is your company opting to include this special provision as part of the contract?

Yes No

Signature: _____ **Date:** _____

FUEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID)

Effective: April 1, 2009

Revised: July 1, 2009

Description. Fuel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in fuel prices when optioned by the Contractor. The bidder shall indicate on the attached form whether or not this special provision will be part of the contract and submit the completed form with his/her bid. Failure to submit the form or failure to indicate contract number, company name and sign and date the form shall make this contract exempt of fuel cost adjustments for all categories of work. Failure to indicate "Yes" for any category of work will make that category of work exempt from fuel cost adjustment.

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

(a) Categories of Work.

- (1) Category A: Earthwork. Contract pay items performed under Sections 202, 204, and 206 including any modified standard or nonstandard items where the character of the work to be performed is considered earthwork. The cumulative total of all applicable item plan quantities shall exceed 25,000 cu yd (20,000 cu m). Included in the fuel usage factor is a weighted average 0.10 gal/cu yd (0.50 liters/cu m) factor for trucking.
- (2) Category B: Subbases and Aggregate Base Courses. Contract pay items constructed under Sections 311, 312 and 351 including any modified standard or nonstandard items where the character of the work to be performed is considered construction of a subbase or aggregate, stabilized or modified base course. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is a 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.
- (3) Category C: Hot-Mix Asphalt (HMA) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 355, 406, 407 and 482 including any modified standard or nonstandard items where the character of the work to be performed is considered HMA bases, pavements and shoulders. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.

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

(b) Fuel Usage Factors.

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

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

(c) Quantity Conversion Factors.

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

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

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

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

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

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

Final Quantities. Upon completion of the work and determination of final pay quantities, an adjustment will be prepared to reconcile any differences between estimated quantities previously paid and the final quantities. The value for the balancing adjustment will be based on a weighted average of FPI_P and Q only for those months requiring the cost adjustment. The cost adjustment will be applicable to the final measured quantities of all applicable pay items.

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

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

Return With Bid

**ILLINOIS DEPARTMENT
OF TRANSPORTATION**

**OPTION FOR
FUEL COST ADJUSTMENT**

The bidder shall submit this completed form with his/her bid. Failure to submit the form or properly complete contract number, company name, and sign and date the form shall make this contract exempt of fuel cost adjustments in all categories. Failure to indicate "Yes" for any category of work at the time of bid will make that category of work exempt from fuel cost adjustment. After award, this form, when submitted shall become part of the contract.

Contract No.: _____

Company Name: _____

Contractor's Option:

Is your company opting to include this special provision as part of the contract plans for the following categories of work?

- | | | |
|--|-----|--------------------------|
| Category A Earthwork. | Yes | <input type="checkbox"/> |
| Category B Subbases and Aggregate Base Courses | Yes | <input type="checkbox"/> |
| Category C HMA Bases, Pavements and Shoulders | Yes | <input type="checkbox"/> |
| Category D PCC Bases, Pavements and Shoulders | Yes | <input type="checkbox"/> |
| Category E Structures | Yes | <input type="checkbox"/> |

Signature: _____ **Date:** _____

STEEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID)

Effective: April 2, 2004

Revised: April 1, 2009

Description. Steel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in steel prices when optioned by the Contractor. The bidder shall indicate on the attached form whether or not this special provision will be part of the contract and submit the completed form with his/her bid. Failure to submit the form or failure to indicate contract number, company name, and sign and date the form shall make this contract exempt of steel cost adjustments for all items of steel. Failure to indicate "Yes" for any item of work will make that item of steel exempt from steel cost adjustment.

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

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

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

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

- (a) The dates and quantity of steel, in lb (kg), shipped from the mill to the fabricator.
- (b) The quantity of steel, in lb (kg), incorporated into the various items of work covered by this special provision. The Department reserves the right to verify submitted quantities.

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

$$SCA = Q \times D$$

Where: SCA = steel cost adjustment, in dollars
Q = quantity of steel incorporated into the work, in lb (kg)
D = price factor, in dollars per lb (kg)

$$D = MPI_M - MPI_L$$

Where: MPI_M = The Materials Cost Index for steel as published by the Engineering News-Record for the month the steel is shipped from the mill. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

MPI_L = The Materials Cost Index for steel as published by the Engineering News-Record for the month prior to the letting. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

The unit weights (masses) of steel that will be used to calculate the steel cost adjustment for the various items are shown in the attached table.

No steel cost adjustment will be made for any products manufactured from steel having a mill shipping date prior to the letting date.

If the Contractor fails to provide the required documentation, the method of adjustment will be calculated as described above; however, the MPI_M will be based on the date the steel arrives at the job site. In this case, an adjustment will only be made when there is a decrease in steel costs.

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

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

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

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

Attachment

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

RETURN WITH BID

ILLINOIS DEPARTMENT OF TRANSPORTATION

OPTION FOR STEEL COST ADJUSTMENT

The bidder shall submit this completed form with his/her bid. Failure to submit the form or properly complete contract number, company name, and sign and date the form shall make this contract exempt of steel cost adjustments for all items of steel. Failure to indicate "Yes" for any item of work will make that item of steel exempt from steel cost adjustment. After award, this form, when submitted shall become part of the contract.

Contract No.: _____

Company Name: _____

Contractor's Option:

Is your company opting to include this special provision as part of the contract plans for the following items of work?

Metal Piling	Yes	<input type="checkbox"/>
Structural Steel	Yes	<input type="checkbox"/>
Reinforcing Steel	Yes	<input type="checkbox"/>
Dowel Bars, Tie Bars and Mesh Reinforcement	Yes	<input type="checkbox"/>
Guardrail	Yes	<input type="checkbox"/>
Steel Traffic Signal and Light Poles, Towers and Mast Arms	Yes	<input type="checkbox"/>
Metal Railings (excluding wire fence)	Yes	<input type="checkbox"/>
Frames and Grates	Yes	<input type="checkbox"/>

Signature: _____ **Date:** _____

STORM WATER POLLUTION PREVENTION PLAN




Storm Water Pollution Prevention Plan

Route	<u>FAP343</u>	Marked Rte.	<u>IL Route 68 (Dundee Road)</u>
Section	<u>98B</u>	Project No.	<u>C-91-583-09</u>
County	<u>Cook</u>	Contract No.	<u>60H20</u>

This plan has been prepared to comply with the provisions of the NPDES Permit Number ILR10, issued by the Illinois Environmental Protection Agency for storm water discharges from Construction Site Activities.

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

Diane M. O'Keefe, P.E.
 Print Name
Deputy Director of Highways, Region One Engineer
 Title
Illinois Department of Transportation
 Agency


 Signature
9-14-10
 Date

I. Site Description:

A. The following is a description of the project location:

Illinois Route 68 (Dundee Road), over the Wheeling Drainage Ditch
 Village of Wheeling, Cook County, Illinois

B. The following is a description of the construction activity which is the subject of this plan:

Existing S.N. 016-0525; Proposed S.N. 016-2302 - Bridge Replacement

The improvement will consist of replacing the bridge with a 44'-4" wide three-sided structure, and raising the profile approximately one foot over the length of 500 feet to meet hydraulic requirements. Construction activity includes excavation of compensatory storage.

Relocation of 950' of 12" Water Main, jack & bore, steel casing

C. The following is a description of the intended sequence of major activities which will disturb soils for major portions of the construction site, such as grubbing, excavation and grading:

Stage 1

Traffic uses northern portion of existing bridge. Southern portion of existing bridge is removed. Complete Channel Excavation. Southern portion of new bridge is constructed. Remove southern lanes existing bridge approach slabs and pavement. Construct storm sewer to stage removal line. STA 116+00 to 121+00 grade and pave southern lanes of IL Route 68. Southern Lanes STA 113+57 to 116+00 and 121+00 to 123+00 HMA surface removal, widening, new curb and gutter and HMA surface.

Stage II

Remove existing curb & gutter STA 112+65 to 113+57. Add temporary pavement, 11 inch. Traffic uses south portion of proposed bridge. Village of Wheeling water main is relocated. North portion of existing bridge is

removed. Complete Channel Excavation. North portion of existing bridge is constructed. Remove north lanes, existing bridge approach slabs and pavement. Construct storm sewer to stage removal line. STA 116 to 121+00 grade and pave north lanes of IL Route 68. North lanes STA 113+57 to 116+00 and 121+00 to 123+00 HMA surface removal, widening, new curb and gutter, bike path and HMA surface. STA 121+00 to 123+00 HMA surface work on center lane to follow after balance stage II work is complete and MOT stage II traffic control removed.

- D. The total area of the construction site is estimated to be 2.6 acres.

The total area of the site that is estimated will be disturbed by excavation, grading or other activities is 2.1 acres.

- E. The following is a weighted average of the runoff coefficient for this project after construction activities are completed:

84,000 sq ft--Impervious areas-98
27,000 sq ft--Open space, good condition-74

Weighted average--92

No change with construction

- F. The following is a description of the soil types found at the project site followed by information regarding their erosivity:

Drummer Silt Clay Loam, 0 to 2 percent slopes
Mundelein Silt Loam, 0 to 2 percent slopes
Orthents, Loamy, Undulating

- G. The following is a description of potentially erosive areas associated with this project:

Instream work. Consisting of:
Removal of existing bridge abutments
Construction of proposed bridge abutments
Relocation of storm sewer outlets
Channel excavation
Compensatory storage excavation

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

Regrading of right-of-way to match new roadway elevation.
slopes range from less than two percent to nine percent

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

- J. The following is a list of receiving water(s) and the ultimate receiving water(s), and areal extent of wetland acreage at the site. The location of the receiving waters can be found on the erosion and sediment control plans:

Wheeling Drainage Ditch, a tributary to the Des Plaines River

The Wheeling Drainage Ditch is not listed on the 2008 303(d) list as impaired for suspended solids, turbidity, and/or siltation. The receiving water is also not listed as a Biologically Significant Stream.

The project will include a 0.05 acre impact to Waters of the United States (Wheeling Drainage Ditch). This impact requires a U.S. Army Corps of Engineers RP3-Transportation Projects and RP7-Temporary Construction Activities permits.

There are NO wetlands on the site.

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

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

II. Controls:

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

Contractor to provide an ESC plan (ie. Stabilization practices, structural practices, stormwater management, and other controls) for the disposal site of all channel excavation and compensatory storage mitigation disposed of off-site.

A. Erosion and Sediment Controls

1. **Stabilized Practices:** Provided below is a description of interim and permanent stabilization practices, including site specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices may include but are not limited to: temporary seeding, permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided below in II(A)(1)(a) and II(A)(3), stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site has temporarily or permanently ceased on all disturbed portions of the site where construction will not occur for a period of 14 or more calendar days.

a. Where the initiation of stabilization measures by the 7th day after construction activity temporarily or permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable thereafter.

The following Stabilization Practices will be used for this project:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Preservation of Mature Vegetation | <input checked="" type="checkbox"/> Erosion Control Blanket / Mulching |
| <input type="checkbox"/> Vegetated Buffer Strips | <input type="checkbox"/> Sodding |
| <input checked="" type="checkbox"/> Protection of Trees | <input type="checkbox"/> Geotextiles |
| <input checked="" type="checkbox"/> Temporary Erosion Control Seeding | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Temporary Turf (Seeding, Class 7) | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Temporary Mulching | <input type="checkbox"/> Other (specify) |
| <input checked="" type="checkbox"/> Permanent Seeding | <input type="checkbox"/> Other (specify) |

Describe how the Stabilization Practices listed above will be utilized:

Preservation of Mature Vegetation: The contractor's in-stream work plan will show how disturbance to existing vegetation will be minimized.

Protection of Trees: The contractor will take any and all measures necessary to protect trees that are not included in removal procedures.

Temporary Erosion Control Seeding - will be provided in all areas of exposed earth slopes during construction to reduce erosion and be placed every seven days.

Permanent Seeding - Sodding, Salt Tolerant will be placed in front of commercial and residential properties. Seeding, Class 4 will be placed along the sides of the Wheeling Drainage Ditch.

Erosion Control Blanket - will be installed over disturbed slopes and in high velocity areas where top soil and seed have been placed.

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

The following Structural Practices will be used for this project:

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

Describe how the Structural Practices listed above will be utilized:

Perimeter Erosion Barrier - will be erected at the limits of the disturbance through out the entire project site to prevent exposed soil along perimeter of project from leaving the job site. The Perimeter Erosion Barrier will also prevent exposed soil adjacent to the project from entering the project site.

Rock Outlet Protection - will be utilized to prevent scour from occurring at the storm sewer outlets.

Inlet Filters - will be installed at all storm sewer inlets to protect sewer lines from becoming clogged with project sited sediment and debris.

Contractor to provide the Resident Engineer with an In-Stream Work Plan for the demolition of the existing bridge and the construction of the new bridge. The Erosion and Sediment Control Plan Sheet highlights the limits of the in-stream work area. Permanent erosion control items within the in-stream work area will be paid per the contract.

3. **Storm Water Management:** Provided below is a description of measures that will be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.

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

The practices selected for implementation were determined on the basis of the technical guidance in Section 59-8 (Erosion and Sediment Control) in Chapter 59 (Landscape Design and Erosion Control) of the Illinois Department of Transportation Bureau of Design and Environment Manual. If practices other than those discussed in Section 59-8 are selected for implementation or if practices are applied to situations different from those covered in Section 59-8, the technical basis for such decisions will be explained below.

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

Description of Storm Water Management Controls.

Storm Water Management Controls include rock outlet protection. The quantity is included on the Summary of Quantities sheet and the material is shown on the Erosion Control Sheet.

4. Other Controls:

- a. Vehicle Entrances and Exits – Stabilized construction entrances and exits must be constructed to prevent tracking of sediments onto roadways.

The contractor will provide the resident engineer with a written plan identifying the location of stabilized entrances and exits and the procedures (s)he will use to construct and maintain them.

- b. Material Delivery, Storage, and Use – The following BMPs shall be implemented to help prevent discharges of construction materials during delivery, storage, and use:
- All products delivered to the project site must be properly labeled.
 - Water tight shipping containers and/or semi trailers shall be used to store hand tools, small parts, and most construction materials that can be carried by hand, such as paint cans, solvents, and grease.
 - A storage/containment facility should be chosen for larger items such as drums and items shipped or stored on pallets. Such material is to be covered by a tin roof or large sheets of plastic to prevent precipitation from coming in contact with the products being stored.
 - Large items such as light stands, framing materials and lumber shall be stored in the open in a general storage area. Such material shall be elevated with wood blocks to minimize contact with storm water runoff.
 - Spill clean-up materials, material safety data sheets, an inventory of materials, and emergency contact numbers shall be maintained and stored in one designated area and each Contractor is to inform his/her employees and the resident engineer of this location.
- c. Stockpile Management – BMPs shall be implemented to reduce or eliminate pollution of storm water from stockpiles of soil and paving materials such as but not limited to portland cement concrete rubble, asphalt concrete, asphalt concrete rubble, aggregate base, aggregate sub base, and pre-mixed aggregate. The following BMPs may be considered:
- Perimeter Erosion Barrier
 - Temporary Seeding
 - Temporary Mulch
 - Plastic Covers
 - Soil Binders
 - Storm Drain Inlet Protection

The contractor will provide the resident engineer with a written plan of the procedures (s)he will use on the project and how they will be maintained.

- d. Waste Disposal. No materials, including building materials, shall be discharged into Waters of the State, except as authorized by a Section 404 permit.
- e. The provisions of this plan shall ensure and demonstrate compliance with applicable State and/or local waste disposal, sanitary sewer or septic system regulations.
- f. The contractor shall provide a written and graphic plan to the resident engineer identifying where each of the above areas will be located and how they are to be managed.

5. Approved State or Local Laws

The management practices, controls and provisions contained in this plan will be in accordance with IDOT specifications, which are at least as protective as the requirements contained in the Illinois Environmental Protection Agency's Illinois Urban Manual, 1995. Procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials shall be described or incorporated by reference in the space provided below. Requirements specified in sediment and erosion site plans, site permits, storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI, to be authorized to discharge under permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

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

All management practices, controls, and other provisions provided in this plan are in accordance with "IDOT Standard Specifications for Road and Bridge Construction" and the "Illinois Urban Manual".

III. Maintenance:

The following is a description of procedures that will be used to maintain, in good and effective operating conditions, the vegetation, erosion and sediment control measures and other protective measures identified in this plan. The resident engineer will provide maintenance guides to the contractor for the practices associated with this project.

- 1. Seeding - All erodible bare earth areas will be temporarily seeded on a weekly basis to minimize the amount of erodible surface within the project limits.
- 2. Perimeter Erosion Barrier - Sediment will be removed if the integrity of the fence is in jeopardy and any fencing knocked down or damaged will be repaired immediately.
- 3. Inlet Filters - Sediment will be removed if the filter becomes clogged. Any filters that are damaged during construction will be repaired immediately.
- 4. Erosion Control Blanket - Any areas which fail will be repaired immediately.

IV. Inspections:

Qualified personnel shall inspect disturbed areas of the construction site which have not yet been finally stabilized, structural control measures, and locations where vehicles and equipment enter and exit the site. Such inspections shall be conducted at least once every seven (7) calendar days and within 24 hours of the end of a storm that is 0.5 inches or greater or equivalent snowfall.

- A. Disturbed areas, use areas (storage of materials, stockpiles, machine maintenance, fueling, etc.), borrow sites, and waste sites shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the plan shall be observed to ensure that they are operating correctly. Discharge locations or points that are accessible, shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off site sediment tracking.
- B. Based on the results of the inspection, the description of potential pollutant sources identified in section I above and pollution prevention measures identified in section II above shall be revised as appropriate as soon as practicable after such inspection. Any changes to this plan resulting from the required inspections shall be implemented within ½ hour to 1 week based on the urgency of the situation. The resident engineer will notify the contractor of the time required to implement such actions through the weekly inspection report.

- C. A report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of this storm water pollution prevention plan, and actions taken in accordance with section IV(B) shall be made and retained as part of the plan for at least three (3) years after the date of the inspection. The report shall be signed in accordance with Part VI. G of the general permit.
- D. If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the resident engineer shall notify the appropriate IEPA Field Operations Section office by email at: epa.swnoncomp@illinois.gov, telephone or fax within 24 hours of the incident. The resident Engineer shall then complete and submit an "Incidence of Noncompliance" (ION) report for the identified violation within 5 days of the incident. The resident engineer shall use forms provided by the Illinois Environmental Protection Agency and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of noncompliance shall be signed by a responsible authority in accordance with Part VI. G of the general permit.

E.

The Incidence of Non-Compliance shall be mailed to the following address:

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

V. Non-Storm Water Discharges:

Except for flows from fire fighting activities, sources of non-storm water that is combined with storm water discharges associated with the industrial activity addressed in this plan must be described below. Appropriate pollution prevention measures, as described below, will be implemented for the non-storm water component(s) of the discharge.

- A. Spill Prevention and Control – BMPs shall be implemented to contain and clean-up spills and prevent material discharges to the storm drain system. The contractor shall produce a written plan stating how his/her company will prevent, report, and clean up spills and provide a copy to all of his/her employees and the resident engineer. The contractor shall notify all of his/her employees on the proper protocol for reporting spills. The contractor shall notify the resident engineer of any spills immediately.
- B. Concrete Residuals and Washout Wastes – The following BMPs shall be implemented to control residual concrete, concrete sediments, and rinse water:
- Temporary Concrete Washout Facilities shall be constructed for rinsing out concrete trucks. Signs shall be installed directing concrete truck drivers where designated washout facilities are located.
 - The contractor shall have the location of temporary concrete washout facilities approved by the resident engineer.
 - All temporary concrete washout facilities are to be inspected by the contractor after each use and all spills must be reported to the resident engineer and cleaned up immediately.
 - Concrete waste solids/liquids shall be disposed of properly.
- C. Litter Management – A proper number of dumpsters shall be provided on site to handle debris and litter associated with the project. The Contractor is responsible for ensuring his/her employees place all litter including marking paint cans, soda cans, food wrappers, wood lathe, marking ribbon, construction string, and all other construction related litter in the proper dumpsters.
- D. Vehicle and Equipment Cleaning – Vehicles and equipment are to be cleaned in designated areas only, preferably off site.
- E. Vehicle and Equipment Fueling – A variety of BMPs can be implemented during fueling of vehicles and equipment to prevent pollution. The contractor shall inform the resident engineer as to which BMPs will be used on the project. The contractor shall inform the resident engineer how (s)he will be informing his/her employees of these BMPs (i.e. signs, training, etc.). Below are a few examples of these BMPs:

- Containment
- Spill Prevention and Control
- Use of Drip Pans and Absorbents
- Automatic Shut-Off Nozzles
- Topping Off Restrictions
- Leak Inspection and Repair

F. Vehicle and Equipment Maintenance – On site maintenance must be performed in accordance with all environmental laws such as proper storage and no dumping of old engine oil or other fluids on site.

VI. Failure to Comply:

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



Contractor Certification Statement

The Resident Engineer is to make copies of this form and every contractor and sub-contractor will be required to complete their own separate form.

Route	<u>FAP 343</u>	Marked Rt.	<u>Illinois Route 68 (Dundee Road)</u>
Section	<u>98B</u>	Project No.	<u>C-91-583-09</u>
County	<u>Cook</u>	Contract No.	<u>60H20</u>

This certification statement is part of the Storm Water Pollution Prevention Plan for the project described below, in accordance with General NPDES Permit No. ILR10 issued by the Illinois Environmental Protection Agency.

I certify under penalty of law that I understand the terms of the general National Pollutant Discharge Elimination System (NPDES) permit (ILR 10) that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

In addition, I have read and understand all of the information and requirements stated in the Storm Water Pollution Prevention Plan for the above mentioned project; I have provided all documentation required to be in compliance with the ILR10 and Storm Water Pollution Prevention Plan and will provide timely updates to these documents as necessary.

- Contractor
- Sub-Contractor

_____	_____
Print Name	Signature
_____	_____
Title	Date
_____	_____
Name of Firm	Telephone
_____	_____
Street Address	City/State/ZIP

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

	Page
I. General	1
II. Nondiscrimination	1
III. Nonsegregated Facilities	3
IV. Payment of Predetermined Minimum Wage.....	3
V. Statements and Payrolls	5
VI. Record of Materials, Supplies, and Labor.....	6
VII. Subletting or Assigning the Contract.....	6
VIII. Safety: Accident Prevention	7
IX. False Statements Concerning Highway Projects.....	7
X. Implementation of Clean Air Act and Federal Water Pollution Control Act	7
XI. Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion	8
XII. Certification Regarding Use of Contract Funds for Lobbying	9

ATTACHMENTS

**A. Employment Preference for Appalachian Contracts
(included in Appalachian contracts only)**

I. GENERAL

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.
2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.
3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.
4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

Section I, paragraph 2;
Section IV, paragraphs 1, 2, 3, 4 and 7;
Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6 and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.

6. Selection of Labor: During the performance of this contract, the contractor shall not:

- a. Discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or

- b. Employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60 (and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

- a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.
- b. The contractor will accept as his operating policy the following statement: "It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job-training."

2. EEO Officer: The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for an must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

- a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.
- b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.
- c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.
- d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees,

applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employees referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish which such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be

in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the SHA and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.

8. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.

b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees.

Contractors shall obtain lists of DBE construction firms from SHA

personnel.

c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

9. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and

(4) The progress and efforts being made in securing the services of

DBE subcontractors or subcontractors with meaningful minority and

female representation among their employees.

b. The contractors will submit an annual report to the SHA each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located

on roadways classified as local roads or rural minor collectors, which are exempt.)

1. General:

a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.

c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. Classification:

a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:

(1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;

(2) the additional classification is utilized in the area by the construction industry;

(3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) with respect to helpers, when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the

contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the question, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advised the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. Payment of Fringe Benefits:

a. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.

b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any cost reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

4. Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:

a. Apprentices:

(1) Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

(2) The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any

employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

(3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid

the full amount of fringe benefits listed on the wage determination

for the applicable classification. If the Administrator for the Wage

and Hour Division determines that a different practice prevails for

the applicable apprentice classification, fringes shall be paid in accordance with that determination.

(4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

(1) Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.

(2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which cases such trainees shall receive the same fringe benefits as apprentices.

(4) In the event the Employment and Training Administration

withdraws approval of a training program, the contractor or subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Helpers:

Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV. 2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

5. Apprentices and Trainees (Programs of the U.S. DOT):

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

6. Withholding:

The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor under this contract or any other Federal contract with the same prime contractor or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainee's and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the SHA contracting officer may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

7. Overtime Requirements:

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. Violation:

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or

permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

9. Withholding for Unpaid Wages and Liquidated Damages:

The SHA shall; upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. Compliance with Copeland Regulations (29 CFR 3):

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

2. Payrolls and Payroll Records:

- a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.
- b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.
- c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely

all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for submitting payroll copies of all subcontractors.

d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

- (1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;
- (2) that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;
- (3) that each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.

f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S. C. 1001 and 31 U.S.C. 231.

g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all federal-aid contracts on the national highway system, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the contractor shall:

- a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.
- b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.
- c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data

required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.

2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractors' own organization (23 CFR 635).

a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in

surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

18 U.S.C. 1020 reads as follows:

“Whoever, being an officer, agent or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined not more than \$10,000 or imprisoned not more than 5 years or both.”

X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more).

By submission of this bid or the execution of this contract, or

subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 *et seq.*, as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 *et seq.*, as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.

3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

1. Instructions for Certification - Primary Covered Transactions:

(Applicable to all Federal-aid contracts - 49 CFR 29)

- a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.
- d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- e. The terms “covered transaction,” “debarred,” “suspended,” “ineligible,” “lower tier covered transaction,” “participant,” “person,” “primary covered transaction,” “principal,” “proposal,” and “voluntarily excluded,” as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal

is submitted for assistance in obtaining a copy of those regulations.

f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification in all lower tier covered transactions

and in all solicitations for lower tier covered transactions.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded from Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Primary Covered Transactions

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and
- d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Covered Transactions:

(Applicable to all subcontracts, purchase orders and other lower tier transactions of \$25,000 or more - 49 CFR 29)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealing.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

2. Where the prospective primary participant is unable to certify

Certification Regarding Debarment, Suspension, Ineligibility And Voluntary Exclusion-Lower Tier Covered Transactions:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

(Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 - 49 CFR 20)

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**MINIMUM WAGES FOR FEDERAL AND FEDERALLY
ASSISTED CONSTRUCTION CONTRACTS**

This project is funded, in part, with Federal-aid funds and, as such, is subject to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Sta. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in a 29 CFR Part 1, Appendix A, as well as such additional statutes as may from time to time be enacted containing provisions for the payment of wages determined to be prevailing by the Secretary of Labor in accordance with the Davis-Bacon Act and pursuant to the provisions of 29 CFR Part 1. The prevailing rates and fringe benefits shown in the General Wage Determination Decisions issued by the U.S. Department of Labor shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

General Wage Determination Decisions, modifications and supersedes decisions thereto are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision, together with any modifications issued, must be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable DBRA Federal prevailing wage law and 29 CFR Part 5. The wage rates and fringe benefits contained in the General Wage Determination Decision shall be the minimum paid by contractors and subcontractors to laborers and mechanics.

NOTICE

The most current **General Wage Determination Decisions** (wage rates) are available on the IDOT web site. They are located on the Letting and Bidding page at <http://www.dot.state.il.us/desenv/delett.html>.

In addition, ten (10) days prior to the letting, the applicable Federal wage rates will be e-mailed to subscribers. It is recommended that all contractors subscribe to the Federal Wage Rates List or the Contractor's Packet through IDOT's subscription service.

PLEASE NOTE: if you have already subscribed to the Contractor's Packet you will automatically receive the Federal Wage Rates.

The instructions for subscribing are at <http://www.dot.state.il.us/desenv/subsc.html>.

If you have any questions concerning the wage rates, please contact IDOT's Chief Contract Official at 217-782-7806.